Revised Environmental Management Plan

for

SPRING RIVER KNITTING (MYANMAR) COMPANY LIMITED

Submitted to	:	**Ministry of National Resources and Environmental Conservation**
Submitted by	:	SPRING RIVER KNITTING (MYANMAR) COMPANY LIMITED
Prepared by	:	A.M.K and Associates (EIA Consulting)

ABBREVIATION / ACRONYMS

ADB	Asian Development Bank
AP	Affected person
BP	Bank procedure
BoD	Biochemical Oxygen Demand
CBO	Community based organizations
CCL	Cash and compensatin under a law
CDO	Chief district officer
CO	Carbon monoxide
CO_2	Carbon dioxide
dBA	"A" weighted equivalent decibel
DGRI	Directorate General of Regional Infrastructure
DDC	District Development Committee
DG	Diesel Generator
DOE	Department of Environment
DWAF	Department of Water affairs and Forestry
EA	Environmental Assessment
ECA	Environmental Conservation Act
ECC	Environmental Clearance Certificates
ECR	Enviromental Conservation Rule
ED	Executive Director
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EMMP	Environmental Management and Monitoring Plan
EPA	Environmental Protection Act
EPM	Environmental Protection Measures
EPR	Environmental Protection Rule
ESA	Environmental and Social Assessment
ESMF	Environmental and Social Management Framework
ETP	Effluent Treatment Plant
EU	Environmental Unit
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GIS	Geographic Information System
GPP	Guidelines for People's Participation
GRM	Grievance Redress Mechanism
ha	hectare
HC	Hydrocarbon
IEE	Initial Environmental Examination
IPPC	Integrated Pollution Prevention and Control
Km	Kilometer
LGED	Local Governmet Engineering Department
LGI	Local Government Institute
MICB	Myanmar Investment Commission Board
MONREC	Ministry of National Resources and Environmental Conservation
NEMAP	National Environment Management Action Plan
NGO	Non-government Organization
NO_X	Nitrogen oxide
NO_2	Nitrogen dioxide
O&M	Operation and Maintenance
PCC	Pollution Control Cell
PO	Poject Office
SEA	Strategic Enviromental Assessment
TOR	Terms of Engagements Guidebook
UN	Terms of Reference
USD	US Dollar
WHO	World Health Organization

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DECLARATION AND PLEDGE

We hereby, declare that the information submitted in this report is, to the best of our knowledge, true and accurate up to the date of submitting this report.

The report is confidential between Spring River Knitting (Myanmar) Company Limited and the consultant firm AMK and Associate EIA Consulting Limited until the report is submitted to the authorities concerned.

The report has been prepared by with utmost effort with all reasonable skills, care and diligence within the term of contract with the client Spring River Knitting (Myanmar) Company Limited which is situated at which is situated at 148,149, corner of Matkhayar Minthargyi Road and Twin Thin Taik Wun U Tun Nyo Road, Survey Block 25, Shwelinban Industrial Zone..

The proposed project, and the report compiled by a third party to verify the following information to add admission;

- The Enviromental Management assessment is accurate and efficient.
- This Environmental Management Plan for Project will be strictly followed the environmental regulation and guide line set up the Ministry of National Resources and Environmental Conservation (MoNREC) and to comply with relevant laws accurately.
- The project owner will implement the environmental mitigation measures included in the environmental management plan and comply with project laws, rules, and regulations, procedures and we promise to abide by international standards and regulations.
- Spring River Knitting (Myanmar)Company Limited which is situated at which is situated at 148,149, corner of Matkhayar Minthargyi Road and Twin Thin Taik Wun U Tun Nyo Road, Survey Block 25, Shwelinban Industrial Zone pledges to abide by the Environmental Laws, rules and regulation. The company also pledges to undertake all the mitigation measures and implement all the Environmental Management Plans (EMP) prescribed in this report.
- When decommission phase of this industrial project if there impact on the community, Spring River Knitting (Myanmar) will manage to minimize the damage which would be original state to be displayed.

(By the consultant firm)

U Aung Myat Kyaw
Team Leader
Environmental Management Team
AMK and Associate EIA Consulting Ltd

(From Spring River Knitting (Myanmar) Company Limited's Commitment)

I agree to implement the environmental requirements detailed in this Environmental Management Plan Report.

Title :
Name :

Signature

EXECUTIVE SUMMARY (အစီရင်ခံစာအကျဉ်းချုပ် - မြန်မာဘာသာ)

နိဒါန်း

ယခုအစီရင်ခံစာသည်ရန်ကုန်တိုင်းဒေသကြီး၊ လှိုင်သာယာမြို့နယ်ရှိ ရွှေလင်ပန်းစက်မှုဇုန်အတွင်း၊ အကွက်အမှတ် (၂၅)၊ အမှတ် (၁၄၈၊ ၁၄၉) မဂ္ဂရာ မင်းသားကြီး လမ်း နှင့် တွင်းသင်းတိုက်ဝန် ဦးထွန်းညိုလမ်းထောင့်တွင်တည်ထောင်ထားသော Spring River Knitting (Myanmar) Company Limited ၏ အဆိုပြုစက်ရုံ စီမံကိန်းအတွက် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်မှ တွေ့ရှိချက်များ ကိုဖော်ပြထားခြင်းဖြစ်ပါသည်။

ဤအစီရင်ခံစာ၏အဓိကရည်မှန်းချက်မှာ စီမံကိန်းအကောင်အထည်ဖော်မှုကြောင့်အဓိကပတ်ဝန်းကျင်ဆိုင်ရာ သက်ရောက်မှုများနှင့် မလိုလားအပ်သော ဘေးအန္တရာယ်သက်ရောက်မှုများရှိခဲ့ပါကလျော့ပါးစေရန် ထိရောက်သောအစီအမံများဖော်ထုတ်ရန်ဖြစ်ပါသည်။ ဤစက်ရုံတွင် ဓာတုဗေဒဆိုင်ရာလုပ်ငန်းစဉ်အနေနှင့် ဆေးဆိုးခြင်း၊ ရက်ဖောက်ခြင်းလုပ်ငန်းတွင် အနည်းငယ်အသုံးပြုခြင်းရှိပါသည်။ စက်ရုံမှ အသင့်ချုပ်ပြီး အဝတ်အထည်များ အထူးသဖြင့် သိုးမွေးဖြင့်ယက်လုပ်သော အဝတ်အစားများ ကို ထုတ်လုပ်နေပါသည်။

စီမံကိန်းဖွံ့ဖြိုးတိုးတက်မှုအတွက်ထောက်ပံ့ရန် နှင့် လိုအပ်ချက်များကိုဖြည့်ဆည်းရန် စီမံကိန်းပိုင်ရှင်များ၏ တောင်းဆိုချက်အရ ဤလေ့လာမှုကို ပြင်ဆင်ခဲ့ခြင်းဖြစ်ပါသည်။

စက်ရုံဝန်ထမ်းများ၊ စက်ရုံ၏ ဖောက်သည်များ၊ ဧည့်သည်များ နှင့်ပတ်ဝန်းကျင်ဆိုင်ရာအရာများကိုကာကွယ်ရန်နှင့်၎င်းတို့အားလုံး ဘေးအန္တရာယ် ကျရောက်ခြင်းမှကာကွယ်ရန်လုံခြုံစိတ်ချစေရန်အတွက် ပတ်ဝန်းကျင်ဆိုင်ရာရှုထောင့်များ၊ ပတ်ဝန်းကျင်ထိခိုက်မှု များနှင့် လျော့ပါးစေရေး၊ တို့အတွက် ဤလေ့လာမှုမှ အကျိုးရှိမှုဖြစ်စေနိုင်မည်ဖြစ်ပါသည်။

ဤစီမံကိန်း၏ရင်းနှီးမြှုပ်နှံသူသည် ဤလုပ်ငန်းများတွင်အတွေ့အကြုံနှစ်ပေါင်းများစွာရှိခဲ့ပြီး၊ အထည်ထုတ်လုပ်မှုလုပ်ငန်းတွင် ဗဟုသုတရှိသူ တစ်ဦးအဖြစ် လွန်ခဲ့သော ဆယ်စုနှစ်နှစ်ခုကတည်းက လူသိများသူတစ်ဦးဖြစ်ပါသည်။

Spring River Knitting (Myanmar) Company Limited ကို ၂၀၁၆ ခုနှစ် မတ်လ ၁၄ ရက်နေ့တွင် မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှု ကော်မရှင်တွင် မှတ်ပုံတင်ခဲ့ပြီး မှတ်ပုံတင်အမှတ်မှာ ၁၀၀၆၇၀၄၀၂ ဖြစ်ပါသည်။

၂၀၁၉ ခုနှစ် မေလ ၃၀ ရက်နေ့တွင်ကျင်းပခဲ့သော မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ အစည်းအဝေး ၈/၂၀၁၉ ၏ ဆုံးဖြတ်ချက်အရ သိုးမွေးထည် များကို CMP စနစ်ဖြင့် ချုပ်လုပ်ထုတ်လုပ်မည့် ကုမ္ပဏီ အမည် Fengyi Knitting Company Limited မှ Spring River Knitting (Myanmar) Company Limited အမည်သို့ပြောင်းလဲခြင်းကို အတည်ပြုခွင့်ပြုခဲ့ပါသည်။

ရင်းနှီးမြှုပ်နှံမှုကို ခွင့်ပြုမိန့် အမှတ် ၁၁၅၁/၂၀၁၆ ဖြင့် ၂၀၁၆ ခုနှစ် စက်တင်ဘာလ ၁၉ ရက်နေ့တွင်ရရှိခဲ့ပြီး၊ ၂၀၁၉ ခုနှစ် မေလ ၃၀ ရက်နေ့တွင်ကျင်းပခဲ့သော မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ အစည်းအဝေး ၈/၂၀၁၉ ၏ ဆုံးဖြတ်ချက်အရ နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု ဖြင့် သိုးမွေး ထည် များကို CMP စနစ်ဖြင့် ချုပ်လုပ်ထုတ်လုပ်မည့် ကုမ္ပဏီ Spring River Knitting (Myanmar) Company Limited အတွက် ရင်းနှီးမြှုပ်နှံမှု နိုင်ငံခြားငွေ အမေရိကန်ဒေါ်လာ ၁.၆၄၂ သန်းမှ အမေရိကန် ဒေါ်လာ ၂.၆၀၅ သို့တိုးမြှင့်ခွင့်ပြုခဲ့ပါသည်။

အကြံပေးကုမ္ပဏီ AMK, EIA အတိုင်ပင်ခံအဖွဲ့သည် ဤEMP လုပ်ငန်းစဉ်အားစူးစမ်းလေ့လာရေးခရီးစဉ် သွားရောက်ခြင်း၊ အသေးစိတ်စစ်တမ်းကောက်ယူခြင်း၊ အချက်အလက် စုဆောင်းခြင်းနှင့်ခွဲခြမ်းစိတ်ဖြာခြင်းနှင့် MONREC မှချမှတ်ထားသော လမ်းညွှန်ချက်များနှင့် လုပ်ထုံးလုပ်နည်းများအရ၊ ဤ EMP အစီရင်ခံစာအားတင်ပြခြင်းကိုဆောင်ရွက်ခဲ့ပါသည်။

ဤပတ်ဝန်းကျင်စီမံခန့်ခွဲရေးအစီအစဉ် EMP သည်ယေဘုယျအားဖြင့် စီမံကိန်း၏အဆင့်လေးဆင့်တွင်ပါဝင်သောစီမံကိန်းရေးဆွဲခြင်းအဆင့်၊ တည်ဆောက်ခြင်း အဆင့် တို့မှာကျော်လွန်ခဲ့ပြီးဖြစ်၍၊ စီမံကိန်းပိတ်သိမ်းခြင်းကာလမှာလည်း နှစ်ပေါင်းများစွာကျော်လွန်ပြီးမှ ဆောင်ရွက်ရမည် ဖြစ်ခြင်းကြောင့် စီမံကိန်းလုပ်ငန်း၏လက်ရှိဆောင်ရွက်နေပြီဖြစ်သော ကုမ္ပဏီ၏အထည်ချုပ်ထုတ်ကုန်များ (အထူးသဖြင့် သိုးမွေးထည်ယက်လုပ်ခြင်း) ထုတ်လုပ်ခြင်းများ ဆောင်ရွက်နေသည့် <u>**လုပ်ငန်းလည်ပတ်ခြင်း အဆင့်**</u>အား အလေးထားဆောင်ရွက်ခဲ့ပါသည်။

အဆိုပြုထားသောစီမံကိန်းကို MIC မှခွင့်ပြုချက်ရရှိပြီးသည်နှင့်ကာလအတွင်းစတင်ဆောင်ရွက်ခဲ့ပါသည်။ ယခုကာလမှာ လုပ်ငန်းလည်ပတ်ခြင်း အဆင့် ဖြစ်ပါသည်။

မြန်မာ့ရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ ၂၀၁၉ ခုနှစ်၊ ဩဂုတ်လ ၂၂ ရက်နေ့စွဲပါ စာအမှတ်နံပါတ် MI - 9 / F-G / 2019 (၅၄၂၈) အရ Spring River Knitting (Myanmar) Co. , Ltd ၏စီးပွားဖြစ်စတင်လုပ်ကိုင်သည့်နေ့ရက်သည် ၂၀၁၈ ခုနှစ် စက်တင်ဘာ ၁၄ ရက်ဖြစ်ပါသည်။

၁. စီမံကိန်းအကြောင်းဖော်ပြချက်

Spring River Knitting (Myanmar) Company Limited မှာ သိုးမွေးထည်ယက်လုပ်(ထုတ်လုပ်ခြင်း) စက်ရုံတစ်ခုအဖြစ် အရည်အသွေးမီ အထည်နှင့်ပုံစံကျနခြင်း အချိန်တိကျမှုရှိခြင်း၊ သင့်တင့်မျှတသော ဈေးနှုန်းတို့ဖြင့် ၁၀၀ ရာခိုင်နှုန်း နိုင်ငံခြားသို့တင်ပို့နေသော ကုမ္ပဏီတစ်ခု အဖြစ် လုပ်ငန်းများဆောင်ရွက်နေပါသည်။

ဤစက်ရုံသည်တရုတ်နိုင်ငံမှအရည်အသွေးမြင့်စက်များကို (၁ ထပ် x ၂၀၀ ပေ x ၂၄၀ ပေ) နှင့် (၁ထပ် x ၁၀၀ ပေ x ၂၄၀ ပေ) အဆောက်အအုံ ၂ခု အတွင်း တပ်ဆင်ထားပြီး ဖြစ်ပါသည်။ ၁၂၀ ပေ x ၂၀ ပေ) ထမင်းစားဆောင်ကိုလည်း တည်ဆောက်ထားပါသည်။ စက်ရုံမှ ရန်ကုန်အပြည်ပြည်ဆိုင်ရာလေဆိပ်နှင့်တစ်နာရီခန့်မောင်းနှင်ရသောအကွာအဝေး၊ ရန်ကုန်ဆိပ်ကမ်း (ဆူးလေဆိပ်ကမ်း၊ စက်မှုဆိပ်ကမ်း၊ Asia World ဆိပ်ကမ်း၊ MEC ဆိပ်ကမ်း) များသို့ (၂ နာရီ) မောင်းနှင်ရသော အကွာအဝေးတွင်တည်ရှိသည်။ ဤစက်ရုံတွင် အရည်အသွေး

ထိန်းချုပ်မှု(Quality Control)အဖွဲ့ရှိပြီး သည်။ ၎င်းအဖွဲ့၏တာဝန်မှာ ထုတ်လုပ်မှု အမျိုးမျိုးအားစစ်ဆေးခြင်း။ ကုန်ပစ္စည်းသိုလှောင်ရုံများတွင်အရည်အသွေးစစ်ဆေးခြင်းများဖြစ်၍ သင့်လျော်သောအရည်အသွေးစံနှုန်းကိုပိုမြဲသေချာစေရန်ဖြစ်သည်။ ဤစက်ရုံမှ သိုးမွေးထည်များဖြစ်သည့် (hats & berets, gloves & mittens, shawls & capes, neck tubes, scarves and head bands) များ ထုတ်လုပ်ခြင်းမှာ ထုတ်လုပ်မှုအမြင့်ဆုံး ရာသီတွင်တစ်နေ့လျှင်အထည်ပေါင်း ၂,၂၀၀ ထည် ခန့်ထုတ်လုပ်နိုင်ပါသည်။ တနှစ်အတွက်ခန့်မှန်းထုတ်လုပ်နိုင်မှုမှာ ၆၆၃,၀၀၀ ထည်ခန့်ဖြစ်ပါသည်။

ဤစက်ရုံကို CMP စနစ်ဖြင့် 100% နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု ဖြင့် Spring River Knitting (Myanmar) Company Limited လီမိတက်မှ ဆောင်ရွက်မည်ဖြစ်ပါသည်။

Spring River Knitting (Myanmar) Company Limited တွင် ဓာတုဗေဒပစ္စည်းများအနည်းငယ်အသုံးပြုခြင်းအနေနှင့် အဝတ်များလျှော်ဖွတ်ခြင်း လုပ်ငန်းစဉ်အတွက် Soap Detagent အသုံးပြုခြင်းသာရှိပါသည်။ ဤကုမ္ပဏီလီမိတက်သည် အပြည့်ပြည့်ဆိုင်ရာ အရေအသွေးမီအထည်များကို ထုတ်လုပ်၍ နိုင်ငံခြားသို့တင်ပို့မည်ဖြစ်ပါသည်။ စက်ရုံ မြေဧရိယာ မှာ ၂.၆ ဧက ကျယ်ဝန်းပါသည်။

စက်ရုံသည် လှိုင်သာယာမြို့နယ်အတွင်းရွှေလင်ပန်းစက်မှုဇုန်အတွင်းတည်ရှိပြီး လူနေအိမ်များမှာ စက်ရုံမှအနည်းဆုံး မီတာ၂၀ ခန့်အကွာအဝေးတွင်ရှိပါသည်။ စက်ရုံအရှေ့တွင် မက္ခရာမင်းသားကြီးလမ်းရှိ၍၊ ၎င်းမှ သံချက်ဝန် ဦးညွန့်လမ်းနှင့် ၎င်းမှ ခရေပင် ကားလမ်းမ မှာ အနီးဆုံးလမ်းမဖြစ်ပါသည်။

ဤစက်ရုံတွင်အကောင်းဆုံးအလေ့အကျင့်များကိုကျင့်သုံးလိုက်နာနေခဲ့ပြီး ၎င်းတို့မှာ အချိန်မှန်အလုပ်ဆင်းမှုနှင့်လစာနှုန်း၊ House keeping အဖွဲ့၊ ဆေးဝါးအထောက်အကူပစ္စည်းများ၊ အရေးပေါ်ကယ်ဆယ်ရေးအစီအစဉ်၊ အရေးပေါ်ထွက်ပေါက်၊ မီးဘေးလေ့ကျင့်ခန်းများ၊ ထုတ်လုပ်မှု၊ အမှိုက်ပုံးများလုံလောက်စွာထားရှိမှု၊ အလင်းရောင်၊ အဝင်အထွက်အတွက် လုံလောက်သောတံခါးပေါက်များ နှင့် အရေးပေါ်လှေကားအစရှိသည်တို့အတွက်ထွက်ပေါက်လမ်းကြောင်းတစ်လျှောက်ရှိတံခါးများဖွင့်ထားခြင်းများကို ဆောင်ရွက်ပေးလျက်ရှိပါသည်။

ဤလုပ်ငန်းအနေနှင့် အနီးဝန်းကျင်မှ အဆိုပြုဝန်ထမ်း ၉၀၀ ဦး (လက်ရှိတွင် ၃၂၀ ဦး) ခန့်အလုပ်အကိုင်အခွင့်အလန်းဖန်တီးပေးနိုင်ခဲ့ပါသည်။

ဤကဲ့သို့ ရန်ကုန်တိုင်း၊ လှိုင်သာယာ / ရွှေပြည်သာ / ထန်းတပင်မြို့နယ်များ တွင်ကုန်ထုတ်လုပ်မှုစက်ရုံ တည်ထောင်ခြင်းဖြင့် ဒေသခံပြည်သူများ၏ဘဝနေထိုင်မှုပုံစံကိုတိုးတက်စေပြီးအလုပ်အကိုင်အခွင့်အလမ်းများနှင့်လူမှုအသိုင်းအဝိုင်းနှင့်မိသားစုများကို လူမှုရေး၊ လှုပ်ရှားမှုများနှင့် စီမံကိန်းသည်မြန်မာနိုင်ငံ၏စီးပွားဖြစ်အစိတ်အပိုင်းတွင် ရှင်သန်နိုင်မှုကို တိုးမြှင့်နိုင်ရန်အတွက် အရင်းအမြစ်ဖွံ့ဖြိုးတိုးတက်မှုနှင့်ထုတ်လုပ်မှုကိုအထောက်အကူပြုမည်ဖြစ်ပါသည်။

စီမံကိန်းဖော်ဆောင်သူအကြောင်းဖော်ပြချက်

စီမံကိန်းကိုဤစီမံကိန်းဖော်ဆောင်သူမှာ Mr. Tian, Liangming (Chinese) ဖြစ်၍ တရုတ်နိုင်ငံသား ဖြစ်ပြီး၊ ပေါင်းစည်းအဖွဲ့အစည်းများမှာ East Southern Enterprises Limited, Flat 2 / F Block A, Hung Hom Bay Centre Kowloon, Hong Kong နှင့် Tonglu Spring River Knitting Group Co.,Ltd, No.333, Dongxing Road, Tonglu County, Hangzhou, Zhejiang, China ဖြစ်သည်။ ၎င်း၏ အဓိက စီးပွားရေး လုပ်ငန်းသည် သိုးမွေးဆွယ်တာအမျိုးမျိုးကိုထုတ်လုပ်ခြင်းဖြစ်ပြီး CMP အခြေခံ၍ထုတ်လုပ်ခြင်းဖြစ်ပါသည်။ ဤစီမံကိန်းအတွက် နိုင်ငံခြား ရင်းနှီးမြှုပ်နှံမှုပမာဏ မှာ(၁၀၀%) နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု အမေရိကန်ဒေါ်လာ ၂.၆၀၅ သန်းဖြစ်ပါသည်။

ကုမ္ပဏီအကြောင်းအကျဉ်းချုပ်မှာ အောက်ပါအတိုင်းဖြစ်ပါသည်။

စက်ရုံ	:	Spring River Knitting (Myanmar)Company Limited
ထုတ်လုပ်မှုစက်ရုံ	:	အသင့်ချုပ်ပြီးအဝတ်အထည်များထုတ်လုပ်ခြင်း (Manufacturing knitting ware Factory)
ပိုင်ရှင်အမည်	:	Mr. Tian, Liangming (Pass Port EC 6214769), email – Tljinze@163.com
အမြဲနေရပ်လိပ်စာ	:	Wing Kut Street, Central, RM 904 Harvest Building 29 – 35, Hong Kong
စက်ရုံအထွေထွေမန်နေဂျာ	:	Mr. Mr. Teng Liangming, ဆက်သွယ်ရန်ဖုန်း – 09 – 253566188
ဆက်သွယ်ရန်ပုဂ္ဂိုလ်	:	Daw Myo Myint Aye (HR Assistant Manager), 09 788787066 jinjin21219@gmail.com
စက်ရုံလိပ်စာ	:	ရွှေလင်ပန်းစက်မှုဇုန်၊ အကွက်အမှတ် (၂၅)၊ အမှတ် (၁၄၈၊ ၁၄၉) မက္ခရာ မင်းသားကြီး လမ်း နှင့် တွင်းသင်းတိုက်ဝန် ဦးထွန်းညိုလမ်းထောင့် ၊ လှိုင်သာယာမြို့နယ်

EMP စီမံကိန်းအကောင်အထည်ဖော်မှု

A.M.K and Associates (Environmental Consulting) သည် ၂၀၂၀ ခုနှစ် ဇန်နဝါရီလမှစ၍ Spring River Knitting (Myanmar) Company Limited မှတာဝန်ပေးအပ်ထားသည့် လှိုင်သာယာမြို့နယ်ရှိ ရွှေလင်ပန်းစက်မှုဇုန် ပတ်ဝန်းကျင်တွင် EMP လေ့လာမှု ပြုလုပ်ရန် လွတ်လပ်သော စီမံကိန်းတစ်ခုဆောင်ရွက်ခဲ့ပါသည်။ A.M.K and Associates သည်မြေအောက်ရေ၊ စွန့်ပစ်ရေများအား ဓာတ်ခွဲခန်း စမ်းသပ်ခြင်း၊ လေအရည်အသွေးတိုင်းတာခြင်းအပြင် ရှေ့ပြေး လေ့လာမှုအဖြစ်ဖော်ပြထားသည့် လုပ်ငန်းများကို ၂၀၂၀ ခုနှစ် ဇန်နဝါရီလအတွင်း လုပ်ဆောင်ခဲ့ပါသည်။ဤ ဆောင်ရွက်မှုများကိုလေ့လာမှုဇယားတွင်ဖော်ပြထားသောပြဌာန်းချက်များနှင့်အညီလုပ်ဆောင်ခဲ့ပါသည်။

ပတ်ဝန်းကျင်ဆိုင်ရာကျွမ်းကျင်ပညာရှင်နှင့်စီမံကိန်းဒါရိုက်တာမှာ Joey AMK မှ ဦး အောင်မြတ်ကျော်ဖြစ်ပြီး AMK and Associated EIA Consulting Ltd ၏လိပ်စာမှာ အမှတ် ၁၇၊ ဘန္ဓုလပင်လမ်း၊ကြည့်မြင်တိုင်မြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး ဖြစ်ပြီး သဘာဝပတ်ဝန်းကျင် ထိန်းသိမ်းရေးဆိုင်ရာကဏ္ဍ အမျိုးမျိုးနှင့်နိုင်ငံတကာတရားစီရင်မှုများရှိပတ်ဝန်းကျင်နှင့်လူမှုရေးအကဲဖြတ်မှုနှင့်စီမံခန့်ခွဲမှု အတွေ့အကြုံ အနည်းဆုံး ၁၅ နှစ်ကျော်ခန့်ရှိခဲ့ပါသည်။ ဒေါက်တာအောင်လေးတင်မှ စီမံကိန်းလေ့လာမှုတွင်နည်းပညာကျွမ်းကျင်သူအဖြစ် ပါဝင်ကူညီ ဆောင်ရွက်ခဲ့ပါသည်။

AMK and Associated EIA Consulting Ltd အား ဦးအောင်မြတ်ကျော်၊ ၁၇၊ ဘန္ဓုလပင်လမ်း၊ ကြည့်မြင်တိုင်မြို့နယ်၊ ရန်ကုန်၊ တိုင်းဒေသကြီး၊ ဆက်သွယ်ရန်ဖုန်းနံပါတ် 09 – 5162169၊ အီးမေးလ် joei0920@gmail.com ဖြင့် ဆက်သွယ်နိုင်ပါသည်။

AMK and Associated EIA Consulting Ltd ၏ လေ့လာမှုဆောင် 1.3 EMP project Implementation တွင်ဖော်ပြထားပါသည်။

စီမံကိန်းအစိတ်အပိုင်းများ

ဤစီမံကိန်းသည်လက်ရှိအားဖြင့် ပတ်ဝန်းကျင်နေရာကောင်းတွင် တည်ရှိပြီး၊ မြေပြင်လတ္တီတွဒ် 16°54'51.68"N, 96° 3'34.99"E (Gate of the Factory). တွင်ရှိသည်။ ပင်လယ်ရေမျက်နှာပြင် မှ ၇ မီတာတွင်တည်ရှိပါသည်။

အရွယ်အစား

သယံဇာတနှင့်သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာန (ယခင် MOCAF ၏ ၂၀၁၅ ခုနှစ်ဒီဇင်ဘာ ၂၉ ရက်နေ့၊ ရက်စွဲပါအမိန့်ကြော်ငြာစာအမှတ် ၆၁၆/၂၀၁၅၊ ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ နောက်ဆက်တွဲ (က) ပါ ဆန်းစစ်ခြင်းဆောင်ရွက်ရန်လိုအပ်သည့်စီမံကိန်းလုပ်ငန်း အမျိုးအစားများပါဖယားအရ ဤအထည်အလိပ်ထုတ်လုပ်သည့်စက်ရုံစီမံကိန်းမှ တစ်နေ့လျှင် ခန့်မှန်းခြေအားဖြင့် ၂,၂၀၀ ထည် (သိုးမွေးထည်)-(၁,၈၀၀ ကီလိုဂရမ်ခန့်)ထွက်ရှိမည်ဖြစ်ပြီး သတ်မှတ်ချက် (၁၀) တန်အောက်ဖြစ်သဖြင့် အသေးစားနှင့်အလတ်စားစက်မှုလုပ်ငန်း တစ်ခုသာ ဖြစ်ပါသည်။

အဆောက်အဦးကြမ်းပြင် အနေအထားနှင့် Layout Plan

ဤအဆိုပြုထားသော စက်ရုံတည်နေရာနှင့် အဆောက်အဦးကို ကိုရွေးချယ်ရခြင်း၏အကြောင်းရင်းမှာ လက်ရှိအနေအထားအားဖြင့် တည်ဆောက်မှု ကောင်းမွန်ပြီး ပတ်ဝန်းကျင်အနေအထားမှာလည်း ကောင်းမွန်ခြင်းကြောင့် စီမံကိန်းဖွံ့ဖြိုးတိုးတက်အောင်ဆောင်ရွက်နိုင်သည့် အနေအထားဖြစ်ပါသည်။ ဤအဆောက်အဦးတည်နေရာ၏ မြေမျက်နှာသွင်ပြင်သည် သဘာဝကျပြီးမြေဆီလွှာရုပ်ပိုင်းဆိုင်ရာဂုဏ်သတ္တိများမှာ လုံလောက်မှု ရှိပြီးစီမံကိန်းဖော်ဆောင်သူလိုအပ်သည့် စီမံကိန်းဧရိယာနှင့်ပတ်ဝန်းကျင်ဧရိယာအတွက်အရည်အချင်းပြည့်မှီခြင်းရှိပါသသည်။

စက်ရုံ၏ ကြမ်းပြင်ဧရိယာ အကျယ်အဝန်းမှာ အကြမ်းအားဖြင့် ၇၄,၀၀၀ စတုရန်းပေ ကျယ်ဝန်းပါသည်။

စက်ရုံမှာ တစ်ထပ် steel structured အဆောက်အဦးများ ဖြစ်ပြီး စက်ရုံ၏ကြမ်းခင်းဧရိယာမှာ စုစုပေါင်း ၇၄,၀၀၀ စတုရန်းပေဖြစ်ပါသည်။ စက်ရုံဖွဲ့စည်းတည်ဆောက်ပုံ (Lay out Drawing) ကို အစီရင်ခံစာ၏ Figure 11: Factory Layout plan တွင်ဖော်ပြထားပါသည်။

စွမ်းအင်အရင်းအမြစ်

မြေအောက်ရေ

ဤစက်ရုံတွင်ရေအရင်းအမြစ်ကို ၄လက္မ အဝီစိတွင်း၊ အနက်ပေ ၁၈၀ – ၂၀၀ ပေမှ ရယူပြီး ရေစုတ်စက်အားဖြင့် တစ်မိနစ်လျှင် ရေ ၄၀ ဂါလံအထိ ထုတ်ယူနိုင်ပြီး ရေလှောင်ကန်နှင့် ရေစုဆောင်းကန် ၃ ခု စုစုပေါင်း ၁၃၈၇၅ ဂါလံ (၆၃.၀၈ ကုဗမီတာ) တွင် သိုလှောင်ထားပါသည်။ ရေတွင်းမှတစ်နာရီလျှင် ၁,၈၀၀ ဂါလံ စုပ်တင်နိုင်စွမ်းရှိပါသည်။ စက်ရုံ၏အသုံးပြုမှုမှာ တစ်နေ့လျှင် ၂၀ ကုဗမီတာ (၅၀၀၀ ဂါလံ)ခန့်ဖြစ်ပါသည်။

သောက်ရေ

Spring River Knitting (Myanmar) Company Limited သည် ဝန်ထမ်းအလုပ်သမားများအတွက် သောက်သုံးရေကို ပြင်ပ သောက်ရေသန့်စက်ရုံမှ ဝယ်ယူအသုံးပြုနေပြီး လက်ရှိအားဖြင့် ဝန်ထမ်းအလုပ်သမား ၃၀၀ အတွက် တစ်နေ့လျှင် ခန့်မှန်းခြေအားဖြင့် ၆၀၀ လီတာခန့် အသုံးပြုနေပါသည်။

လျှပ်စစ်ဓာတ်အား

ထရန်စဖော်မာ (11 KVA) ထိုင်ပြီး မြန်မာ့လျှပ်စစ်ဓာတ်အားကို ရယူသုံးစွဲပါသည်။ မီးပျက်ချိန်တွင်အသုံးပြုရန် 437 kVA silent type ဒီဇယ်သုံးမီးစက် ၁လုံး အားအစရုံထားရှိပါသည်။ ၂၀၁၉ ခုနှစ် လျှပ်စစ်ဓာတ်အားခပေးခြင်း မှတ်တမ်းများအရ တစ်နှစ်အတွက် (၃၆၀,၀၀၀) unit ကို သုံးစွဲခဲ့ပါသည်။ ရန်ကုန်တိုင်းဒေသကြီး စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေး ဦးစီးဌာန၊လျှပ်စစ်စစ်ဆေးရေးဌာန၏လျှပ်စစ်ဓာတ်အားသုံးစွဲခြင်း ဆိုင်ရာ ဘေးအန္တရာယ် ကင်းရှင်းရေးလက်မှတ် ကိုလည်းရရှိပြီးဖြစ်ပါသည်။

ဘွိုင်လာရေနွေးငွေ့အပူပေးစနစ်

စက်ရုံတွင် တစ်တန်ဘွိုင်လာကို အသုံးပြုပါသည်။ လေအေးပေးစနစ်နှင့်ပူးတွဲ တပ်ဆင်ထားခြင်း၊ ရေ ၅၀ ဂါလံခန့်သာလိုအပ်ခြင်းတို့မှာ အားသာချက်တစ်ခု ဖြစ်ပါသည်။

စီမံကိန်းဒီဇိုင်း

အဆိုပြုအထည်ချုပ်စက်ရုံတွင်သဘာဝပတ်ဝန်းကျင်ထိခိုက်မှု လျှော့ချရေးအစီအမံများကိုစက်၏ဒီဇိုင်းတွင်ပေါင်းစပ်ထားပါသည်။ လျှော့ချရေး

အစီအမံများနှင့်သက်ဆိုင်သောဘေးကင်းလုံခြုံရေးအစီအမံများ ပါဝင်ပြီး စက်ရုံထုတ်လုပ်သူ၏အသေးစိတ်ဖော်ပြချက်များမှ ပတ်ဝန်းကျင်ဆိုင်ရာ အကဲဖြတ်မှုကိုတစ်ဆင့်ပြီးတစ်ဆင့်ဖော်ထုတ်ပြီးလုပ်ဆောင်ရမည့်လုပ်ငန်းခွင်ထိခိုက်မှုလျော့ပါးရေးအစီအမံများ၊ အသုံးပြုမည့်ပစ္စည်း၊ စွန့်ပစ်ပစ္စည်းစွန့်ပစ်ရာ ဇရိယာနှင့်အခြားပတ်ဝန်းကျင်ဆိုင်ရာလိုအပ်ချက်များကိုလည်းအစီရင်ခံစာတွင်ဖော်ပြထားသည်။

မြို့ပြဒီဇိုင်း၊ ထုတ်လုပ်မှုနေရာ၊ လျှပ်စစ်ဒီဇိုင်း၊ အလင်းနှင့်သဘာဝအလင်း၊ ရေပေးဝေရေးနှင့်ရေနုတ်မြောင်းဒီဇိုင်း၊ လေဝင်လေထွက်ဒီဇိုင်း၊ လေနှင့်ဖုန်မှုန့်စုဆောင်းမှုပုံစံ၊ သဘာဝပတ်ဝန်းကျင်ကာကွယ်မှု၊ ဘေးကင်းရေးနှင့် မီးဘေးထိန်းချုပ်ရေး ဒီဇိုင်းနှင့် ဇုန်ခွဲခြားသတ်မှတ်ခြင်းစသည်တို့ကို ဤစီမံကိန်းဖွံ့ဖြိုးတိုးတက်မှုတွင်ထည့်သွင်းစဉ်းစားထားပါသည်။

ကုမ္ပဏီဖွဲ့စည်းပုံ

Company organization chart ကို အစီရင်ခံစာ၏ 1.4.6 Factory Organization တွင်ဖော်ပြထားပါသည်။ ၎င်းဖွဲ့စည်းပုံဇယားအရ စက်ရုံဖွဲ့ စည်းပုံတွင် အဓိကအားဖြင့် CSR Department, Financial Department, Sale Department, QC Department, Factory Management, နှင့် Washing Department ဌာန များပါဝင်ပါသည်။

ဘဏ္ဍာရေးနှင့်ရင်းနှီးမြှုပ်နှံမှု

ဘဏ္ဍာရေးအနေနှင့် ဤစက်ရုံစီမံကိန်းအတွက် ရင်းနှီးမြှုပ်နှံမှုဌာ အမေရိကန်ဒေါ်လာ ၂.၆၀၅ သန်းဖြစ်ပါသည်။

အသုံးပြုသောစက်ပစ္စည်းစာရင်းကို အစီရင်ခံစာတွင် 1.4.7 Tables of Financial Statistics မှ Machinery List တွင် ဖော်ပြထားပါသည်။

၂၀၂၀ ခုနှစ် ဇန်နဝါရီလ မှတ်တမ်းများမှ စက်ရုံတွင် ဝန်ထမ်း ၃၂၀ ဦးအားခန့်ထားခဲ့သည့်အပြင် နိုင်ငံခြားသားပညာရှင် ၃၅ ဦးလည်းတာဝန်ယူဆောင်ရွက်နေပါသည်။

ကုန်ကြမ်းပစ္စည်းအမျိုးအစား၊ ကုန်ချော ထုတ်ကုန်များနှင့် ထုတ်လုပ်မှုနှုန်းထား

ခန့်မှန်းခြေ တစ်နှစ်လျှင် အထည်ပေါင်း ၆,၆၁၃,၀၀၀ ခန့်ကို ၁၀၀ ရာခိုင်နှုန်း နိုင်ငံခြားသို့တင်ပို့မည်ဖြစ်ပြီး လစဉ်ထုတ်လုပ်မှုမှာ ၅၅၁,၀၀၀ ထည်ခန့်ဖြစ်ပါသည်။ နေ့စဉ် အထည် ၂,၂၀၀ ခန့် သိုးမွေးထည် (scarves, neck tubes, heads & berets, gloves & mittens, headbands, sweater – kids, men, women, sweater cut pieces – kids, men, women, dress, tank top, short sleeved sweater, long sleeved sweater and pants) ကို နှစ်စဉ် ကုန်ကြမ်းများ ဖြစ်သော ပိတ်သား ၆၄၅,၈၀၀ ပေါင် ရှိ Yarn (52% cotton & 48% acrylic, 100% Acrylic, 100% wool, wool 30% & Acrylic 70% etc.) နှင့် ပစ္စည်းကိရိယာများ mini lavel, care label, size label, price ticket, hand tag, sewing thread, softener, detergent, wash agent, hanger, tag pin, poly bag, tissue paper, button, tape 2” (roll), sticker, Zipper and packing materials တို့ကို အသုံးပြု၍ ထုတ်လုပ်နေပါသည်။

တစ်နှစ်အတွက် ခန့်မှန်းလိုအပ်သော ကုန်ကြမ်းမှာ ၆၄၅,၈၀၀ ပေါင် ချည်နှင့်ဆက်စပ်ပစ္စည်း တို့ဖြစ်ပြီး ကုန်ကြမ်း အားလုံးနီးပါးကို တရုတ်ပြည်မှ ရေကြောင်းခရီး ဖြင့် တင်သွင်းမည်ဖြစ်ပါသည်။

ဓာတုပစ္စည်းများ

မီးစက် (ဂျန်နရေတာ) အတွက် စက်ဆီချောဆီ လောင်စာဆီများအသုံးပြုခြင်းများအပြင်၊ လျှော်ဖွတ်ခြင်းနှင့် ရေဆိုးသန့်စင်ခြင်းလုပ်ငန်းစဉ်များအတွက် ဓာတုပစ္စည်းအနည်းငယ်ကို အသုံးပြုပါသည်။ ၎င်းတို့မှာ လျှော်ဖွတ်ခြင်းအတွက် Leavening agent, smoothing agent, Silicone oil, environmentally fridendly oyster sauce (Detergent Agents), are used for sweater washing process နှင့် ရေဆိုးသန့်စင်ခြင်းအတွက် Sodium hydroxide, Polyacrylamide, Polyaluminium Chloride တို့ကို အသုံးပြုပါသည်။ အသုံးပြုခဲ့သော ဓာတုပစ္စည်းအားလုံးသည် SGS အရည်အသွေးစစ်ဆေးရေးကုမ္ပဏီ၏ ကန့်သတ်ပစ္စည်းစာရင်းဇယား Restricted Substances List (RSL)တွင်ပါဝင်မှုမရှိကြောင်းထောက်ခံမှုရရှိထားပါသည်။

ဝန်ထမ်းများအတွက်အခွင့်အရေးများ

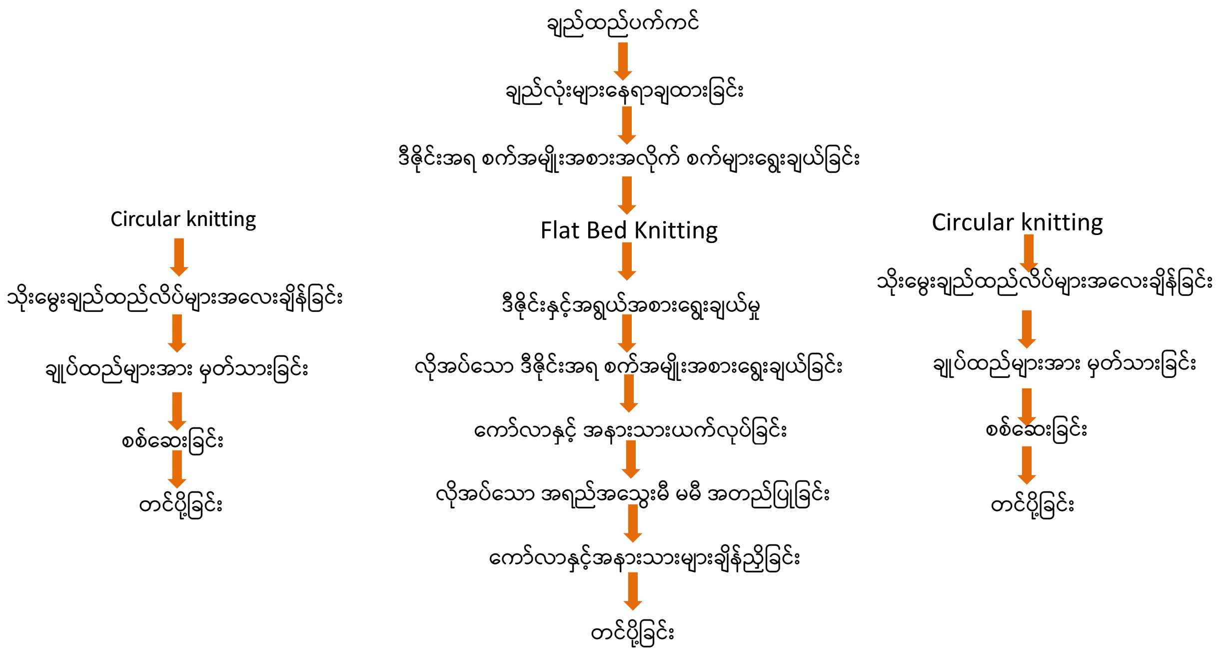
အလုပ်သမားများအတွက်နှစ်စဉ်အလုပ်လုပ်ရက်မှာ ၃၁၂ ရက်ဖြစ်ပြီး အလုပ်ချိန်သည်တစ်ရက်လျှင် ၈ နာရီဖြစ်သည်။ အများပြည်သူအားလပ်ရက်ကိုအလုပ်ပိတ်ရက်အဖြစ် ခံစားခွင့်ပေးထားပါသည်။ ဝန်ထမ်းများအတွက်လစဉ်လစာငွေပေးချေမှုတွင် စက်ရုံအတွက်ပျမ်းမျှ ၂ နာရီအချိန်ပိုကြေးကိုလည်းရှင်းပေးပါသည်။ လစဉ် လဆန်း၅ ရက်ထက်နောက်မကျစေဘဲလစာပေးချေပါသည်။

ပုံမှန်အားဖြင့်စနေနေ့နှင့်တနင်္ဂနွေတစ်ဝက်သည် အားလပ်ရက်များဖြစ်သည်။ အားလပ်ရက်များဖြစ်သောခန့်မှန်းခြေအားဖြင့် တနင်္ဂနွေ ၅၃ ရက် စနေနေ့ နေ့ဝက် ၂၆ ရက်နှင့် အပြည်ပြည်ဆိုင်ရာနှစ်သစ်ကူးနေ့၊ လွတ်လပ်ရေးနေ့၊ ပြည်ထောင်စုနေ့၊ လပြည့်နေ့၊ တောင်သူလယ်သမားတပ်မတော်နေ့၊ သင်္ကြန်ရုံးပိတ်ရက်များ၊ မြန်မာနှစ်သစ်ကူး၊ အလုပ်သမားနေ့၊ အာဇာနည်နေ့များ၊ ခရစ်စမတ်နေ့၊ နှစ်သစ်ကူးနေ့၊ သီတင်းကျွတ်အားလပ်ရက်၊ ဒေဝါလီနေ့၊ အမျိုးသားနေ့၊တန်ဆောင်တိုင် အားလပ်ရက်၊စသည်တို့အား အလုပ်ပိတ်ရက်များအဖြစ်သတ်မှတ်ပေးထားပါသည်။

ဝန်ထမ်းများအတွက် ထမင်းစားခန်း၊ မီးဖိုချောင်၊ ၊ မီးသတ်စက်များ၊ စက်ဘီး၊ မော်တော်ဆိုင်ကယ်ရပ်နားရန်နေရာများ အားလည်း သတ်မှတ်ပေးထားပါသည်။

ဤ စက်ရုံလည်ပတ်မှုလုပ်ငန်းစဉ်များအရဆေးဆိုးခြင်းလုပ်ငန်းစဉ်ကိုလုပ်ဆောင်ရန်မလိုအပ်ဘဲ။ လျှော်ဖွတ်ခြင်းဓာတုပစ္စည်း ကုန်ကြမ်းများ အနည်းငယ်သာလိုအပ်ပါသည်။။ CMP စနစ်အရ အရောင်အမျိုးမျိုး ဖြစ်သော သိုးမွေးချည်/ အစရှိသည့် ကုန်ကြမ်းများအား လုပ်ငန်းအပ်နှံသူမှ တင်သွင်းပေးပို့ပါသည်။

သိုးမွေးထည်များယက်လုပ် - ထုတ်လုပ်ရေးလုပ်ငန်းစဉ်



သိုးမွေးထည်များလျှော်ဖွတ်ခြင်းလုပ်ငန်းစဉ်

သိုးမွေးထည်များလျှော်ဖွတ်ရာတွင်အသုံးပြုသော လျှော်ဖွတ်နည်းအမျိုးမျိုးရှိပါသည်၊ ၎င်းတို့မှာ

1. Enzyme Wash,
2. Stone Enzyme Wash or Heavy Enzyme wash,
3. Rubber Ball Wash,
4. Hot Wash,
5. Softener Silicon Wash,
6. Acid Wash,
7. P.P Spray,
8. Garment Dye,
9. Cold Dye,
10. Pigment Dye,
11. Tie Dye,
12. Deep Dye တို့ဖြစ်ပြီး ယခု Spring River Knitting (Myanmar) စက်ရုံတွင်မူ အမှတ်စဉ် ၁၊ ၃၊ ၅ တို့ကို အသုံးပြုပါသည်။

အထောက်အကူပြုလုပ်ငန်းများ

အထောက်အကူပြုလုပ်ငန်းများသည်များစွာသောကုန်ထုတ်လုပ်ရေးလုပ်ငန်းများတွင်ဆောင်ရွက်ရလေ့ရှိပါသည်။ ဥပမာအုပ်ချုပ်ရေး လုပ်ဆောင်ချက်များ၊ စက်ရုံနှင့်စက်ပစ္စည်းများပြုပြင်ထိန်းသိမ်းခြင်း၊ ဘွိုင်လာနှင့်အရန်ပါဝါမီးစက်ထုတ်လုပ်ခြင်း။

Spring River Knitting (Myanmar) စက်ရုံတွင်အဓိကထုတ်လုပ်မှုလုပ်ငန်းများအတွက်အုပ်ချုပ်ရေး၊ ရေနွေးငွေ့ထုတ်လုပ်ခြင်း၊ စွမ်းအင်ထုတ်လုပ်ခြင်း စသည့် အထောက်အကူပြုလုပ်ငန်းများရှိပါသည်။

ဤစက်ရုံမှလည်ပတ်နေစဉ်စက်ရုံမှစွန့်ပစ်ပစ္စည်းထုတ်လုပ်မှုသည်အစိုင်အခဲစွန့်ပစ်ပစ္စည်းများ (ခန့်မှန်းခြေအားဖြင့်တစ်နှစ်လျှင် ၃၁.၆၇ တန်) နှင့် စွန့်ပစ်ပစ္စည်း (အရည်)များဖြစ်သည်။ စွန့်ပစ်ပစ္စည်း အရည်အနေနှင့် အဓိကအားဖြင့် မိလ္လာ (သန့်စင်ခန်း ၄၁ ခန်း)၊ လျှော်ဖွတ်ခြင်းလုပ်ငန်းစဉ် နှင့်အထွေထွေသုံးစွန့်ပစ် ရေများဖြစ်ကြပြီး စွန့်ပစ်ရေအားလုံးကို စက်ရုံတွင်တပ်ဆင်ထားပြီးဖြစ်သော wastewater

treatment plant တွင်သန့်စင်ခဲ့ပါသည်။

ဤစက်ရုံလည်ပတ်မှုတွင်ဓာတုဗေဒပစ္စည်းအသုံးပြုမှု အနည်းငယ်ရှိသောကြောင့်ဤ Spring River Knitting (Myanmar) စက်ရုံတွင် အန္တရာယ်ရှိသော စွန့်ပစ် ပစ္စည်းများထုတ်လုပ်ခြင်းအနေနှင့် အသုံးပြုသော အနည်းငယ်သော ဓာတုပစ္စည်းများ၏ ပုံးခွံ (အလွတ်) များသာ ရှိပါသည်။

မီးစက်အင်ဂျင်မှအင်ဂျင်ဝိုင် လဲခြင်းကို (၆ လလျှင်တစ်ကြိမ်)သာဆောင်ရွက်လေ့ရှိပြီး ပြင်ပသို့ပြန်လည်ရောင်းချမှု အလွန်နည်းပါးပါသည်။

ထုပ်လုပ်ရေးလုပ်ငန်းစဉ်မှ input နှင့် output ဇယားကို အစီရင်ခံစာ၏ 1.6.2 Flow Chart of the Complete Production Process တွင်ဖော်ပြ ထား ပါသည်။

အနီးအနားပတ်ဝန်းကျင်အခြေအနေ

ရုပ်ပိုင်းဆိုင်ရာ၊ နည်းပညာနှင့်ပတ်ဝန်းကျင်ဆိုင်ရာအချက်အလက်များနှင့်သက်ဆိုင်သောသတင်းအချက်အလက်များကို ပတ်ဝန်းကျင် လူမှု အသိုက် အဝန်း၊ ဒေသဆိုင်ရာအထွေထွေအုပ်ချုပ်ရေးဦးစီးဌာနနှင့်အခြားဌာနဆိုင်ရာများ၊ အခြားအဖွဲ့အစည်းများ၊ ကုမ္ပဏီ၏စီမံခန့်ခွဲမှု အဖွဲ့ မိုးလေဝသနှင့် ဇလဗေဒဦးစီး ဌာန၊ အင်တာနက် စသည်တို့ထံမှ ရရှိခဲ့ပါသည်။ ၊ လေ့လာမှုကို ပတ် ဝ န်းကျင်အဆိုပြုထားသောစက်ရုံဧရိယာ၏ ၁ ကီလို မီတာပတ်ဝန်းကျင်ကိုဆောင်ရွက်ခဲ့ပါသည်။ ပတ်ဝန်းကျင်ဒေသ၏လူမှုစီးပွားရေး၊ ယဉ်ကျေးမှုနှင့်ဓလေ့ထုံးတမ်းများ ကိုနားလည်ရန် ဝန်ထမ်းများကိုလည်းအသေးစိတ်တွေ့ဆုံမေးမြန်းခဲ့သည်။ ။

စစ်တမ်းကောက်ယူမှုများကိုလှိုင်သာယာမြို့နယ်၊ အမှတ် ၁၄၈၊ ၁၄၉၊ မဂ္ဂရာမင်းသားကြီးလမ်းနှင့် တွင်းသင်းတိုက်ဝန်ဦးထွန်းညိုလမ်းဒေါင့်၊ ရွှေလင်ပန်းစက်မှုဇုန်၊ ရန်ကုန်တိုင်းဒေသကြီး၊ လှိုင်သာယာမြို့နယ်၊ ၂.၆ ဧက ရှိစက်ရုံဝင်းအတွင်းမှ ဆောင်ရွက်ခဲ့ပါသည်။

အဆိုပါဧရိယာပတ်ဝန်းကျင်သည် အသင့်အတင့်ကောင်းမွန်သော အခြေအနေရှိသည့် မြေပြန့်ဒေသတစ်ခုဖြစ်ပါသည်။ သစ်ပင်၊ပန်းမာန်များ၊ ချုံဖုတ်များ နှင့် ဇီဝ မျိုးကွဲ အလွန်နည်းပါးသည့်အနေအထားတွင်ရှိပါသည်။

အထွေထွေရာသီဥတုအခြေအနေ

ရန်ကုန်၏မိုးရေချိန်မှာမိုးတွင်းကာလတွင်နှစ်စဉ်ပျမ်းမျှမိုးရေချိန် ၂၂၇ မီလီမီတာဖြစ်ပါသည်။ မိုးရာသီ၏ ၇၅-၈၀% ခန့်တွင်မိုးရွာသွန်းပါသည်။ ရန်ကုန်တွင် နေသာချိန်သည်အနည်းဆုံး ၂၅% နှင့်အများဆုံး ၉၀% ဖြစ်သည်။ စိုထိုင်းဆမှာအနည်းဆုံး ၅၄% (နိုဝင်ဘာမှဧပြီလ) နှင့် ၉၅.၆% (နိုဝင်ဘာလမှဧပြီလ) ဖြစ်သည်။ ပတ်ဝန်းကျင်အပူချိန်သည်အနည်းဆုံး ၂၂ ဒီဂရီစင်တီဂရိတ်နှင့်အမြင့်ဆုံး ၃၂.၈ ဒီဂရီစင်တီဂရိတ်ဖြစ်သည်။ လေတိုက်မှုအမြင့်ဆုံးနှုန်းသည်ပျမ်းမျှ ၅.၉ ကီလိုမီတာ / တစ်နာရီအများဆုံး ၃၆.၇ ကီလိုမီတာဖြစ်သည်။ နှစ်စဉ်ပျမ်းမျှ စိုထိုင်းဆမှာ ၇၅.၇% ဖြစ်သည်။ ပျမ်းမျှနှစ်စဉ်မိုးရေချိန်မှာ ၂၉၀၉.၃ မီလီမီတာ၊ ပျမ်းမျှအပူချိန်မှာ ၂၇.၀၅ ဒီဂရီစင်တီဂရိတ်ဖြစ်သည်။ ဖေဖော်ဝါရီမှမေလသည် အပူဆုံးကာလများဖြစ်ပါသည်။

ဤဒေသ၏ ဇလဗေဒသွင်ပြင်လက္ခဏာမှာအနည်အနှစ်များနှင့်ပတ်ဝန်းကျင်ရေဆင်းမြောင်းစနစ်ပေါ်တွင်အခြေခံသည်။ လှိုင်သာယာ (ရွှေလင်ပန်းစက်မှုဇုန်) တွင် ၈ လက်မအချင်းအဝီစိတွင်းအတွက် အနက်ပေ ၃၀၀ မှ ရေထွက်နှုန်းတစ်နာရီလျှင် ၂၄၀၀ ဂါလံခန့်ရှိပါသည်။

ယေဘုယျအားဖြင့်ဒီဇင်ဘာလမှဧပြီလလယ်အထိမုတ်သုန်လေတိုက်ခတ်ပြီး ဇွန်လနှင့် အောက်တိုဘာ လလယ်အကြားကာလတွင် ကုန်သွယ်ရေးလေသည်များတိုက်ခတ်လေ့ရှိပါသည်။ ၂၀၁၆ - ၂၀၁၈ မှတ်တမ်းများအရ ကုန်သယ်လေသည်ပုံမှန်အားဖြင့် တစ်နာရီလျှင် ၅.၉ ကီလိုမီတာ / နာရီရှိပြီး၊ အမြင့်ဆုံးလေတိုက်နှုန်းမှာ တစ်နာရီလျှင် ၁၄.၆ ကီလိုမီတာ ဖြစ်ပါသည်။

ဇလဗေဒနှင့်ရေဆင်းအခြေအနေ

စီမံကိန်းနေရာသည်လှိုင်မြစ်၏အနောက်ဘက် ၂ ကီလိုမီတာအကွာတွင်တည်ရှိသည်။ လှိုင်မြစ်သည် ရန်ကုန်မြစ်အဖြစ် မုတ္တမပင်လယ်ကွေ့မှ တဆင့် ကပ္ပလီပင်လယ် ထဲသို့ စီးဝင် ပါသည်။

ပတ်ဝန်းကျင်ရေစီးဆင်းမှုအခြေအနေမှာ စီမံကိန်းနေရာကိုဝန်းရံထားသည့်အနေအထားတွင်ရှိပါသည်။ ရေဆင်းမြောင်းသည် သေးငယ် သော်လည်း၊ ပျမ်းမျှမိုးရေချိန်ငါးနှစ်အောက်အတွက်ဒီဇိုင်းပြုလုပ်ထားပြီး ရေဆင်းမြောင်းကို နှစ်စ်ကီလိုမီတာအကွာအဝေး လှိုင်မြစ်အတွင်း သို့ စီးဆင်းစေရန်ဖောက်လုပ်ထားပါသည်။

မြေအသုံးပြုမှု

စီမံကိန်းမြေနေရာကို ဒေသပတ်ဝန်းကျင်၏စီးပွားရေး၊ လူမှုရေး၊ ဇီဝဗေဒဆိုင်ရာနှင့်ရုပ်ပိုင်းဆိုင်ရာပတ်ဝန်းကျင်တို့နှင့် တစ်ဘက်နှင့်တစ်ဘက် အပြန်အလှန်အကျိုး ဖြစ်ထွန်းနိုင်မှု အရ ရွေးချယ်ခဲ့ခြင်းဖြစ်ပါသည်။

သစ်တော၊ စိုက်ပျိုးရေးနှင့်စိုက်ပျိုးရေးအတွက်မြေအသုံးချမှုမရှိသောကြောင့်အဆိုပြုထားသောစီမံကိန်းသည်မြေအသုံးချမှုပုံစံနှင့် မြေအသုံးချမှု အစီအစဉ် အပေါ် တွင်သက်ရောက်မှုမရှိပါ။

ထိုစီမံကိန်းအတွက်နောက်ထပ်မြေအသုံးပြုမှုမရှိပါ၊ လှိုင်သာယာမြို့နယ်တွင်လက်ရှိတွင်သစ်တော၊ စိုက်ပျိုးရေးနှင့်လယ်ယာ ကဏ္ဍ အတွက် မြေအသုံးချမှုမရှိသောကြောင့်အဆိုပြုထားသောစီမံကိန်းသည်မြေအသုံးချမှုပုံစံနှင့်မြေအသုံးချမှုအစီအစဉ်အပေါ်တွင်လည်းသက်ရောက်မှုမရှိပါ။

ပတ်ဝန်းကျင်မြေယာအသုံးပြုမှုကိုစစ်တမ်းကောက်ယူမှု ကိုစီမံကိန်းနယ်နိမိတ်မှ ၂ ကီလိုမီတာအချင်းဝက်အတွင်းဆောင်ရွက်ထားပြီး စက်မှုဇုန်၊

စီးပွားရေးပတ်ဝန်းကျင်နှင့်လူနေအိမ်အဆောက်အဦး များပါဝင်ပါသည်။ ဤ Spring River Knitting (Myanmar) စက်ရုံပတ်ဝန်းကျင်တွင် Yi Xuan မိုးကာဖျည်ထုတ်လုပ်ရေး စက်ရုံသည် စက်ရုံ၏အရှေ့ဘက်တွင်ရှိပြီး Yuan Xin Guang Co., Ltd စက်ရုံသည်ညာဘက်တွင်ရှိ၍ Red Dragon Food Industry အစားအသောက်စက်ရုံသည်အနောက်ဘက် တွင်ရှိပါသည်။ စက်ရုံ၏ဘယ်ဘက်မှာ တွင်းသင်းတိုက်ဝန်ဦးထွန်းညိုလမ်းဖြစ်ပါသည်။

စီမံကိန်း စက်ရုံ၏ အရှေ့တွင် မက္ခရာမင်းသားကြီးလမ်းရှိပြီး ၎င်းမှ တဆင့် သံချက်ဝန်ဦးညွန့်လမ်း၊ ၎င်းမှ တဆင့် ခရေပင်လမ်းသို့ထွက်၍ ရွှေပြည်သာ တံတားကို ဖြတ်သန်းကာ ရန်ကုန်မြို့တွင်းသို့ အလွယ်တကူသွားရောက်ရန် မော်တော်ယာဉ်လိုင်းများစွာရှိပါသည်။

ရုပ်ပိုင်းဆိုင်ရာပတ်ဝန်းကျင် - လေ၊ ဆူညံမှုနှင့်ရေအခြေအနေ

လေထုအရည်အသွေးလေ့လာမှု

လေထုအရည်အသွေးလေ့လာမှုအတွက် ၁၅.၁၂.၂၀၁၈ တွင် တစ်ကြိမ်နှင့် ၁၈.၁.၂၀၂၀ တွင်တစ်ကြိမ် ၂ ကြိမ်စောင့်ကြည့်စစ်ဆေးပြီးဖြစ်ပါသည်။

စီမံကိန်း၏လေထုအရည်အသွေးကို EPAS (HAZ – SCANNER) ဖြင့်တိုင်းတာစမ်းသပ်ခဲ့ပါသည်။ ၎င်းကိရိယာအားပတ်ဝန်းကျင် လေထုအရည်အသွေးကိုတိုင်းတာရန်နှင့် NO_2, CO_2, CO, SO_2 စသည်တို့အပါအဝင် USEPA မှ စံသတ်မှတ်ထားသော အမှုံအမွှားပါဝင်နှုန်းများကိုတိုင်းတာရန်နှင့်မှတ်တမ်းတင်ရန်အတွက်အသုံးပြုနိုင်ပါသည်။ တိုင်းတာရရှိသည့် ရလဒ်များမှာ

	Date	Parameters						
		NO_2	O_3	PM $_{10}$	PM $_{2.5}$	SO_2	CO (US.EPA)	CO_2 (ACGIIT)
NEQEG		200 µg/m^3	100 µg/m^3	50 µg/m^3	25 µg/m^3	20 µg/m^3 24 Hr 500 µg/m^3 10 min	9000 ppb	5000 ppm
16°54'50.11"N, 96° 3'31.06"E	15.12.2018	71	45.1	26	12	150	71.6	–
16°54'51.52"N, 96° 3'34.29"E	18.1.2020	65.8	65.8	22	12	12.7	241.3	–
16°54'51.56"N, 96° 3'34.684"E	**4.2.2022**	**41.16**		**15.51**	**4.22**	**184.80**	**53.49**	**213.29**

စောင့်ကြည့်လေ့လာခြင်းရလဒ်

တိုင်းတာသောပတ်ဝန်းကျင်လေထုအရည်အသွေးရလဒ်များကိုအထက်ပါဇယားတွင်ဖော်ပြထားသည်။

ကောက်ယူရရှိသောအချက်အလက်များသည် WHO လမ်းညွှန်ချက်များနှင့် NEQEG တန်ဖိုးတို့ထက်နည်းသည်ကိုတွေ့ရှိရခြင်းကြောင့် ပတ်ဝန်းကျင်အပေါ်သိသာထင်ရှားသောထိခိုက်မှုမရှိဟုဆိုနိုင်ပါသည်။

ဆူညံသံအဆင့်

လေ့လာမှုဧရိယာ အတွင်းရှိ ဆူညံသံအဆင့်များကိုအကဲဖြတ်နိုင်ရန်အတွက် ၁၅.၁.၂၀၂၀ တွင်လေ့လာမှုဧရိယာအတွင်းနေရာ ငါးနေရာ ၌ဆူညံသံကို စစ်ဆေးခဲ့ပါသည်။ ဤစက်ရုံ၌ဆူညံသံအများဆုံးထွက်သောအဝင်အထွက်ဂိတ်(မီးစက်အနီး)၊ မီတာ ၂၀၀ အကွာအဝေးရှိ သယ်ယူပို့ဆောင်ရေး ကုမ္ပဏီ ပတ်ဝန်းကျင်၊ စက်ရုံ၏ အရှေ့ဘက်၊ နှင့် ထုတ်လုပ်ရေးဌာန(ဆွယ်တာထိုးနှင့်အထည်ချုပ်စက်ဌာန) စသည့် ဆူညံသံကိုခံစားရနိုင်သည့် စုစုပေါင်းနေရာ ၅ နေရာတို့ကို တိုင်းတာစစ်ဆေးခဲ့ပါသည်။ ဆူညံသံစောင့်ကြည့်ရေးနေရာတစ်ခုစီတွင် ဆူညံသံအဆင့်ကို ဒစ်ဂျစ်တယ် (Lutron SL–4001, Serial Number I 95341) ကိရိယာဖြင့် တစ်နာရီတစ်ကြိမ်နှုန်းဖြင့် ၂၄ နာရီ မှတ်တမ်းတင်ခဲ့ပါသည်။ နေ့အချိန်နှင့် ညအချိန်အတွက် ဆူညံသံအဆင့်ဆင့်၏ရလဒ်များကိုကမ္ဘာ့ဘဏ်စံနှုန်းများနှင့်နှိုင်းယှဉ်ပါက ဇယား တွင် ဖော်ပြ ထားခဲ့သည့် ဆူညံသံ အဆင့် ကိုသိရှိစေပါသည်။

စက်ရုံသည်စက်မှုဇုန်အတွင်းတည်ရှိပြီး စက်ရုံလည်ပတ်ချိန်နှင့် တစ်ချိန်တည်းမှာ စက်ရုံဘေးဘက်ရှိ သစ်လုပ်ငန်းနှင့်သစ်ထုတ်လုပ်ရေးစက်ရုံ၏ လည်ပတ်မှုသည်စီမံကိန်းဧရိယာ၏ဘယ်ဘက်ခြမ်းတွင်ရှိသည်။ လုပ်ငန်းပတ်ဝန်းကျင်တိုင်းတာခြင်းအနေနှင့် လေဝင်လေထွက်၊ အလင်းရောင်နှင့် ဆူညံသံတိုင်းတာခြင်း ကို စက်ရုံများနှင့် ဥပဒေ စစ်ဆေးမှုဌာနမှ ၈.၁၁.၂၀၁၉ တွင်တိုင်းတာခြင်းကို 2 auto knitting areas, weaving line A, hand weaving, weaving line B, QC, weaving M/C, Cutting တို့တွင်ဆောင်ရွက်ခဲ့ရာ ဆူညံမှု တိုင်းတာခြင်း ရလဒ်များမှာ ၆၃.၁, ၆၀.၅, ၅၈, ၅၅.၅, ၆၀.၅, ၅၇, ၆၈ နှင့် ၅၉ အသီးသီးရှိသည့်အတွက် လက်ခံနိုင်သည့်အဆင့်ရှိကြောင်းမှတ်ချက်ပြုထားခဲ့ပါသည်။ (Figure 43) တွင်ဖော်ပြထားပါသည်။

ရေအရည်အသွေး

သောက်ရေအတွက် ပြင်ပ သောက်ရေသန့်ကုမ္ပဏီတစ်ခုမှ ဝယ်ယူသုံးစွဲပြီး အထွေထွေသုံးရေအတွက် အသုံးပြုရန် မြေအောက်ရေကို အဝီစိတွင်းမှထုတ်ယူသုံးစွဲခဲ့ပါသည်။

ဤစီမံကိန်းတွင် ဓာတုပစ္စည်းအနည်းငယ်အသုံးပြုခြင်းလုပ်ငန်းစဉ်ကို သိုးမွေးထည်များလျှော်ဖွတ်သည့်လုပ်ငန်းတွင်အသုံးပြုခဲ့ခြင်းကြောင့် ရေဆိုးသန့်စင်ခြင်းစနစ်တစ်ခုကို လည်းတည်ဆောက်ထားပြီး အထွေထွေသုံးမှ ထွက်ရှိသည့်ရေဆိုးနှင့် အဝတ်လျှော်ခြင်းလုပ်ငန်းစဉ်မှ ထွက်သည့်ရေဆိုးများအားစွန့်ပစ်ခြင်းမပြုမီ ရေဆိုးသန့်စင်ခြင်းလုပ်ငန်းများကိုဆောင်ရွက်ခဲ့ပါသည်။

ရေအရည်အသွေးအားလုံးကိုဓာတ်ခွဲခန်းစမ်းသပ်ခြင်းဖြင့်စမ်းသပ်ခဲ့ပါသည်။ (ဤအစီရင်ခံစာ၏ 1.8.3 Water Quality တွင်ဖော်ပြထားပါသည်။) ရေအရည်အသွေးအားလုံးသည် ရလဒ်များအရသက်ဆိုင်ရာစံသတ်မှတ်ချက်များအတွင်းတွင်ရှိပါသည်။

ဇီဝဗေဒဆိုင်ရာပတ်ဝန်းကျင် အတွက်ထိန်းသိမ်းထားသောမျိုးစိတ်များကိုဤဧရိယာအတွင်းမတွေ့ရှိရပါ။

ဒေသဆိုင်ရာလူမှုစီးပွားပတ်ဝန်းကျင်

စက်ရုံဧရိယာတစ်လျှောက်တွင်အိမ်ငယ်များစွာဆောက်ထားပြီးအချို့မှာမကြာသေးမီကအခြေချခဲ့ကြပြီးအခြားသူများမှာမူ ၁၀ နှစ် ကျော်နေထိုင်ခဲ့ကြပြီးဖြစ်ပါသည်။

တခြားရပ်ရွာဒေသများမှ လူများစွာသည်အလုပ်အကိုင်ရှာဖွေရန်အတွက်ကျေးလက်ဒေသမှရန်ကုန်ရှိစက်မှုဇုန်များသို့ရွှေ့ပြောင်းခဲ့ကြရာတွင် ရွှေလင်ပန်းစက်မှုဇုန်အပါအဝင် လှိုင်သာယာမြို့နယ်အတွင်းရှိရှိစက်မှုဇုန် များသည်လည်းပါဝင်ခဲ့ပါသည်။ ၂၀၁၆-၁၇ခုနှစ်တွင်တွင် အလုပ်သမားပေါင်း ၁၃၀,၀၀၀ ကျော်သည် စက်မှုဇုန်၏ နေရာအမျိုးမျိုးတွင် အလုပ်အမျိုးအစားအမျိုးမျိုးတွင် ဝင်ရောက်လုပ်ကိုင်ခဲ့ကြပါသည်။

လှိုင်သာယာစက်မှုဇုန်မှအလုပ်သမားများ၏အဆိုအရသူတို့၏လစဉ်နေထိုင်စရိတ်မှာကျပ် ၁၀၀,၀၀၀ နှင့် -၂၀၀,၀၀၀ ကျပ် ကြားဖြစ်သည်။

လှိုင်သာယာမြို့နယ်သည်ရန်ကုန်မြို့၏အခြားဒေသများနှင့်အောင်ဇေယျတံတား၊ ဘုရင့်နောင်တံတားနှင့်ရွှေပြည်သာတံတားတို့ကို ဖြတ်၍ ရန်ကုန်မြစ်ကြောင်းတစ်လျှောက်ချိတ်ဆက်မိနေသောကြောင့် အဆိုပြုထားသောစက်ရုံနေရာသို့ နေရာများစွာမှ ဝင်ပေါက်ထွက်ပေါက်များစွာရှိနေပါသည်။

လှိုင်သာယာမြို့နယ်အတွင်းစက်မှုဇုန် ၁၊ ၂၊ ၃၊ ၄၊ ၆၊ ၇ (စုစုပေါင်း ၁၄၀၁.၄၄ ဧက) နှင့်စက်မှုဇုန် ၅ (ရွှေလင်ဗန်းစက်မှုဇုန်) မှာ သီးခြားဖြစ်၍ (၂၂၂.၉၅ ဧက) ရှိသည်။ လှိုင်သာယာစက်မှုဇုန်များတွင် စက်ရုံစုစုပေါင်း ၆၁၂ ခုရှိပြီးဇုန် ၁၊ ၂၊ ၃၊ ၄၊ ၆၊ ၇ တွင်အလုပ်သမား ၆၀,၀၀၀ ခန့်အလုပ်လုပ်ကိုင်လျက်ရှိသည်။ ဇုန် ၅ တွင် (ရွှေလင်ပန်းစက်မှုဇုန်) တွင်စက်ရုံ ၁၆၂ ခုရှိပြီး အလုပ်သမား ၆,၀၀၀ ခန့် ရှိသည်။

လှိုင်သာယာစက်မှုဇုန်သည် အဝတ်အထည်နှင့် အခြားအပေါ့စားစက်မှုလုပ်ငန်းများဆောင်ရွက်နေသော စက်ရုံများစွာဖြင့် ဖွဲ့စည်းထားပြီး မြန်မာနိုင်ငံ၏အကြီးဆုံးစက်မှုဇုန်များတွင်တစ်ခုအပါအဝင်ဖြစ်ပါသည်။ နာဂစ်မုန်တိုင်းအပြီးတွင်လှိုင်သာယာ မြို့နယ်သည်ဒုက္ခသည်များကြောင့် လူ ဦး ရေများပြားတိုးပွားလာခဲ့ပါသည်။

လှိုင်သာယာမြို့နယ်တွင်မူလတန်းကျောင်း ၄၈ ကျောင်း၊ အလယ်တန်းကျောင်း ၉ ကျောင်းနှင့်အထက်တန်းကျောင်း ၈ ကျောင်းရှိသည်။ ထို့အပြင် လှိုင်သာယာမြို့နယ်တွင် ရန်ကုန်နည်းပညာတက္ကသိုလ် ကိုလည်းတည်ထောင်ထားပါသည်။

စီမံကိန်းဧရိယာ တဝိုက်တွင် ယဉ်ကျေးမှုနှင့်အမွေအနှစ်အဆောက်အအုံမရှိပါ။

၂. ကျန်းမာရေးမူဝါဒ၊ ကျင့်သုံးမည့် လမ်းစဉ်၊ ဥပဒေ၊ နည်းဥပဒေ၊ လုပ်ထုံးလုပ်နည်းနှင့် စံချိန် စံညွှန်းများ

အန္တရာယ်ကင်းရှင်းရေးကျန်းမာရေး နှင့်ပတ်ဝန်းကျင်ဆိုင်ရာမူဝါဒ

ဥပဒေရေးရာအခြေခံများ

- စက်ရုံအက်ဥပဒေ 1951 (ပြင်ဆင် 2016 ကဲ့သို့) အပိုင်း 13–58
- အလုပ်အကိုင်အန္တရာယ်ကင်းရှင်းရေးနှင့်ကျန်းမာရေးဆိုင်ရာဥပဒေ (မူကြမ်း, 2017)
- H & M အကောင်းဆုံးဓာတုစီမံခန့်ခွဲမှုအလေ့အကျင့်လမ်းညွှန်
- H & M ၏ အန္တရာယ်ရှိဓာတုပစ္စည်းများ စွန့်ထုတ်မှုလမ်းညွှန်

ရည်ရွယ်ချက်

ယေဘုယျအားဖြင့် အန္တရာယ်ကင်းရှင်းရေးကျန်းမာရေး နှင့်ပတ်ဝန်းကျင်ဆိုင်ရာမူဝါဒ ၏ရည်ရွယ်ချက်မှာဝန်ထမ်းလုပ်သားများမှ ဘေးအန္တရာယ်ကင်းရှင်းစွာ မြင့်မားသော စွမ်းဆောင်ရည်များနှင့် စက်ရုံလုပ်ငန်းကိုလည်းပတ်နိုင်စေရန်နှင့် တချိန်တည်းမှာပင် စက်ရုံလုပ်ငန်းများ ဖွံ့ဖြိုးတိုးတက်မှု အပေါ်တာဝန်ယူနိုင်ဆောင်ရွက်နိုင်ရန်အတွက်ဖြစ်ပါသည်။

Spring River Knitting (Myanmar) Co., Ltd အနေနှင့် မတော်တဆလုံးဝမရှိရေးဆောင်ပုဒ်ကိုလက်ကိုင်ထားပြီး ဘေးအန္တရာယ် ကင်းရှင်းရေးသည်ပထမဦးစားပေးဖြစ်အောင်လုပ်ငန်းများဆောင်ရွက်မည်ဖြစ်သောကြောင့် မတော်တဆမှုများကို တားဆီးနိုင်မည်ဟု ယုံကြည်ပါသည်။ Spring River Knitting (Myanmar) Co., Ltd ၏ ဝန်ထမ်းများအားလုံး စက်ရုံ၏ အန္တရာယ်ကင်းရှင်းရေးကျန်းမာရေး နှင့်ပတ်ဝန်းကျင်ဆိုင်ရာ မူဝါဒနှင့်အညီ နေ့စဉ်စက်ရုံလုပ်ငန်းများဆောင်ရွက်ရာတွင် မတော်တဆဖြစ်မှုများမဖြစ်စေရန် အစဉ်အမြဲဂရုပြု၍ ကြိုးစားဆောင်ရွက်မည်ဖြစ်ပါသည်။

အလုပ်ရှင်-အလုပ်သမားတို့၏တာဝန်များ

အလုပ်ရှင်

- အန္တရာယ်ကင်းရှင်းရေးကျန်းမာရေး နှင့်ပတ်ဝန်းကျင်ဆိုင်ရာအခြေခံမူဝါဒရေးဆွဲခြင်း
- အလုပ်သမားများ၏ သက်သာချောင်ချိရေးကိုအာမခံပေးခြင်း

- ဖြစ်ပွားနိုင်သည့်အန္တရာယ်များကို အကဲဖြတ်ခြင်း
- ပြည့်စုံလုံလောက်သော အန္တရာယ်ကင်းရှင်းရေးဝတ်စုံ၊ ပစ္စည်းကိရိယာများအားသက်ဆိုင်သူများအားထောက်ပံ့ပေးခြင်း
- အန္တရာယ်ကင်းရှင်းရေးကျန်းမာရေး နှင့်ပတ်ဝန်းကျင်ဆိုင်ရာမူဝါဒ၊ အခြေခံဥပဒေများနှင့်အညီ ဝန်ထမ်းများအား ဖြစ်ပွားနိုင်သော ဘေးဥပဒ် ရန် အန္တရယ်များအား တားဆီးနိုင်ရေး နှစ်စဉ်သင်တန်းပေးရန်

အလုပ်သမား

- အခါအားလျော်စွာပေါ်ပေါက်ခြင်း နှင့် ဖြစ်နိုင်သော ဘေးအန္တရာယ်ကင်းရှင်းရေး ညွှန်ကြားချက်များကို လိုက်နာရန်
- ဘေးကင်းလုံခြုံမှုလေ့ကျင့်ရေးလုပ်ရှားမှုများနှင့်အတူပူးပေါင်းဆောင်ရွက်ရန
- ဘေးကင်းလုံခြုံရေးအန္တရာယ်များနှင့်မတော်တဆမှုများကို အချိန်မီ သတင်းပို့ရန်

<u>လုပ်ငန်းများ</u>

ဘေးအန္တရာယ်ကင်းရှင်းရေးယန္တရား၊ မီးဘေးအန္တရာယ်ကင်းရှင်းရေး၊ လုပ်ငန်းခွင်ဘေးအန္တရယ်ကင်းရှင်းရေး၊ရှေးဦးသူနာပြုနှင့်ထိခိုက်မှုစီမံ ခန့်ခွဲခြင်း၊ စိတ်ဖိစီးမှုအတွက်ခန့်ခွဲခြင်း

ကျန်းမာရေးယန္တရား၊ ဝန်ထမ်းများသက်သာချောင်ချိရေး၊ တစ်ကိုယ်ရေသန့်ရှင်းသပ်ရပ်မှု

ပတ်ဝန်းကျင်ဆိုင်ရာယန္တရား၊ အမှိုက်စီမံခန့်ခွဲမှု လေထုညစ်ညမ်းမှု ထိန်းသိမ်းမှု၊ရေဆိုးထုတ်လွှတ်မှု၊ ရေသုံးစွဲမှု

CMP စနစ်ဖြင့် လူသုံးကုန် အဝတ်အထည်များထုတ်လုပ်ခြင်း လုပ်ငန်းလုပ်ကိုင်မည့်စက်ရုံနေရာအတွက်ပတ်ဝန်းကျင်ကာကွယ် ထိန်းသိမ်းရေးစီမံခြင်း လုပ်ငန်းစဉ်၏ ရည်ရွယ်ချက်မှာ စီမံကိန်းတည်ရှိရာဒေသ၏လူမှုစီးပွားအခြေအနေများ၊ စီမံကိန်းကြောင့်ဖြစ်ပေါ်လာနိုင်သော ပတ်ဝန်းကျင် အပေါ် ထိခိုက်နိုင်သော ဆိုးကျိုးများကို လေ့လာခြင်း၊တွက်ဆခြင်း၊ တွေ့ရှိသောဆိုးကျိုးများကိုကုစားရန်နည်းလမ်းများ၊ ကောင်းကျိုး သက်ရောက်မှု များဖြစ်ပေါ်စေရန် နည်းလမ်းများ ရှာဖွေဖေါ်ထုတ်ချပြနိုင်ရန်နှင့် ပတ်ဝန်းကျင် ကာကွယ်ထိန်းသိမ်းခြင်းအစီအမံများကို ဆောင်ရွက်ရန် ဖြစ်ပါသည်။

အဆိုပြုထားသောစီမံကိန်းနှင့်သက်ဆိုင်သည့်ပတ်ဝန်းကျင်နှင့်လူမှုရေးဆိုင်ရာဥပဒေ၊ နည်းဥပဒေများနှင့်စည်းမျဉ်း၊လုပ်ထုံးလုပ်နည်းများ

ဥပဒေစည်းမျဉ်းစည်းကမ်းများလုပ်ငန်းစဉ်တွင်ပါဝင်မည့်သက်ဆိုင်ရာအစိုးရအဖွဲ့ အစည်းများ၏အခန်းကဏ္ဍနှင့်တာဝန်ဝတ္တရားများမှာ - အလုပ်သမားများ၏ကျန်းမာရေး၊ လုပ်ငန်းခွင်လုံခြုံမှု၊ မတော်တဆမှုအလုပ်အကိုင်အခွင့်အလမ်းများ၊ အစိုးရရုံးပိတ်ရက်များ၊ လစာ၊ဉ်အစီအစဉ်များသည်ကပ်ရောဂါနှင့်ကျန်းမာရေးစောင့်ရှောက်မှုကိုကိုင်တွယ်ရန်ဒီဇိုင်းပြုလုပ်ထားသည်၊ အုပ်ချုပ်ရေးကဏ္ဍ Agriculture စိုက်ပျိုးရေးနှင့်ဆည်မြောင်း၊ ယဉ်ကျေးမှုမြို့ပြဖွံ့ဖြိုးမှုကဏ္ဍ၊ ဘဏ္ဍာရေးနှင့်အခွန်ကဏ္ဍ ကျန်းမာရေးဟိုတယ်နှင့်ခရီးသွားလုပ်ငန်း၊ စက်မှုစီမံကိန်းနှင့်စီးပွားရေးဖွံ့ဖြိုးတိုးတက်မှု၊ သိပ္ပံနှင့်နည်းပညာ၊ သယ်ယူပို့ဆောင်ရေးကဏ္ဍ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးကဏ္ဍ ကဲ့သို့သော ပတ်ဝန်းကျင်မှ ပြဋ္ဌာန်းထားသည့်ဥပဒေများသည်မဖြစ်မနေလိုက်နာဆောင်ရွက်ကျင့်သုံးရန်လိုအပ်ပါသည်။

အထက်ဖော်ပြပါအချက်များအပြင်စက်ရုံလုပ်ထုံးလုပ်နည်းလမ်းညွှန်ချက်များမှလိုအပ်သောအခြားဥပဒေများကိုလည်းအစီရင်ခံစာ၏ အခန်း ၂ တွင်ဖော်ပြထားပါသည်။

၃. ပတ်ဝန်းကျင်ထိခိုက်မှုများအားဆန်းစစ်ခြင်းနှင့်လျော့ပါးစေသောနည်းလမ်းများ (အကျဉ်း)

Spring River Knitting (Myanmar) Co., Ltd မှသဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးအတွက်ကတိကဝတ်

မြေဆီလွှာ၊ ရေနှင့်လေထုထဲသို့ထုတ်လွှတ်သောအရာများနှင့် ပတ်သက်၍ Spring River Knitting (Myanmar) Co., Ltd သည် ၂၀၁၅ ခုနှစ်တွင် မြန်မာနိုင်ငံ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာနမှထုတ်ပြန်သောအမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး (effluent) လမ်းညွှန်ချက်များ နှင့် အညီ ဆောင်ရွက်မည်ဖြစ်ပြီးမိမိတို့၏တာဝန်လည်းဖြစ်ပါသည်။

သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာကိစ္စရပ်များအပေါ် အကြိုလေ့လာဆန်းစစ်မှု

သဘာဝပတ်ဝန်းကျင်နှင့်သက်ဆိုင်သည့်အကြောင်းအရာများကိုကြိုတင်လေ့လာခြင်းအတွက် AMK and Associate သို့ လုပ်ငန်းအပ်နှံ လွှဲပြောင်းမှုအရဆောင်ရွက်ခြင်းသည်သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေး၏အကောင်အထည်ဖော်မှုကိုလုပ်ဆောင်ရမည့် CMP စနစ်နှင့် အထည်များထုတ်လုပ်သည့်စက်ရုံစီမံကိန်းလုပ်ငန်း အတွက်ပြန်လည်ပြင်ဆင်ထားသော EMP ကိုရေးဆွဲရန် လုပ်ငန်းအပ်နှံခြင်းဖြစ်ပါသည်။

အကြိုလေ့လာမှုတွင်အောက်ပါအချက်များပါဝင်ခဲ့ပါသည်။

MIC ၏အဆိုပြုချက်ကိုလေ့လာခြင်းနှင့်လေ့လာခြင်း၊ ကုမ္ပဏီ၏အကောင်အထည်ဖော်မှုဖြစ်စဉ်အတွက် BOD နှင့်တွေ့ဆုံခြင်း၊ General Manager၊ နှင့်လိုအပ်သောသတင်းအချက်အလက်တောင်းဆိုခဲ့ခြင်း၊ ထုတ်ကုန် လုပ်ငန်းများအားလေ့လာဆန်းစစ်ခြင်း၊ လေဝင်လေထွက်၊ အလင်းရောင်၊ လေကောင်းလေသန့်၊ ဓာတုဗေဒအသုံးပြုမှုနှင့်အန္တရာယ်ကျရောက်ခြင်းမရှိမှု၊ မီးဘေးကာကွယ်မှု၊ ဘေးကင်းလုံခြုံမှု၊ သန့်ရှင်းရေးစနစ်၊ တွေ့ဆုံဆွေးနွေးပွဲနှင့် ဝန်ထမ်းအားလုံးနှင့်ပွင့်ပွင့်လင်းလင်းဆွေးနွေးခြင်း၊ ဌာနခွဲကိုယ်စားလှယ်များနှင့်ဆွေးနွေးခြင်း၊ ဆက်စပ်သောစည်းမျဉ်း များနှင့် လုပ်ရပ်များရှာဖွေတွေ့ရှိနှင့်အပေါ်ရည်ညွှန်းခဲ့ခြင်းများအားဆောင်ရွက်ခဲ့ပါသည်။

အလားအလာရှိသောသက်ရောက်မှုကိုဖော်ထုတ်ခြင်းနှင့်အကဲဖြတ်ခြင်း

စစ်ဆေးခြင်းတွင် ပါဝင်သောအချက်များမှာ စက်ရုံတည်နေရာနှင့်ပတ်ဝန်းကျင်ဒေသများကိုလေ့လာခြင်းနှင့်လေ့လာခြင်း၊ ဖြစ်နိုင်ချေရှိသော သက်ရောက်မှုကိုရှာဖွေရန်တတိယပါတီသည်အကဲဖြတ်ခြင်းကိုပြုလုပ်ခဲ့ခြင်း၊ စက်ရုံနှင့်ခြံဝင်းအတွင်းသန့်ရှင်းရေးအခြေအနေ၊ စက်ရုံ၏ဌာနခွဲအားလုံး၏ အကောင်အထည်ဖော်မှုအခြေအနေ၊ စီမံကိန်းအကောင်အထည်ဖော်ချိန်လျှပ်စစ်ဓာတ်အားအခြေအနေ၊ လေဝင်လေထွက်၊ ဆူညံသောအခြေအနေ၊ အပူချိန်၊ စက်ရုံနေရာနှင့်ပြောင်းလွယ်ပြင်လွယ်အခြေအနေ၊ စက်ရုံလုပ်ငန်းလုံခြုံရေးနှင့်လုံခြုံရေးအစီအစဉ်၊ မီး၊ အရေးပေါ် ထွက်ပေါက်နှင့်မီးဘေးအားကာကွယ်ရမည့်အစီအစဉ်၊ ဝန်ထမ်းများအတွက်ရေ၊ အဆောင်၊ အပန်းဖြေခြင်းနှင့်အစားအစာ၊ လုပ်ငန်းစဉ် လုပ်ထုံးလုပ်နည်း နှင့်ဌာနခွဲအားလုံး၏စည်းကမ်းများ၊ ရေပေးဝေရေး၊ ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်အားပံ့ပိုးထောက်ပံ့ရမည့်နည်းလမ်းများ၊ ဆေးခန်း အား လေ့လာခြင်း၊ စက်ရုံ၏လုံခြုံရေးအခြေအနေ စသည်များအပေါ် လေ့လာစစ်ဆေးခဲ့ပါသည်။

ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း

ဤပတ်ဝန်းကျင်ဆိုင်ရာသက်ရောက်မှုအကဲဖြတ်ခြင်းကို ISO 14001 ကို အခြေခံ၍ ပြုလုပ်ခဲ့သည်

ဤပတ်ဝန်းကျင်ဆိုးကျိုးသက်ရောက်မှုဆန်းစစ်အကဲဖြတ်ခြင်းလုပ်ငန်းစဉ်များမှတဆင့် ဥပဒေအရလိုအပ်ခြင်းအပြင် ပတ်ဝန်းကျင်အပေါ် ဆိုးကျိုးသက်ရောက်မှုကို တိတိကျကျ တိုင်းတာခြင်းအားဖြင့် ထိခိုက်မှုအနည်းဆုံး သင့်လျော်သော အတိုင်းအတာတစ်ခုအထိလျှော့ချရန် ရည်ရွယ်ထားပါသည်။

<u>အပြုသဘောဆောင်သောသက်ရောက်မှုများ</u>

ပထမအဆင့်အနေနှင့် အနည်းဆုံးမိသားစု ၃၀၀ ခန့်အတွက် အလုပ်အကိုင်အခွင့်အရေးပေးနိုင်ခြင်းကြောင့် လူမှုဘဝစီးပွားတိုးတက် လာနိုင်ခြင်း

<u>ဆိုးကျိုးသက်ရောက်မှု</u>

အထူးသဖြင့် ပတ်ဝန်းကျင်ဆိုးကျိုးသက်ရောက်မှုမရှိသော စီးပွားရေးလုပ်ငန်းမရှိပါ၊ အနည်းနှင့်အများ ရှိမည်သာဖြစ်ပါသည်။

<u>ဆိုးကျိုးသက်ရောက်မှုအားဆန်းစစ်ခြင်း</u>

အန္တရာယ်ရှိပစ္စည်းများ

ဤ စက်ရုံတွင် မီးစက်အတွက်သုံးသည့် လောင်စာ ဒီဇယ်ဆီ၊ ချောဆီ နှင့် အဝတ်လျှော်ရာတွင် သုံးသည့် အဝတ်လျှော်ဓာတုပစ္စည်းအနည်းငယ် မှလွဲ၍ ကျန် ဓာတု ဇေဒ ပစ္စည်းများသုံးစွဲမှုမရှိကြောင်းတွေ့ရှိရပါသည်။

သို့ရာတွင် ဤစက်ရုံတွင် အန္တရာယ်ရှိသော ပစ္စည်းများကိုင်တွင် အသုံးပြုရသည့်အခါ ဆိုးကျိုးသက်ရောက်မှုများကို စောင့်ကြည့်ခြင်းနှင့် လျှော့ချခြင်းများကို ဆောင်ရွက်ရာတွင် အောက်ပါအချက်အလက်များကို လိုက်နာဆောင်ရွက်နေပါသည်။

- ပစ္စည်းကိရိယာများကို လေဝင်လေထွက်ကောင်းမွန်မှုရှိသော အခန်းတွင်နေရာချထားခြင်း
- အန္တရာယ်ရှိပစ္စည်းများကိုင်တွယ်အသုံးပြုရာတွင် ကျွမ်းကျင်သောပုဂ္ဂိုလ်များမှ လေ့ကျင့်ညွှန်ကြားချက်များကို လိုက်နာခြင်း၊ (ကိုင်တွယ်သူ ဦးရေသတ်မှတ်ထားခြင်း)
- ကာကွယ်ရေးဝတ်စုံ ဝတ်ဆင်အသုံးပြုခြင်း
- အန္တရာယ်ရှိပစ္စည်းများသိုလှောင်ရာတွင်၄င်း၊ ကိုင်တွယ်ရာတွင်၄င်း၊ စွန့်ပစ်ရာတွင်၄င်း လိုက်နာရမည့် လုပ်ထုံးလုပ်နည်း ကန့်သတ်ချက် များကို အတိအကျ လိုက်နာခြင်း
- အန္တရာယ်ရှိသော ပစ္စည်းများ ၏ ဓာတုဇေဒဆိုင်ရာ အန္တရာယ်ရှိသော သဘောသဘာဝ၊ ကိုင်တွယ်ရန်နည်းစနစ်များနှင့် ပတ်သက်သော အချက်များအား အလုပ်သမားများအား အသိပညာပေးခြင်း

လေထုအရည်အသွေး

လေထုအရည်အသွေးမှာ (အရောင်ဆိုးဆေး သုံးစွဲခြင်းမရှိပါ)၊ သုတ်ဆေး + လောင်စာဆီ အငွေ့ + အနံ့၊ စက်များမှ ထွက်သောဓာတ်ငွေ့၊ မီးဖိုချောင်နှင့်တချို့သော လျှပ်စစ်ပစ္စည်းများ) ကြောင့် ပျက်စီးယိုယွင်းစေနိုင်ပါသည်။

၄င်းထိခိုက်မှုများကို လျှော့ချရန်မှာ ထိရောက်သော လေဝင်လေထွက်စနစ်တတ်ဆင်ခြင်း၊ လုပ်သားများမှ အငွေ့ကာများ လိုအပ်သလို ဝတ်ဆင်ခြင်း၊ စက်ပစ္စည်းများကို ပြုပြင်ထိမ်းသိမ်းခြင်းနှင့် စဉ်ဆက်မပြတ်စက်ပစ္စည်းများအခြေအနေကို စောင့် ကြည့်ပြင်ဆင်ခြင်း စသည်များ ဆောင်ရွက်နေပါသည်။

ဆူညံသံ

စက်ရုံအတွက်စက်ပစ္စည်းအများစုမှာ လက်ခံနိုင်သည့်အဆင့် (ဒက်စီဘယ်ယူနစ်) အတွင်းရှိပါသည်။

ခြင်းချက်အနေနှင့် အကယ်၍လုပ်ငန်းခွင်တွင် စက်များလည်ပတ်ခြင်းကြောင့် ဆူညံသံလက်ခံနိုင်သည့်အဆင့်ထက် ကျော်လွန်ခဲ့ပါက နားကြပ် တပ်ဆင်အသုံးပြုခြင်း၊ ဆူညံသံ သက်သာစေသောအန္တရာယ်ကင်းဝတ်စုံများဝတ်ဆင်ခြင်းများပြုလုပ်ပြီး၊ လျှော့ချမည့် အစီအစဉ် အနေနှင့် စက်ပစ္စည်းများ စဉ်ဆက် မပြတ်စစ်ဆေးပြင်ဆင်ခြင်း နှင့်ရေရှည်တည်တံ့သောပြုပြင်ထိန်းသိမ်းမှုစောင့်ရှောက်ခြင်း များဆောင်ရွက်နေပါသည်။

အစိုင်အခဲအမှိုက်

စက်ရုံလုပ်ငန်းများဆောင်ရွက်နေစဉ်အတွင်း အမှိုက်များမှာ မလွဲမသွေထွက်ရှိမည်ဖြစ်ပါသည်၊ အဆိုပြုစက်ရုံမှာ အမှိုက်စွန့်ပစ်ရေး မူဝါဒကို

ချမှတ်ရာတွင် အောက်ပါအချက်များကိုမူတည်၍ တင်းကြပ်စွာချမှတ်ထားပါသည်။

- စွန့်ပစ်အမှိုက်များကို ခွဲခြားထားခြင်း၊
- နေ့စဉ်ထွက်ရှိသော အမှိုက်များကို လုံလောက်သော အမှိုက်ပုံး၊ အမှိုက်စွန့်ပစ်ကန်များတွင် စနစ်တကျပစ်၍ အဖုံးများ ဖုံးအုပ်ထားခြင်းနှင့်နေ့စဉ်စွန့်ပစ်ခြင်း၊
- သန့်ရှင်းရေးနှင့် ဆေးဖြန်းခြင်းကို အမှိုက်ပုံးပတ်ဝန်းကျင်တွင်ဆောင်ရွက်ခြင်း၊ အမှိုက်များကို စနစ်တကျကိုင်တွယ်ရန် ဝန်ထမ်းအလုပ်သမား များ အား ပညာပေးအစီအစဉ်များဆောင်ရွက်ခြင်း

စွန့်ပစ်ရေ

သတ္တုအရည်ကြိုစက်ရုံ၊ အစားအသောက်စက်ရုံ၊ သားရည်စက်ရုံများနှင့်မတူဘဲ ဆိုးဆေးလုပ်ငန်းများမပါဝင်သည့်အထည်ချုပ်စက်ရုံများမှာ ရေကို အများအပြား အသုံးမပြုဘဲ၊ နေ့စဉ်အထွေထွေသုံး ရေများနှင့် စက်/ယာဉ်များဆေးကြောသန့်ရှင်းရေးအတွက်သာ အသုံးပြု လေ့ရှိပါသည်။

စီမံကိန်းကြောင့် ပတ်ဝန်းကျင်အပေါ်ဆိုးကျိုးသက်ရောက်မှုများကြောင့် သက်ရောက်မှုအရင်းအမြစ်၊ စောင့်ကြည့်လေ့လာခြင်းနှင့် လျော့ပါးစေသော နည်းလမ်းအစီအစဉ်များကို အစီရင်ခံစာ၏ Table 30 တွင် ဇယားဖြင့်ဖော်ပြထားခဲ့ပါသည်။

အားလုံးနှင့်သက်ဆိုင်သည့်စည်းမျဉ်းများကိုအသုံးပြု၍ ပတ်ဝန်းကျင်ကိုအန္တရာယ်ရှုထောင့် / လူပ်ရှားမှုများမှအစဉ်အမြဲ စောင့်ကြည့်နိုင်ရန် အရည်အချင်းပြည့်မီသောပတ်ဝန်းကျင်ဆိုင်ရာကျွမ်းကျင်သူများ၏ညွှန်ကြားချက်များအရစောင့်ကြည့်လေ့လာရေး လုပ်ငန်းများကို ဆောင်ရွက်ရမည်ဖြစ်ပါသည်။

မြေမျက်နှာသွင်ပြင်နှင့် ရှုပအနေအထားအပေါ်သက်ရောက်မှု

ဆောက်လုပ်ရေးကာလတွင် စက်ရုံဝင်း၏မြေမျက်နှာသွင်ပြင်နှင့် ရှုပအနေအထားပေါ်တွင် အပြောင်းအလဲ အကျိုးသက်ရောက်မှုအနည်းနှင့် အများရှိမည်ဖြစ်ပါသည်။

လုပ်ငန်းဆောင်ရွက်ခြင်းကာလအတွင်းအနည်းငယ်သော လေထုညစ်ညမ်းမှု၊ အနံ့လွင့်ပျံ့မှု၊ ဝန်ထမ်းများအသုံးပြုခြင်းနှင့် လုပ်ငန်းသုံး စွန့်ပစ်ရေ သက်ရောက်မှု၊ စက်ရုံလည်ပတ်ခြင်းမှထွက်ရှိသော အမှိုက်စွန့်ပစ်မှုတို့၏ သက်ရောက်မှုလည်းရှိပါသည်။

<u>မြေဆီလွှာ</u>များအပေါ်သက်ရောက်မှု:ဆောက်လုပ်ရေးနှင့်လုပ်ငန်းလည်ပတ်နေစဉ်အတွင်းစက်ရုံမြေပေါ်တွင်မျှသက်ရောက်မှုရှိပါလိမ့်မည်။

<u>ကုန်ကြမ်း</u> ကုန်ကြမ်းပစ္စည်း အရည်အသွေးကြောင့်လည်းသက်ရောက်မှုရှိနိုင်ပါသည်။

<u>မြေယာအသုံးပြုမှု</u> အဆိုပါဧရိယာ၏မြေယာအသုံးချမှု အတွက်သက်ရောက်မှုမရှိပါ။

<u>လုပ်ငန်းလည်ပတ်မှု</u> မှပတ်ဝန်းကျင်ဧရိယာ၏မြေပြင်သစ်ပင်ပန်းမန်များအပေါ်သက်ရောက်မှုများ အနည်းငယ်ရှိပါသည်။

<u>လူမှုစီးပွား</u> လုပ်ငန်းလည်ပတ်ဆောင်ရွက်ခြင်းကာလအတွင်း စက်ရုံဝန်ထမ်းများ၏ လူမှုစီးပွားအပေါ်တွင် ဆိုးကျိုးသက်ရောက်မှုမဖြစ်ပေါ် နိုင်ပါ၊ စက်ရုံမှာ နိုင်ငံတော်မှ တည်ထောင်ထားသော စက်မှုဇုံအတွင်းတည်ရှိပြီး ပုဂ္ဂလိက စီးပွားရေးနှင့် ဝန်ထမ်းတို့၏ လူမှုစီးပွားအကျိုးအမြတ်များ ရရှိနိုင် ပါသည်။

ညစ်ညမ်းမှုနှင့်ထုတ်လွှတ်မှုရင်းမြစ်များ - ဝိသေသလက္ခဏာများ၊ အရေအတွက်နှင့်ခန့်မှန်းခြင်း

ပတ်ဝန်းကျင်ညစ်ညမ်းမှုနှင့်ထုတ်လွှတ်မှုအရင်းအမြစ်များ – ဝိသေသလက္ခဏာများ၊ အရေအတွက်နှင့်ခန့်မှန်းခြင်းကို အစီရင်ခံစာ၏ 3.4 Pollution and Emission Sources-Characteristics, Quantification and prediction တွင် ဖော်ပြထား၍ လုပ်ငန်းလည်ပတ်မှုအဆင့် (ဆောက်လုပ်ရေးနှင့် လည်ပတ်မှု) အဆင့်နှစ်ခုစလုံးတွင် ဖြစ်ပေါ်နိုင်သော လေထုညစ်ညမ်းမှုနှင့်ဆူညံသံများ၊ ရေထုညစ်ညမ်းမှုများပါဝင် ပါသည်။

သိသာထင်ရှားသောပတ်ဝန်းကျင်အပေါ်သက်ရောက်မှုများနှင့်လျော့ပါးစေရေးနည်းလမ်းများ

ဆောက်လုပ်ရေးအဆင့်နှင့်ဆက်စပ်ပတ်ဝန်းကျင်ဆိုင်ရာပြဿနာများ

စီမံကိန်းသို့သွားသောလမ်းသည်ဤဧရိယာကိုသယ်ယူပို့ဆောင်ရေးအတွက်အချိန်ကြာမြင့်စွာကတည်းကအသုံးပြုခဲ့ခြင်းကြောင့် ပတ်ဝန်းကျင်ဆိုင်ရာသက်ရောက်မှုအများစုကို တည်ဆောက်ရေးကာလ (အဆင့်)တွင်ကြုံတွေ့ခဲ့ကြရပါသည်။

ဤသက်ရောက်မှုများ၏ပြင်းထန်မှုများသည်အသေးစားနှင့်အလယ်အလတ်တန်းစားအဆင့်သာရှိသောကြောင့်သင့်လျော်သောလျှော့ချရေးအစီအမံများဖြင့်၎င်းတို့ကိုလျှော့ချနိုင်ခဲ့ပါသည်။ တည်ဆောက်ရေးအဆင့်နှင့်ဆက်စပ်ခဲ့သည့် သိသာထင်ရှားသောပတ်ဝန်းကျင်ဆိုင်ရာပြဿနာများမှာ

- ဝင်ပေါက် / ဝင်ရောက်ခွင့်ပိတ်ဆို့ခြင်း;
- ယာဉ်ကြောပိတ်ဆို့မှုနှင့်လုံခြုံမှု
- စိုစွတ်သောရာသီအတွင်းမြေဆီလွှာတိုက်စားခြင်းနှင့်ရေကြီးခြင်း၊
- ဆောက်လုပ်ရေးကာလအတွင်းဆူညံသံ၊
- ဆောက်လုပ်ရေးသုံးစက်ယန္တရားများနှင့်မော်တော်ယာဉ်များမှလေအရည်အသွေးကိုယိုယွင်းပျက်စီးစေခြင်း၊ နှင့်

- ခြောက်သွေ့သောရာသီတွင် ဖုန်မှုန့်များထွက်ရှိလွင့်ပျံ့ခြင်း တို့ဖြစ်ပါသည်။

လုပ်ငန်းခွင်လည်ပတ်ခြင်းအဆင့်အတွင်းပတ်ဝန်းကျင်ဆိုင်ရာထိခိုက်မှုများ

အဆိုပြုထားသောစီမံကိန်း၏ပတ်ဝန်းကျင်အပေါ်သက်ရောက်မှုများကိုဖော်ထုတ်မည့်သက်ရောက်မှုဇယားတွင်ဖော်ပြထားပါသည်။ စီမံကိန်းဧရိယာအတွင်းပတ်ဝန်းကျင်ထိခိုက်လွယ်သောဧရိယာများမရှိခြင်းသည်သွယ်ဝိုက်သောနည်းဖြင့်ပတ်ဝန်းကျင်ဆိုင်ရာထိခိုက်မှုများကို တားဆီးနိုင်ပါသည်။

အဓိကသက်ရောက်မှုများမှာရေစီးဆင်းမှုပိတ်ဆို့ခြင်းနှင့်လမ်းပခုံးအနေအထားညံ့ဖျင်းခြင်းကြောင့်လမ်းအသွားအလာနှင့်မြေဆီလွှာတိုက်စားခြင်း နှင့်ရေကြီးခြင်း၊ ဆူညံသံများ၊ တုန်ခါမှု၊ လေထုညစ်ညမ်းမှုနှင့်စွန့်ပစ်ပစ္စည်းစီမံခန့်ခွဲမှုနှင့်လမ်းမတော်တဆမှုများပါဝင်ပါသည်။ Spring River Knitting (Myanmar) သည် လုပ်ငန်းလည်ပတ်စဉ် ကာလများ နှင့် ပြုပြင်ထိန်းသိမ်းမှုကာလများအတွင်းအလေ့အကျင့်ကောင်းများကို လိုက်နာကျင့်သုံးပြီး သက်ရောက်မှုများကိုလျှော့ချရန်အတွက် ဒေသဆိုင်ရာ ဌာန အဖွဲ့အစည်းများနှင့် အခြားသောသက်ဆိုင်ရာအဖွဲ့အစည်းများနှင့် ညှိနှိုင်းဆောင်ရွက် လာခဲ့ပါသည်။

အလုပ်သမားများ၏လုပ်ငန်းခွင်အခြေအနေမှန်

အလုပ်သမားနှင့်လုပ်ငန်းခွင်ဆိုင်ရာ စက်ရုံ၏စည်းမျဉ်းစည်းကမ်းများမှာ

– အထွေထွေစည်းကမ်းများ၊ – အလုပ်ခန့်စာချုပ်၊ – အလုပ်စည်းမျဉ်းများ / စည်းကမ်း၊ – လစာ၊ စရိတ်၊ အားလပ်ရက်နှင့်ခွင့်၊ – အခြေခံလစာပေးစနစ်နှင့်အချိန်ပို၊ – ကျန်းမာရေးထိန်းချုပ်မှု၊

Spring River Knitting (Myanmar) ကုမ္ပဏီလီမိတက်၏အတည်ပြုချက်အရ

– ကလေးလုပ်သား / အတင်းအဓမ္မခိုင်းစေမှုကိုမကျင့်သုံးခြင်း၊ – အစိုးရ၏စည်းမျဉ်းများကိုလူမှုဖူလုံရေးနှင့် အလုပ်သမားဥပဒေများနှင့်ကိုက်ညီစေရန်ဆောင်ရွက်ပေးခြင်း၊ – လှိုင်သာယာဒေသအလုပ်သမားဦးစီးဌာန နှင့် အမြဲပူးပေါင်းဆောင်ရွက်မှုများ ရှိနေပါသည်။

ဒီစီမံကိန်းတွင် <u>စွန့်ပစ်ပစ္စည်းထွက်ရှိမှုမှာ</u> အလွန်နည်းပါးပါသည်။

ထုတ်ကုန်ထုတ်လုပ်မှုများနှင့်ဆက်စပ်သောနေသော်လည်း ပတ်ဝန်းကျင်အပေါ်ဆိုးကျိုးသက်ရောက်မှုမှာအလွန်နည်းပါးပြီးအနည်းဆုံးဖြစ်၍ စီမံကိန်းကိုအန္တရာယ်နိမ့်သောစီမံကိန်းအဖြစ်သတ်မှတ်သည်။

စီမံကိန်း၏ဇီဝနှင့်လူမှုစီးပွားပတ်ဝန်းကျင်အပေါ်ဆိုးကျိုးသက်ရောက်နိုင်သည့်ဖြစ်နိုင်ချေအနည်းငယ်မျှသာရှိပါသည်။ ဤစီမံကိန်းသည်ဒေသခံပြည်သူများအားပိုမိုသာယာဝပြောမှုရှိစေပြီးသူတို့၏ဘဝအရည်အသွေးကိုမြှင့်တင်ပေးလိမ့်မည်။

ကျန်းမာရေးဆိုင်ရာထိခိုက်မှုများနှင့်လျော့ပါးစေရေးနည်းလမ်းများ

<u>အလားအလာရှိသောအန္တရာယ်များကိုခွဲခြားသတ်မှတ်ခြင်း</u>

စက်များ၊ ကိရိယာများသို့မဟုတ်အခြားစက်ပစ္စည်းများကြောင့်ဖြစ်ပေါ်နိုင်ခြင်း။

ပေါက်ကွဲစေတတ်ခြင်း

လျှပ်စစ်၊ အပူသို့မဟုတ်အခြားစွမ်းအင်ကြောင့်ထိခိုက်ခြင်း

လေးလံသော ဝ တ္ထုများအားလည်ပတ်ခြင်း၊ ထိန်းသိမ်းခြင်း၊ သယ်ယူပို့ဆောင်ခြင်း၊

အလုပ်၏စွမ်းဆောင်ရည်နှင့်ပတ်သက်သောထိခိုက်မှု

<u>ကျန်းမာရေးအစီအမံ</u>

လေဝင်လေထွက် နှင့် အလင်းရောင်ကောင်းမွန်အောင်ပြုလုပ်ထားပေးခြင်း၊ အပူဒါဏ်ကာကွယ်ခြင်းနှင့်ကာကွယ်ရန်ပစ္စည်းများထောက်ပံ့ခြင်း၊ သန့်ရှင်းစွာနေရာချထားပေးခြင်းစသည်တို့ဖြစ်သည်။

<u>သဘာဝဘေးအန္တရာယ်ထိန်းချုပ်ရေး</u>

- လုပ်ငန်းပတ်ဝန်းကျင်စစ်ဆေးခြင်းနှင့်တိုးတက်မှု
- လုပ်ငန်းခွင်ပတ်ဝန်းကျင်ကိုစစ်ဆေးပြီးအကဲဖြတ်ရန်၊ ရလဒ်များနှင့်လုပ်ငန်းခွင်ပတ်ဝန်းကျင်တိုးတက်မှုအစီအစဉ်ကိုရေးဆွဲပြီးအစီရင်ခံရန်၊
- သက်ဆိုင်ရာဌာနအကြီးအကဲကစစ်ဆေးသည့်ရလဒ်အပေါ် မူတည်၍ တိုးတက်သောအခြေအနေများကို ဦး စားပေးဆောင်ရွက်ရန်၊
- လုပ်ငန်းခွင်ပတ်ဝန်းကျင်တိုးတက်စေရန်မိမိအသိစိတ်ဓာတ်ဖြင့် ဝန်ထမ်းများမှပြုလုပ်ရန်၊

<u>ဆေးစစ်ခြင်း</u>

- ဝန်ထမ်းများအားပုံမှန်စစ်ဆေးခြင်းနှင့်အခါအားလျော်စွာဆေးစစ်ခြင်း၊ ကျန်းမာရေးစစ်ဆေးမှုများကြောင့်ကျန်းမာရေးပြဿနာရှိသည်ဟုသံသယဖြစ်ခံရသူသို့မဟုတ်သံသယဖြစ်ခံရသည့် ဝန်ထမ်းတစ်ဦးသည် ဒုတိယ အကြိမ် ဆေးစစ်ခြင်းကိုခံယူပြီး ရလဒ်အား ယင်းဝန်ထမ်းအားချက်ချင်းအကြောင်းကြားရန်။

- ဆေးစစ်ချက်အရပန်ထမ်းများ၏ကျန်းမာရေးကိုထိန်းသိမ်းရန်လိုအပ်သည်ဟုယူဆပါကအလုပ်နေရာပြောင်းရွှေ့တာဝန်ချထားခြင်း၊ နှင့် သို့မဟုတ် အလုပ်ချိန်လျှော့ပေးခြင်းကဲ့သို့သောသင့်လျော်သောဆောင်ရွက်ချက်များ။

ကျန်းမာရေးပြဿနာများနှင့်အတူဝန်ထမ်း၏စီမံခန့်ခွဲမှု

ဝန်ထမ်းများအနေဖြင့်မည်သည့်ကျန်းမာရေးအခြေအနေကိုမဆိုထိန်းချုပ်ခြင်း၊ ဘေးကင်းလုံခြုံရေးနှင့်ကျန်းမာရေးတာဝန်ရှိသူသည် ၎င်း၏ ကျန်းမာရေးကို အခါအားလျော်စွာစောင့်ကြည့်ပြီးဝန်ထမ်းတစ်ဦး ၏ကျန်းမာရေးပြဿနာများကိုရှာဖွေတွေ့ရှိပြီးနောက် ကျန်းမာရေးဦးစီးဌာနသို့ ချက်ချင်းအကြောင်းကြားရမည်ဖြစ်ပါသည်။

လုပ်ငန်းပိတ်သိမ်းခြင်းအဆင့်ထိခိုက်မှုများနှင့်လျော့ပါးစေခြင်းစီမံခန့်ခွဲမှု

လုပ်ငန်းလည်ပတ်မှု၏အကျိုးအမြတ်နှင့်ပုဂ္ဂိုလ်ရေးဆိုင်ရာကိစ္စရပ်များအပေါ်မူတည်၍ ဆယ်စုနှစ်များစွာကြာရှည်လေ့ရှိသော လုပ်ငန်း လည်ပတ်ခြင်း အဆင့်ကာလလွန်မြောက်ပြီးနောက်တွင် လုပ်ငန်းပိတ်သိမ်းခြင်းအဆင့်သို့ရောက်ရှိလာမည်ဖြစ်ပါသည်။ ရှည်လျားသော လုပ်ငန်း လည်ပတ်ခြင်းအဆင့်ကာလအဆုံး၌မြေယာအခြေအနေသည်ပြောင်းလဲသွားပါမည်(သို့မဟုတ်)သို့မဟုတ် မြင်ကွင်းများအကြီးအကျယ် ပြောင်းလဲ သွားမည်ဖြစ်ပါသည်။ Decommissioning အဆင့်မှာ လုပ်ငန်းလည်ပတ်မှုကြာချိန်နှင့်ပမာဏပေါ်မူတည်ပါသည်။ Decommissioning အဆင့်တွင် မော်တော်ယာဉ်များ၏ကိုယ်ထည်၊ အင်ဂျင်ဟောင်းအစိတ်အပိုင်းများ၊ gear box စသည်တို့ကိုပျက်စီးစေခြင်းများကို တွေ့ရှိရမည်ဖြစ်သည့်အပြင် မူလ မြင်ကွင်းနှင့် သဘာဝအလှအပကိုများစွာထိခိုက်စေခြင်းများကို တွေ့ရှိနိုင်ပါသည်။ Decommissioning Work ဆိုသည်မှာ site ဟောင်းကိုရှင်းလင်းခြင်းကိုသာဆိုလိုပါသည်။

Spring River Knitting (Myanmar) အနေနှင့် သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာဥပဒေ (၂၀၁၂) ၏ လမ်းညွှန်မှုကိုခံယူခြင်း နှင့် Decommissioning အဆင့် တွင် ပြန်လည်ထူထောင်ခြင်းလုပ်ငန်းများကိုလိုက်နာရန်ကတိကဝတ်ပြုထားခဲ့ပြီးဖြစ်ပါသည်။

မျှော်လင့်ထားသောပတ်ဝန်းကျင်နှင့်လူမှုဝန်းကျင်ကို သက်ရောက်မှု ဆန်းစစ်အကဲဖြတ်ခြင်းကို အကျိုးပြုခြင်း သို့မဟုတ် မလိုလားအပ်ခြင်း၊ ကာလတို/ ကာလရှည်၊ ယာယီ သို့မဟုတ် အစဉ်ဖြစ်ပေါ်ခြင်း၊ တိုက်ရိုက်ထိခိုက်မှု သွယ်ဝိုက်ထိခိုက်မှု စသည်ဖြင့် အကဲဖြတ်ခြင်းကို အစီရင်ခံစာမှ Table 35 တွင်ဖော်ပြထားပါသည်။

စက်ရုံလည်ပတ်ခြင်းနှင့် ထုတ်လုပ်ရေးလုပ်ငန်းစဉ်များတွင်ဖြစ်ပွားနိုင်သည့် ထိခိုက်မှုများနှင့်တာဝန်ယူဆောင်ရွက်ပေးရန်အချက်များ_မှာ

စက်များမှထိခိုက်နိုင်ခြင်း ချည်ထိုးစက်ရုံတွင်အသုံးပြုသောစက်များနှင့်အခြားဖြတ်တောက်ခြင်းကိရိယာများသည် အလုပ်သမား များ၏ လက်ကိုအနည်းငယ်ထိခိုက်စေနိုင်သည်။ သို့မွေးထိုးစက်များတွင်အသုံးပြုသောစက်များတွင် စက်ကိုင်တွယ်သူများအား မတော်တဆ ထိခိုက် စေနိုင်သည့် အပ်များကိုအသုံးပြုထားပါသည်။

တုန်ခါနေသောကိရိယာများကြောင့်လက်ကိုထိခိုက်စေနိုင်ခြင်း အလုပ်သမားများကိုတုန်ခါသည့်ကိရိယာများဖြင့်နာရီများစွာအလုပ်လုပ်စေခြင်း၊ တုန်ခါနေသောကိရိယာများကိုအချိန်ဇယားအတိုင်းစစ်ဆေးခြင်းနှင့်ထိန်းသိမ်းခြင်းတို့ကိုသေချာစေခြင်းဖြင့် မတော်တဆ ထိခိုက်မှုများမှ ကာကွယ် နိုင်ပါသည်။

အားအလွန်အကျွံသုံးခြင်းနှင့် အာရုံစိုက်ခြင်းများကြောင့်ထိခိုက်မှု တစ်နေရာတည်းတွင် တစ်ပုံစံထဲ တနေ့လုံးကြာမြင့်စွာအာရုံစိုက်လုပ် ကိုင်ခြင်းမှ လည်ပင်း၊ ကျော၊ ခြေထောက်နှင့်ဒူးနာခြင်းများဖြစ်ပေါ်နိုင်ပါသည်။

အထက်ဖော်ပြပါ ထိခိုက်ဒဏ်ရာရမှုများကြောင့် ဖြစ်နိုင်ခြေရှိသော သက်ရောက်မှုများအတွက် ပရောဂျက်ကို ထောက်ခံသူနှင့် စက်ရုံစီမံခန့်ခွဲရေးမှ အောက်ပါတို့ကို ဆောင်ရွက်ပေးမည်ဖြစ်ပါသည်။

- ချုပ်စက်အပ်နေရာများနှင့် စားပွဲအထက်နှင့် အောက်ခြေ မော်တာကြိုးများပေါ်တွင် အကာအရံများတပ်ဆင်ပေးမည်။
- ဖြတ်တောက်ခြင်း၊ ထိုးဖေါက်ခြင်း၊ လက်သည်းထိုးခြင်းနှင့် တံဆိပ်တုံးထုခြင်းစသည့် စက်များပေါ်တွင် လက် ၂ ချောင်းဖြင့်ကိုင်တွယ် ထိန်းချုပ်ခြင်း အလေ့အကျင့်ကို လေ့ကျင့်ပေးမည်။
- အလုပ်သမား၏ ခန္ဓာကိုယ်နေရာမှားနေပါက လျှပ်စစ် သို့မဟုတ် အခြားအာရုံခံကိရိယာ (Sensor) များအား ပိတ်ရန် အလေ့အကျင့်များ လေ့ကျင့်ပေးမည်
- စက်များကို သန့်ရှင်းရေး၊ ပြုပြင်ရန် သို့မဟုတ် ချိန်ညှိနေသော အလုပ်သမားများ ထိခိုက်ဒဏ်ရာရခြင်းမှ ကာကွယ်ရန်၊ လော့ခ်အဝင်/အထွက်စည်းမျဉ်းကို လိုက်နာရန်နှင့် ပြုပြင်ခြင်းနှင့် ပြုပြင်ထိန်းသိမ်းခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများကို အမှတ်အသားပြုရန် လေ့ကျင့်ပေးပါမည်။
- နေ့ခင်းဘက် အလုပ်တွေ အလုည့်ကျ လုပ် ခြင်းဖြင့် မည်သူမှု အချိန်ကြာမြင့်စွာမလုပ်ရန် တားဆီးပေးမည်။
- စက်ရုံသည် လုပ်သားခန္ဓာကိုယ်နှင့်လုပ်ငန်း ကိုက်ညီမည့် သက်တောင့်သက်တာဖြစ်သောထိုင်ခုံ များနှင့် စက်ကိရိယာများ ပေးရန် စီစဉ်ထားပေးသည်၊
- လိုအပ်သည့်အရာများကို နီးနီးကပ်ကပ်ထားနိုင်စေရန်အတွက် အလုပ်ဧရိယာကို သတ်မှတ်၍ လက်လှမ်းမီရန်၊ ကွေးရန် သို့မဟုတ် အလွန်အကျွံလှည့်ရန် မလိုအပ်အောင်ဆောင်ရွက်ပေးထားသည်
- ကြွက်သားများ သန်မာစေရန်နှင့် ဆန့်ထုတ်ရန် လေ့ကျင့်ခန်းလုပ်စေပါသည်။

ဖုန်မှုန့်များ၏အန္တရာယ်များ ဇာထိုးခြင်းလုပ်ငန်းသည်ဖုန်မှုန့်များနှင့်များစွာထွက်ရှိခြင်းမဖြစ်နိုင်သော်လည်း၊ အနည်းငယ်သောအမှုန် များ ကို ရှူရှိုက် မိခြင်းသည်စိတ်ရှုပ်ထွေးစေပြီးအခြားအသက်ရှူပြဿနာများဖြစ်စေနိုင်ပါသည်။

- အလုပ်နေရာတစ်ဝိုက်ရှိ မျက်နှာပြင်များမှ ဖုန်မှုန့်များကို တစ်ရက်လျှင်အနည်းဆုံး ၂ ကြိမ်ခန့် ဖုန်စုပ်စက် အသုံးပြု၍ စုတ်ထုတ်ခြင်း သို့မဟုတ်

အနည်းဆုံး စိုစွတ်သောအဝတ်စကို အသုံးပြု၍ ရှင်းလင်းခြင်းအလေ့အကျင့်များ ပေးထားသည်။

- သတ္တုများနှင့် အဆိပ်ဖြစ်စေသော ဓာတုပစ္စည်းများမပါဘဲ အရောင်ဖျော့ထားသော ပစ္စည်းကို အသုံးပြုရန် အလေ့အကျင့်ပေးထားသည်
- ဓာတုပစ္စည်းသိုလှောင်သည့်နေရာ၊ ဘွိုင်လာအခန်းတွင် အလုပ်လုပ်ပြီးနောက်၊ အထူးသဖြင့် အစားမစားမီ သို့မဟုတ် မသောက်မီ လက်ကို သန့်စင်ခန်းတွင် ဓာတုပစ္စည်းများနှင့် ဖုန်မှုန့်များကို ပုံမှန်ဆေးကြောရန် စည်းမျဉ်းများ သတ်မှတ်ထားခဲ့ပါသည်။

<u>အမှိုက်စွန့်ပစ်ခြင်းကြောင့် ဖြစ်ပေါ်လာသော ထိခိုက်မှုများအား ကာကွယ်ခြင်း။</u>

- ရုံးသုံးအမှိုက်အချို့ကို ပြန်လည်အသုံးပြုပါသည်။
- ခွင့်ပြုထားသော အမှိုက်ပုံးတွင် အမှိုက်များကို စွန့်ပစ်ပြီး အစိုင်အခဲအမှိုက်များကို မီးရှို့ခြင်းမှ ရှောင်ကြဉ်စေပါသည်။
- မိလ္လာ နှင့် ရေချိုးခန်းများမှ ရေဆိုးများ သည် မိလ္လာကန်ငယ်တစ်ခုသို့ ရောက်သွားပြီး တွင်းထဲသို့ စိမ့်ထားရန်ဖြစ်သည်။ မသန့်ရှင်းသော စွန့်ပစ်ရေများကို အများသူငှာ မြောင်းများ(Public Drain)မှတဆင့် ချောင်းထဲသို့ဖြစ်စေ၊ မြစ်ထဲသို့ဖြစ်စေ စွန့်ပစ်ခြင်းမပြုရန် တားမြစ်ထားသည်။
- ဆီယိုဖိတ်မှုကို ရေဖြင့် ဆေးကြောရန် တားမြစ်ထားပါသည်။ ဆီယိုဖိတ်မှုကို စုပ်ယူနိုင်သော ရနိုင်သောအဝတ်များဖြင့် စိမ့်ပြီး ခွင့်ပြုထားသော နေရာတွင် စွန့်ပစ်ရန်ညွှန်ကြားထားပါသည်။
- ဆီဖြည့်ဧရိယာတွင်သာ မော်တော်ယာဉ်များကို ဆီဖြည့်ရန်သတ်မှတ်ထားပါသည်။
- လောင်စာဆီသိုလှောင်သည့်ကြမ်းခင်းကို ကွန်ကရစ်ကြမ်းခင်းဖြင့် ခင်းထားပါသည်။ လောင်စာဆီ သိုလှောင်ရုံတစ်ဝိုက်တွင် ရေနုတ်မြောင်းတစ်ခုကို တည်ဆောက်ထားပါသည်။
- အလုပ်သမားတိုင်းကို စည်းကမ်းမဲ့အမှိုက်မပစ်ရန် ညွှန်ကြားထားပါသည်။

<u>ယာဉ်ကြောထိခိုက်မှု တားဆီးကာကွယ်ရေး</u>

- မော်တော်ယာဉ် မောင်းနှင်သူများကို အသိပညာပေးခြင်းနှင့် အထူးသဖြင့် အများသူငှာ လမ်းအသုံးပြုသည့်အခါတွင် ဖြည်းညှင်းစွာ မောင်းနှင်ရန် ညွှန်ကြားထားသည်။ ယာဉ်မောင်းများအား စည်းကမ်းဖြင့် မောင်းနှင်ခြင်း နိယာမကို လိုက်နာရန် ညွှန်ကြားခဲ့သည်။

<u>အရေးပေါ်အခြေအနေနှင့် ကျန်းမာရေးထိခိုက်မှုမှ ကာကွယ်ခြင်း။</u>

- ရှေးဦးသူနာပြုစုနည်းသင်တန်းအတွက် အနည်းဆုံး အလုပ်သမား နှစ်ဦးကို လေ့ကျင့်ပေးထားပြီး အခြား မီးသတ်လုပ်သား ၃ ဦးမှ ၄ဦးအထိ လေ့ကျင့်ပေးထားပါသည်။
- လုံလောက်သော ရှေးဦးသူနာပြုပစ္စည်းများ၊ မီးသတ်ဆေးဘူး (ဆလင်ဒါ) နှင့် ရေဂျက်ပန့်များ ကိုတပ်ဆင်ထားပါသည်။ ဖုန်မှုန့်များ၊ မီးခိုးများ၊ အပူ၊ တုန်ခါမှုစသည်ဖြင့် ထိတွေ့နေသော အလုပ်သမားများအများစုကို ဝန်ထမ်းရေးရာ အကာအကွယ်ပစ္စည်း (PPE) ပေးထားပါသည်။
- ပြင်းထန်သောမတော်တဆမှုဖြစ်လျှင် ချက်ချင်းနှင့် လုံလောက်စွာတုံ့ပြန်ရန် ကြိုးစားရန်ညွှန်ကြားထားပါသည်။
- အရေးပေါ်တုံ့ပြန်မှုအတွက်၊ ရှေးဦးသူနာပြုစုခြင်းလုပ်ငန်းများအတွက် ပုံမှန်ပုံစံတူလေ့ကျင့်ခန်းများနှင့် မီးငြိမ်းသတ်ခြင်းဆိုင်ရာ လေ့ကျင့်ခန်းများကိုလည်း စုစည်းဆောင်ရွက်ထားပါသည်။

<u>အလင်းရောင်နှင့် အမြင်အာရုံထိခိုက်ခြင်းမှ ကာကွယ်ပေးခြင်း။</u>

- ညအချိန်တွင် အလင်းရောင် အလွန်အကျွံသုံးစွဲခြင်းမှ ရှောင်ကြဉ်ခြင်း၊
- အပြင်ဘက်တွင် အဝါရောင်မီးလုံး (မီးသီး) ကိုအသုံးပြုခြင်း။
- မီးခွက်မှာ အင်းဆက်တွေ များပြားချိန်တွင် မိနစ်အနည်းငယ်ကြာမီးပိတ်ထားခြင်း

<u>စီမံကိန်းအတွင်း ဖျားနာမှု သို့မဟုတ် လူမှုဆန့်ကျင်ရေးအပြုအမူများအပေါ် သက်ရောက်မှုမှ ကာကွယ်ခြင်း</u>

- အလုပ်သမားများအကြား မူးယစ်ဆေးဝါးသုံးစွဲမှု တားမြစ်ထားပါသည်။
- အလုပ်ခွင်နှင့် လုပ်ငန်းခွင်အတွင်း အရက်သောက်ခြင်းကို တားမြစ်ထားပါသည်။
- ဒေသခံပြည်သူများနှင့် ဆက်ဆံရာတွင် တာဝန်သိသိနှင့် ကျန်းမာရေးအသိုက်အဝန်း အပြန်အလှန် အကျိုးပြုနိုင်စေရန်အတွက် ဒေသဆိုင်ရာ ယဉ်ကျေးမှုကျင့်ဝတ်၊ ကျင့်ဝတ်၊ ကျင့်ဝတ်များနှင့် အသိပညာပေးမှုများနှင့် ပတ်သက်၍ အလုပ်သမားများအား အသိပညာပေးခြင်းများဆောင်ရွက်ထားပါသည်။
- အလုပ်သမားများကို တရားမျှတသည့် ဆက်ဆံမှုပုံစံထားရှိပါသည်။
- အလုပ်ရှင်နှင့် အလုပ်သမားကြား ကျန်းမာရေးနှင့် မညီညွတ်သော ဆက်ဆံရေးကို ခွင့်ပြုထားခြင်းမရှိပါ

<u>လုံခြုံရေးအရ ဖြစ်ပေါ်လာနိုင်သော ထိခိုက်မှုများအား ကာကွယ်ခြင်း။</u>

- ခြံစည်းရိုးခတ်ခြင်း သို့မဟုတ် ကာရံခြင်းပြုလုပ်ထားပါသည်။
- ထိရောက်သော လုံခြုံရေးဂိတ်များ ရှိခြင်း၊ စီမံကိန်းဝင်းသို့ ခွင့်ပြုချက်မရှိဘဲ ဝင်ရောက်ခြင်းကို ခွင့်မပြုပါ။
- စီမံကိန်းစက်ရုံအတွင်း ဝင်ရောက်ခြင်းနှင့် ထွက်ခြင်းအားလုံးကို စစ်ဆေးစေပါသည်။
- အထူးသဖြင့် အလုပ်ချိန်အတွင်း အလုပ်သမားများကို ဒေသခံပြည်သူများနှင့် လွတ်လပ်စွာ ရောနှောခွင့်မပြုပါ၊
- လုံခြုံရေးအစောင့်အကြပ်များ သတိထားပြီး တာဝန်ကျေစေရန်ညွှန်ကြားထားပါသည်။
- အလုပ်သမားအားလုံး ယူနီဖောင်းဝတ်နိုင်စေရန်နှင့် နိုင်ငံသားစိစစ်ရေးကတ်ပြားကို လွယ်ကူစွာ သိမ်းဆည်းနိုင်စေရန်သတိပေးထားပါသည်။
- အချို့သောတန်ဖိုးရှိသော ပစ္စည်းများအားလုံးကို သော့ခတ်ပြီးအလွယ်တကူ ခိုးယူသွားနိုင်သော ပစ္စည်းတိုင်းကို သိမ်းဆည်းထားပါသည်၊

- အလုပ်သမားများအား အသိပညာပေး ဆုံးမခြင်းများကိုလုပ်ဆောင်ပါသည်။
- စည်းမျဉ်းများ သို့မဟုတ် လိုအပ်ချက်များနှင့် ဆန့်ကျင်ကြောင်းတွေ့ရှိရသော အလုပ်သမားများအတွက် ဆိုင်းငံ့ခြင်း သို့မဟုတ် အလုပ်ထုတ်ခြင်း (အလုပ်ရပ်စဲခြင်း) ကဲ့သို့သော ပြစ်ဒဏ်ချမှတ်ခြင်းများ လုပ်ဆောင်ပါသည်။

၄. ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအကောင်အထည်ဖော်မှုအတွက်ရန်ပုံငွေ

EMP အကောင်အထည်ဖော်မှုအတွက်ခန့်မှန်းရန်ပုံငွေ

စီမံကိန်းသည် တည်ဆောက်ရေးအဆင့်ကာလအတွင်း ပတ်ဝန်းကျင်ထိခိုက်မှုကာကွယ်ရေးတိုးမြှင့်ခြင်းနှင့်ကာကွယ်ခြင်းအစီအမံများကို အဆင့်ဆင့်ဖြင့် စတင်ခဲ့ပါသည်။ သဘာဝပတ်ဝန်းကျင်ကာကွယ်စောင့်ရှောက်ရေးအစီအမံများအတွက်ကုန်ကျစရိတ်ကို ခန့်မှန်းထားပြီး စီမံကိန်းကုန်ကျစရိတ်တွင်ထည့်သွင်းထားပါသည်။ စီမံကိန်းအဆိုပြုသူတွင်ပတ်ဝန်းကျင်ကာကွယ်ရေး အစီအမံများအကောင်အထည်ဖော်ခြင်းနှင့်ပတ် ဝ န်းကျင်ဆိုင်ရာစောင့်ကြည့်စစ်ဆေးခြင်းကိုလုံလောက်သောကုန်ကျစရိတ်များထည့်သွင်းသွားမည်ဟုအာမခံထားပါသည်။

စီမံကိန်းအနေဖြင့်ပတ်ဝန်းကျင်ဆိုင်ရာအကျိုးကျေးဇူးများကိုတိုးမြှင့်ခြင်းနှင့်ထိခိုက်မှုလျှော့ချခြင်းနည်းလမ်းများကို အကောင်အထည်ဖော်မည်ဖြစ်ပါသည်။ Spring River Knitting (Myanmar) ကုမ္ပဏီလီမိတက်၏စက်မှုလုပ်ငန်းစီမံကိန်းသည် ထိခိုက်မှုလျော့ပါးသက်သာစေရေး နည်းလမ်းများ အတွက် တာဝန်ရှိပါသည်။ ပတ်ဝန်းကျင်နှင့်လူမှုဝန်းကျင်ထိခိုက်မှုလျှော့ချရေးအစီအမံများအတွက်ကုန်ကျစရိတ်အများစုကို စီမံကိန်းကုန်ကျစရိတ်တွင် ထည့်သွင်းထားပါသည်။ ထို့အပြင်အခြားအကျိုးအမြတ်တိုးမြှင့်ခြင်းနှင့်ဆိုးကျိုးသက်ရောက်မှု လျော့ပါးစေရေး အစီအမံများအတွက်ကုန်ကျစရိတ်မှာ နှစ်စဉ်စီမံကိန်း၏ အမြတ် မှ ၂% ဖြစ်ပါသည်။

ပတ်ဝန်းကျင်ထိခိုက်မှုများလျှော့ချရေးအစီအမံများအကောင်အထည်ဖော်ခြင်း

ပတ်ဝန်းကျင်ထိခိုက်မှုများလျှော့ချရေးအစီအမံများကိုစီမံကိန်းဒီဇိုင်းထည့်သွင်းထားပါသည်။
၎င်းလျှော့ချရေးအစီအမံများသည်စီမံကိန်းတည်ဆောက်ရေးနှင့်လုပ်ငန်းလည်ပတ်ရေးအဆင့်များအတွက် ဆောင်ရွက်ခဲ့ပြီး လက်ရှိအားဖြင့်လည်းဆောင်ရွက်လျှက်ရှိနေပါသည်။ အချို့သောထိခိုက်မှု များအတွက် လျော့ပါးစေရေးနည်းလမ်းများကိုထည့်သွင်းခြင်းနှင့် လျော့ပါးသက်သာစေရေး အကောင်အထည်ဖော်မှုကိုစောင့်ကြည့်ကြီးကြပ် ကွပ်ကဲခြင်းများသည် ပုံမှန် တာဝန်ခံပတ်ဝန်းကျင်ထိန်းသိမ်း ကာကွယ်ရေး အင်ဂျင်နီယာ ၏ ကြီးကြပ်မှုများအောက်တွင်ပါဝင်ခဲ့ပြီးဖြစ်ပါသည်။

<u>ကြီးကြပ်ခြင်းနှင့်စောင့်ကြည့်စစ်ဆေးခြင်း</u>

ကြီးကြပ်ခြင်း၏ရည်ရွယ်ချက်မှာသဘာဝပတ်ဝန်းကျင်ဆိုင်ရာအကဲဖြတ်မှုတွင်သတ်မှတ်ထားသောလျော့ပါးသက်သာစေမည့်အချက်အလက်များနှင့်ကျေနပ်လောက်ဖွယ်အကောင်အထည်ဖော်မှုကိုသေချာစေရန်ဖြစ်သည်။ ထိုနည်းတူစွာ၊ လျော့ပါးစေရေးနည်းလမ်းများကိုအမှန်တကယ် လက်တွေ့ ကျင့်သုံးနိုင်ရန်အတွက်လည်း စောင့်ကြည့်လေ့လာရန်လိုအပ်ပါသည်။

စီမံကိန်းနှင့်အုပ်ချုပ်ရေး, အသိပညာပေးခြင်းနှင့်လေ့ကျင့်ရေး အစည်းအဝေးကုန်ကျစရိတ်

<u>ပထမအကောင်အထည်ဖော်သည့်ကာလ</u>အတွက် သဘာဝပတ်ဝန်းကျင်နှင့်လူမှုရေးစီမံခန့်ခွဲမှုအစီအစဉ်အတွက်ခန့်မှန်းကုန်ကျစရိတ် တွင်

စီမံရေးနှင့်အုပ်ချုပ်မှု၊ အသိပညာပေးခြင်းနှင့် သင်တန်းများ၊ အစည်းအဝေးများကျင်းပခြင်း ၊ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အကောင်အထည်ဖော်ခြင်း၊ ဇတ်တိုက်လေ့ကျင့်ခြင်းနှင့် သရုပ်ပြခြင်း၊ လေအရည်အသွေးနှင့် ဆူညံသံအဆင့်တိုင်းတာစမ်းသပ်မှု၊ စောင့်ကြည့်စစ်ဆေးခြင်းနှင့် အကဲဖြတ်ဆန်းစစ်မှု လျော့ပါးစေရေးနည်းလမ်းများအသုံးပြုခြင်း၊ လျူဒါန်းမှုနှင့် ပတ်ဝန်းကျင်ရေးရာလှုပ်ရှားမှုများ နှင့်အထွေထွေအသုံးစရိတ် တို့ပါဝင်ပြီး ခန့်မှန်းကုန်ကျစရိတ်မှာ သိန်း၆၁၀ ကျပ်ခန့်ဖြစ်ပါသည်။ အစီရင်ခံစာမှ Table 45 တွင်ဖော်ပြထားပြီးဖြစ်ပါသည်။

လေထုညစ်ညမ်းခြင်း၊ ဆူညံခြင်း၊ အစိုင်အခဲစွန့်ပစ်ပစ္စည်း (အနည်အနှစ်)၊ ရေထုညစ်ညမ်းခြင်း၊ စွမ်းအင်သုံးစွဲမှု၊ ပတ်ဝန်းကျင် ဖွံ့ဖြိုး တိုးတက်မှု စသည့်ပတ်ဝန်းကျင်ဆိုင်ရာထိခိုက်မှုများနှင့်လျှော့ချရေးအစီအမံများအတွက်ခန့်မှန်းကုန်ကျစရိတ်မှာနှစ်စဉ် တစ်နှစ်လျှင် <u>အမေရိကန်ဒေါ်လာ ၂၁၅၀</u> ခန့် ရှိပါသည်။

စီမံကိန်းပိတ်သိမ်းခြင်းအဆင့်တွင် မြေအောက်ရေနှင့်မြေအောက်ရေအပေါ်သက်ရောက်မှုများကို လျော့ပါးစေမည့်အနေဖြင့် တစ်နှစ်လျှင် အမေရိကန်ဒေါ်လာ ၆၀ ခန့်ကို လုပ်ငန်းပိတ်သိမ်းပြီး ၂ နှစ်ခန့်အထိ စရိတ် အသုံးပြုပါမည်။

အစီရင်ခံစာမှ 4.2.1 Impacts, Mitigation Measures, Frequency and Responsible Party တွင်ဖော်ပြထားပါသည်။

လူမှုအကျိုးသက်ရောက်မှုများနှင့်အကျိုးခံစားခွင့်မြှင့်တင်ခြင်း / ဆိုးကျိုးသက်ရောက်မှုလျော့ပါးစေရေးအတွက် လုပ်ငန်းလည်ပတ်ခြင်း အဆင့် အတွက် ကုန်ကျစရိတ်ကိုခန့်မှန်းခြေအားဖြင့် ၇၀၀,၀၀၀ ကျပ်သတ်မှတ်ထားသည်။ ယင်းတွင်လူမှုစီးပွားပတ်ဝန်းကျင်၊ ယဉ်ကျေးမှုနှင့်ရုပ်ပိုင်းဆိုင်ရာ ပတ်ဝန်းကျင် စသည် တို့အတွက်ပါဝင်ပါသည်။ အစီရင်ခံစာမှ

4.2.2 Annual Social Impacts and Benefit Augmentation / Adverse Impact Mitigation Measure Cost

ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်ကြည့်ရှု ခြင်းအတွက်နှစ်စဉ်ခန့်မှန်းကုန်ကျငွေမှာ <u>အမေရိကန်ဒေါ်လာ ၂၂၇၀</u> ဖြစ်သည်။ 4.3 Annual Environmental Monitoring Parameters, Frequency, Responsibilities and Estimated Cost ၎င်းတွင်လေထုညစ်ညမ်းခြင်း၊ ဆူညံခြင်း၊ အစိုင်အခဲစွန့်ပစ်ပစ္စည်း (အနည်အနှစ်))၊ ရေထုညစ်ညမ်းခြင်းတို့ပါဝင်ပါသည်။

စီမံကိန်းလည်ပတ်မှုကြောင့်ထိခိုက်မှုခံစားရသည့်ဒေသခံပြည်သူများအတွက်အစီအစဉ်နှင့်ရန်ပုံငွေ

ပြည်သူညှိနှိုင်းတိုင်ပင်မှု(Public Consultation Meetng) များ၏ရလဒ် အရ စီမံကိန်းပတ်ဝန်းကျင်အနီးရှိနေထိုင်သူများ၊ ဒေသ၏ သဘာဝ သယံဇာတများ၊ ကျန်းမာရေးနှင့် လူမှု စီးပွားရေး စီမံကိန်းများ၊ဒေသခံများအား အတွက် ဆိုးကျိုးသက်ရောက်လိမ့်မည်မဟုတ်သည့်အပြင် ဒေသခံနှင့်အနီးပတ်ဝန်းကျင်လူထု အသိုင်းအဝန်းအနေနှင့် ပိုမိုကောင်းမွန်သောလူမှု စီးပွားရေးစီမံကိန်းများအတွက် မျှော်လင့်နေကြပါသည်။ အထူးသဖြင့် ရွှေလင်ပန်း စက်မှုဇုန် အတွင်း တွင်တည်ရှိသော ဤစက်ရုံမျိုးကို အလုပ်အကိုင် အခွင့်အလမ်းများ အတွက် ရည်မှန်းချက် ထားပြီး မျှော်လင့်နေကြပါသည်။

သို့သော်ဒေသခံများနှင့်ပတ်ဝန်းကျင်ရှိဒေသများအပေါ်အကျိုးထိခိုက်မှုရှိနိုင်ပါကထိခိုက်မှုများအတွက်လျှော့ချရေးအစီအမံများ၊ အချိန်အတိုင်း အတာ နှင့်ကုန်ကျစရိတ်များအပြင်စောင့်ကြည့်လေ့လာရေးအချက်အလက်များ၊ အကြိမ်ရေ၊ တာဝန်ဝတ္တရားများနှင့်ခန့်မှန်းခြေကုန်ကျစရိတ်ကို Spring River Knitting (Myanmar) အနေဖြင့် တွက်ချက် စီစဉ်ထားပါသည်။

ဝန်ထမ်းများအတွက် တကိုယ်ရေ အန္တရာယ်ကင်း ဝတ်စုံများ(PPE) ထောက်ပံ့ရန် ရန်ပုံငွေမှာ တစ်နှစ်လျှင် <u>အမေရိကန်ဒေါ်လာ ၄၅၀၀</u> ခန့်ဖြစ်ပါသည်။

အပိုအသုံးစရိတ်များအသုံးပြုခြင်း

ကုမ္ပဏီ၏ဆုံးဖြတ်ချက်အရပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု၊ ထိခိုက်မှုလျှော့ချရေးနှင့်စောင့်ကြည့်ကြီးကြပ်ရေးအစီအစဉ်များကိုကုမ္ပဏီ၏ လည်ပတ်မှု စရိတ်ဖြင့်ဆောင်ရွက်မည်ဖြစ်ပါသည်။ အကယ်၍ အဆိုပြုထားသည့်ရန်ပုံငွေ ရန်ပုံငွေနှင့်လုံလောက်မှု မရှိခဲ့ပါက စီမံခန့်ခွဲမှုနှင့်စောင့်ကြည့် ကြီးကြပ်မှုလုပ်ထုံးလုပ်နည်းများဖြင့်ကုမ္ပဏီအနေနှင့် ကုမ္ပဏီလည်ပတ်ခြင်းစရိတ်ဖြင့်မှ ကျခံ၍ ပိုမိုသုံးစွဲမည် ဖြစ်ပါသည်။ ဒေသဆိုင်ရာ ဖွံ့ဖြိုးတိုးတက်မှုနှင့် ဒေသခံလူထု၏ပတ်ဝန်းကျင်စီမံကိန်းအတွက် Spring River Knitting (Myanmar) သည်၊ ကုမဏီ၏ လူမှုရေး တာဝန်ကျေမှု မူဝါဒအရ တစ်စိတ်တစ်ပိုင်း အနေနှင့် ပါဝင်သွားမည်ဖြစ်ပါသည်။

ပတ်ဝန်းကျင်လူမှုအသိုက်အဝန်းဖွံ့ဖြိုးတိုးတက်မှုအတွက် လူမှုရေးပူးပေါင်းဆောင်ရွက်မှုတာဝန်ကျေမှု အစီအစဉ်အနေနှင့် စက်ရုံဝင်ငွေမှ အမြတ် ၂ ရာခိုင်နှုန်းကိုသတ်မှတ်ထားပြီး ၎င်းမှ ကျန်းမာရေးမှ ၃၀% အထိ၊ ပတ်ဝန်းကျင်နှင့်လူမှုရေးပရဟိတလုပ်ငန်းများအတွက် ၃၀%၊ အခြားလုပ်ငန်းများအတွက် ၂၀% ကိုအသုံးပြုရန် စီစဉ်ထားပါသည်။

အထူးသဖြင့်ကုန်တင်ယာဉ်ကြီးများကုန်ကြမ်း/ကုန်ချောများသယ်ယူပို့ဆောင်ခြင်း၊ ရွှေသံလွင်စက်မှုဇုန်ရှိကုန်ပစ္စည်းများသယ်ယူပို့ဆောင်ခြင်း ကြောင့်ဖြစ်ပေါ်လာသောလမ်းပျက်စီးခြင်းကိုပြင်ဆင်ရာတွင် Spring River Knitting (Myanmar) စက်ရုံအနေနှင့် စက်မှုဇုန်အုပ်ချုပ်ရေး ကော်မတီ နှင့်အစိုးရဌာနများနှင့်ပူးပေါင်းညှိနှိုင်း၍ပြင်ဆင်ခြင်းအတွက် တစိတ်တပိုင်းအနေနှင့် ပါဝင် တာဝန်ယူသွားမည်ဖြစ်ပါသည်။

၅. သတ်မှတ်ထားသောထိခိုက်မှုတစ်ခုစီအတွက်စီမံခန့်ခွဲမှုနှင့်စောင့်ကြည့်စစ်ဆေးခြင်း

ဓာတုပစ္စည်း နှင့်အန္တရာယ်ရှိသောပစ္စည်းအန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု

ဤစက်ရုံတွင်ဓာတုပစ္စည်းများအသုံးပြုခြင်းနှင့်ဆက်နွယ်သောလုပ်ဆောင်မှုအနေနှင့် ဆွယ်တာထည်များအားလျှော်ဖွတ်ခြင်းနှင့် ရေဆိုး သန့်စင်ခြင်း လုပ်ငန်းစဉ်များဆောင်ရွက်ရခြင်းကြောင့်၊ စက်ရုံစီမံခန့်ခွဲရေးအဖွဲ့သည် အန္တရာယ်ရှိသောဓာတုပစ္စည်းများစီမံခန့်ခွဲမှု အစီအစဉ် ကို ထည့်သွင်းစဉ်းစားထားရမည်ဖြစ်ပါသည်။

ဓာတုပစ္စည်းများနှင့်ဆက်စပ်သောအန္တရာယ်များမှာ

<u>ကျန်းမာရေးဆိုင်ရာအန္တရာယ်</u>များ – ကျန်းမာရေးဆိုင်ရာဘေးအန္တရာယ်အမျိုးမျိုးကိုစက်ရုံများရှိဓာတုပစ္စည်းများနှင့်ဆက်စပ်လျက်ရှိပါသည်။

<u>ရုပ်ပိုင်းဆိုင်ရာအန္တရာယ်</u>များ – ဓာတုပစ္စည်းများသည်ရုပ်ပိုင်းဆိုင်ရာအန္တရာယ်များအပြင်ကျန်းမာရေးဆိုင်ရာအန္တရာယ်များကိုပါဖြစ်စေနိုင်သည်။ ဓာတ်ငွေ့များတွင်ပိုမိုဖြစ်ပွားနိုင်သောအချက်မှာ – မီးလောင်လွယ်ခြင်း၊ ဓာတ်တိုးနိုင်ခြင်း၊ ရေဓာတ်ပြုခြင်းတို့ဖြစ်၍ ဖြစ်နိုင်ချေရှိသော အန္တရာယ် များကိုတွေ့ရှိပါကသက်ဆိုင်ရာဓာတုပစ္စည်းများကိုသင့်လျော်စွာသိုလှောင်ခြင်းနှင့်အသုံးပြုခြင်းအတွက်အသိပညာသည်အရေးကြီးပါသည်။

<u>အန္တရာယ်ရှိသောပစ္စည်းများသိုလှောင်ခြင်း၊ ကိုင်တွယ်ခြင်းနှင့်သယ်ယူပို့ဆောင်ခြင်း</u>

စက်ရုံရှိအန္တရာယ်ရှိသောပစ္စည်းများ (ဥပမာ – လောင်စာ၊ ဓာတုပစ္စည်းများ) ကိုကိုင်တွယ်ခြင်း၊ သိုလှောင်ခြင်းနှင့်သယ်ယူပို့ဆောင်ခြင်းများအား လိုအပ်သည်ခွင့်ပြုချက်အားလုံး၊ သက်ဆိုင်ရာဥပဒေများနှင့်စည်းမျဉ်းများကိုလိုက်နာ၍ ဆောင်ရွက်ရပါမည်။

ပစ္စည်းအချက်အလက်အချက်အလက်စာရွက်များ(MSDS) သည်စက်ရုံတွင်အသုံးပြုမည့် ရှိသော ဓာတုပစ္စည်းများနှင့်စက်ရုံတွင်သိမ်းဆည်း ထားမည့်နေရာများအတွက် ဆောင်ရန်နှင့်ရှောင်ရန် အချက်များပါဝင်ရေးသားထားခြင်းကြောင့် ကိုင်တွယ်ထိန်းသိမ်းမည့် သက်ဆိုင်ရာ အလုပ်သမား များ အနေနှင့် ပြန်လည်လေ့လာသုံးသပ်နိုင်ပါသည်။

ဓာတုပစ္စည်းများအသုံးပြုသည့်လုပ်ငန်းစဉ်များ ဆောင်ရွက်မည့် စက်ရုံများအနေနှင့် အစိုင်အခဲစွန့်ပစ်ပစ္စည်းနှင့်အန္တရာယ်ရှိသော စွန့်ပစ်ပစ္စည်း စီမံခန့်ခွဲမှု အပြင် ဝန်ထမ်းများအတွက်အသိပညာပေးသင်တန်းများကိုလည်း ပေးရန်လိုအပ်ပါသည်။

လေထုညစ်ညမ်းမှုထိန်းချုပ်ရေးစီမံခန့်ခွဲမှုအစီအစဉ်

စက်ရုံမှလေထုထဲသို့ ထုတ်လွှတ်သောအခိုးအငွေ့များအားလုံးသည် ခွင့်ပြုချက်၊ သက်ဆိုင်သောဥပဒေများနှင့်စည်းမျဉ်းများ၊ ပတ်ဝန်းကျင် ထိန်းသိမ်းရေး ဦးစီးဌာနအစရှိသော အစိုးရဌာနနှင့်ရပ်ရွာလူထုမှလက်ခံနိုင်သည့် ထုတ်လွှတ်မှုစံနှုန်းများနှင့်ကိုက်ညီရမည်။

<u>လေထုထုတ်လွှတ်မှုစီမံခန့်ခွဲမှုအစီအစဉ်</u>

အငွေ့၊ ဖုန်အမှုံအမွှား၊ အငွေ့၊ မီးခိုးငွေ့ စသော ပတ်ဝန်းကျင်ကိုထိခိုက်စေနိုင်သောလေထုညစ်ညမ်းစေသည့်အချက်များကို တိုင်းတာစစ်ဆေးခြင်းမပြုဘဲ ထုတ်လွှတ်ခြင်းမပြုရပါ။

စက်ရုံအနေနှင့် လေထုထဲသို့ထုတ်လွှတ်မှုများမှအောက်ပါ အချက်တို့အားမှတ်တမ်းတင်တိုင်းတာထားရန်လိုအပ်ပါသည်။

ဆာလဖာဒိုင်အောက်ဆိုဒ်, အမှုန်အမွှား၊ တည်ငြိမ်ခြင်းမရှိသောအော်ဂဲနစ်ဒြပ်ပေါင်းများ၊ အခြားသက်ဆိုင်ရာအခိုးအငွေ့သို့မဟုတ်ဓာတ်ငွေ့

ထုတ်လွှတ်မှုအမျိုးအစား၊ ပမာဏနှင့်အရင်းအမြစ်တို့အားလည်းမှတ်တမ်းတင်ထားရန်လိုအပ်ပါသည်။

လေထုထုတ်လွှတ်မှုအရင်းအမြစ်များသည်လေထုညစ်ညမ်းမှုထိန်းချုပ်ရေးကိရိယာများဖြစ်သည့် fume hoods, scrubbers, filtration screens or water baths etc.တို့တပ်ဆင်ထားရပါမည်။

ဆူညံသံစီမံခန့်ခွဲမှုအစီအစဉ်

Spring River Knitting (Myanmar) စက်ရုံ HSE အဖွဲ့သည်မီးစက်ကိုပုံမှန်စစ်ဆေးသည့်အပြင် အသံဆူညံသော စက်ပစ္စည်းများအားအမြဲစစ်ဆေးပြုပြင် ထားပါသည်။ HSE အဖွဲ့သည်အပတ်စဉ် စက်ပစ္စည်းများ၏ ဆူညံမှုအဆင့်ကို 65 dB ထက်ကျော်လွန်ခြင်း ရှိ မရှိ ပုံမှန်တိုင်းတာစစ်ဆေးနေပါသည်။

စွန့်ပစ်ပစ္စည်း စီမံခန့်ခွဲမှုအစီအစဉ်

<u>စက်ရုံ၏အစိုင်အခဲစွန့်ပစ်ပစ္စည်းစီမံခန့်ခွဲမှုအစီအစဉ်</u>

စွန့်ပစ်ပစ္စည်းအမျိုးအစားအားလုံးကိုအစီရင်ခံစာမှ Table 12 တွင်ဖော်ပြထားပြီးငင်းဇယားအရ စက်မှုစွန့်ပစ်အစိုင်အခဲပစ္စည်းများမှာ ဖြတ်စ – ညှပ်စ အထည်အပိုင်းအစများဖြစ်ပြီး အလွန်နည်းပါးပါသည်။ (နေ့စဉ် ၀.၅ ကီလိုဂရမ်နှင့်နှစ်စဉ် (၅.၃၇ တန်) ၅၃၇၀ ကီလိုဂရမ်) သာဖြစ်၍ ၎င်းဖြတ်စ – ညှပ်စ အထည်အပိုင်းအစများကို အပတ်စဉ်ခေါင်းအုံးထုတ်လုပ်ခြင်းကဲ့သို့သောစက်ရုံငယ်အချို့သို့အခမဲ့ထောက်ပံ့ပေးအပ်ခဲ့ပါသည်။

၎င်းစက်ရုံမှ ဤစွန့်ပစ် ဖြတ်စ ညှပ်စ အပိုင်းအစများကို မိမိအစီအစဉ်ဖြင့် စက်ရုံသို့လာရောက်သိမ်းဆည်းပါသည်။

စားသောက်ခန်းနှင့်မီးဖိုချောင်အိမ်သုံးစွန့်ပစ်ပစ္စည်းများကိုစီမံကိန်းစတင်ပြီးကတည်းကထိန်ပင် အမှိုက်ပုံ (စွန့်ပစ်ရာနေရာ) သို့ YCDC နှင့်ညှိနှိုင်းထားချက်အရ အချိန်ဇယားဖြင့် On call ခေါ်ယူပြီး စွန့်ပစ်ပါသည်။

ထုပ်ပိုးသေတ္တာနှင့်ဗီရိုကဲ့သို့သောအခြားအစိုင်အခဲစွန့်ပစ်ပစ္စည်းများသည်တစ်နှစ်လျှင် ၂၆.၃ တန်ခန့်ရှိသည်။ ၎င်းတို့ကိုစနစ်တကျသိုလှောင်ထားပြီး လိုအပ်ပါက ပြန်လည်အသုံးပြုပါသည်။

<u>စက်မှုသုံးစွန့်ပစ်ရေ၊ မိလ္လာ၊ စီးဆင်းရေထိန်းချုပ်စီမံခန့်ခွဲမှု</u>

Spring River Knitting (Myanmar) စက်ရုံတွင် ရေဆိုးသန့်စင်ရေးစနစ်ကို စက်ရုံတည်ထောင်ပြီးကတည်းကတည်ဆောက်ခဲ့ပြီးဖြစ်ပါသည်။ Wastewater Treatment System စနစ်၏လုပ်ဆောင်ချက်နှင့်စီးဆင်းမှုဖြစ်စဉ်ကိုအစီရင်ခံစာမှ 5.2.6 Wastewater Treatment System at Spring River Knitting (Myanmar) Factoryတွင် ဖော်ပြထားပါသည်။

<u>စီးဆင်းရေစီမံခန့်ခွဲမှု</u>

စက်ရုံဝင်းထဲတွင်ရေဆင်းမြောင်းကို စံသတ်မှတ်ချက် (အရှည်၊ အကျယ်၊ အမြင့်) အတိုင်းတည်ဆောက်ထားပြီး ပုဂ္ဂလိကရေမြောင်းနှင့်ဆက်သွယ်စီးဆင်းစေပါသည်။ ပုဂ္ဂလိကရောမြောင်းထဲသို့စီးဝင်ခြင်းမပြုမီ ဇကာဖြင့် စစ်ထုတ်ခြင်းများဆောင်ရွက်ထားပါသည်။

ဖော်ထုတ်ထားသောထိခိုက်မှုတစ်ခုစီအတွက်ပတ် ဝ န်းကျင်ဆိုင်ရာစောင့်ကြည့်လေ့လာရေးစီမံချက်

ဤစက်ရုံအတွက်<u>ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်လေ့လာရေးအဖွဲ့</u>ကိုသက်ဆိုင်ရာအစိုးရဌာနများ၊ အဓိကအားဖြင့်သက်ဆိုင်ရာအစိုးရဌာနများ၊ အထည်ချုပ်စက်ရုံမှ စီမံခန့်ခွဲမှုအဖွဲ့များ၊ သက်ဆိုင်ရာရပ်ရွာရပ်ကွက်မှကိုယ်စားလှယ်များဖြင့်ဖွဲ့စည်းမည်ဖြစ်ပါသည်။

<u>စောင့်ကြည့်ကြီးကြပ်ရေးစနစ်</u> အရည်အသွေးမီအချက်အလက်များ စောင့်ကြည့်လေ့လာခြင်း၏သက်သေ အထောက်အထားများ အပြင်တိုင်ကြားမှုနှင့်ပတ်သက်သည့် မှတ်တမ်းလည်းပါဝင်နိုင်ပြီး ဒါဟာအောက်ပါနှင့်နည်းလမ်းများ၏ပူးပေါင်းဆောင်ရွက်မှုဖြစ်ပါသည်။ ၎င်းတို့တွင်

လေထုညစ်ညမ်းမှု၊ အစိုင်အခဲစွန့်ပစ်ပစ္စည်းဖယ်ရှားရေးစီမံခန့်ခွဲမှုနှင့်ကြိမ်နှုန်း၊ မီးသတ်ပစ္စည်းကိရိယာများ၊ အရေးပေါ်တုန့်ပြန်မှု ၊ အာရုံခံကိရိယာ များနှင့် PPE များအားစစ်ဆေးခြင်းနှင့်ပံ့ပိုးပေးခြင်း၊ ဤလုပ်ငန်းများအတွက်လိုအပ်သော ရန်ပုံငွေ(ဘတ်ဂျက်)နှင့် HSE အဖွဲ့၏စီမံခန့်ခွဲမှု စသည်တို့ပါဝင်ပါသည်။

<u>စောင့်ကြည့်ကြီးကြပ်ခြင်းနှင့်လမ်းညွှန်မှုစံချိန်စံညွှန်း</u> – လေထုထုတ်လွှတ်ခြင်း၊ စွန့်ပစ်ရေ၊ အစိုင်အခဲစွန့်ပစ်ပစ္စည်းနှင့်အရင်းအမြစ်နှင့်စွမ်းအင်သုံးစွဲမှုတို့ကို IFC နှင့်ကမ္ဘာ့ဘဏ် ၊ပတ်ဝန်းကျင်ထိန်းသိမ်းခြင်းဦးစီးဌာန၊ ILO တို့၏ပတ်ဝန်းကျင်ဆိုင်ရာ၊ ကျန်းမာရေးဆိုင်ရာ ဘေးကင်းလုံခြုံရေးဆိုင်ရာလမ်းညွှန်ချက်များစံချိန်စံညွှန်းများဖြင့်စောင့်ကြည့်စစ်ဆေးရန် အဆိုပြုထားပါသည်။

စက်ရုံလည်ပတ်မှုနှင့်ထုတ်လုပ်မှုလုပ်ငန်းစဉ်အတွက်စီမံခန့်ခွဲမှုအစီအစဉ်

<u>အင်ဂျင်နီယာစီမံခန့်ခွဲမှုအစီအစဉ်</u>တွင်လျှပ်စစ်ဒီဇိုင်း၊ ရေပေးဝေရေးနှင့်ရေနုတ်မြောင်းဒီဇိုင်း၊ လေဝင်လေထွက်ဒီဇိုင်း၊ ဖုန်မှုံစုတ်ယူခြင်းဒီဇိုင်း၊တို့

ပါဝင်ပါသည်။

စက်ပိုင်းဆိုင်ရာထိခိုက်ဒဏ်ရာရမှုကာကွယ်ခြင်းနှင့်ကျန်းမာရေးစီမံခန့်ခွဲမှုအစီအစဉ်တွင် စက်ပစ္စည်းအန္တရာယ်ကင်းရှင်းရေးစီမံကိန်း၊ ကျန်းမာရေး စစ်ဆေးခြင်းစီမံကိန်း၊ လျှပ်စစ်ဘေးအန္တရာယ်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့်မီးဘေးအန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှုအစီအစဉ်တို့ပါဝင်ပါသည်။

သိုလှောင်ခြင်းနှင့်နေရာထိုင်ခင်းထိန်းသိမ်းရေးစီမံခန့်ခွဲမှုအစီအစဉ်

သိုလှောင်ရုံအားလုံးတွင် အသိပေးအမှတ်အသားတံဆိပ်များ ပြုလုပ်ထားပြီးမီးသတ်ပစ္စည်းကိရိယာများ၊ လေဝင်လေထွက်ကောင်းမွန်သော အလင်းရောင် လုံလောက်သည့် သိုလှောင်ရာနေရာများကိုစီစဉ်ထားရှိပြီး ပစ္စည်းလုံခြုံမှုဆိုင်ရာအချက်အလက်စာရွက်(MSDS)နှင့်တကွ ကိုင်တွယ်သည့် လုပ်ထုံးလုပ်နည်းများဖြင့်အထူးသိုလှောင်သည့်နေရာကိုညွှန်ပြထားသည့်သတိပေးဆိုင်းဘုတ်များထားရှိပါသည်။ MSDS စာရွက်များကိုမြန်မာဘာသာဖြင့်ဖတ်ရှုနိုင်ပါသည်။ စက်ရုံမှအလုပ်သမားများသည်အန္တရာယ်ရှိသောပစ္စည်းများ၊ မီး၊ လောင်စာသိုလှောင်ရာမှ ပေါက်ကွဲခြင်း နှင့်မီးစက်များ အတွက်အရေးပေါ်တုံ့ပြန်မှုအစီအစဉ်ကိုလည်းလေ့ကျင့်ထားပြီးဖြစ်ပါသည်။

ကောင်းမွန်သောနေရာထိုင်ခင်းထိန်းသိမ်းခြင်းဆိုသည်မှာစက်ရုံစီမံခန့်ခွဲမှုသည်သူတို့၏ထုတ်လုပ်မှုကိုတိုးတက်စေရန်၊ လုပ်ငန်းခွင်ဘေးကင်းလုံခြုံမှုရှိစေရန်၊ ကုန်ကျစရိတ်သက်သာစေရန်နှင့်စက်ရုံလည်ပတ်မှု၏ပတ်ဝန်းကျင်ဆိုင်ရာထိခိုက်မှုကို လျှော့ချရန် လုပ်ဆောင်နိုင်သည့် အသိစိတ်ဓာတ် အပေါ် အခြေခံ၍ လက်တွေ့ကျသောနည်းလမ်းများဖြင့်ထိန်းသိမ်းခြင်းဖြစ်ပါသည်။

လူ့စွမ်းအားအရင်းအမြစ်နှင့်စီမံခန့်ခွဲမှုအစီအစဉ် – လုပ်သားအင်အားဖြင့်ထုတ်ကုန်ထုတ်လုပ်ငန်း၏မူဝါဒအရ H.R ဌာနသည် ဤစက်ရုံရှိ အလုပ်သမားများအတွက်မူဝါဒများနှင့် လုပ်ထုံးလုပ်နည်း များ ကိုစီစဉ်ကျင့်သုံးနေပါသည်။ 5.4.5 Human Resources and Management Plan

အရေးပေါ်စီမံခန့်ခွဲမှုအစီအစဉ် Spring River Kniting (Myanmar) သည် မီးဘေးအရေးပေါ်၊ လုံခြုံရေးစီမံခန့်ခွဲမှုအစီအစဉ်၊ ကျန်းမာရေးစီမံခန့်ခွဲမှု၊ ဘေးကင်းလုံခြုံရေး၊ မီးဘေးလုံခြုံရေး စသည့် အရေးပေါ်စီမံခန့်ခွဲမှု အစီအစဉ်ကိုရေးဆွဲပြီး လက်တွေ့ လိုက်နာဆောင်ရွက် နေပါသည်။

သဘာဝပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုနှင့်လျှော့ချရေး၏အကောင်အထည်ဖော်မှု

စက်မှုကဏ္ဍ၏တွင်သဘာဝပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်၏ဒီဇိုင်းမှ ထိရောက်သောဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့်ဆုံးရှုံးမှုစီမံခန့်ခွဲမှု အစီအစဉ် များ တွင်အဓိကကျသောအောက်ပါအချက်များပါဝင်ပါသည်။

- လုပ်ငန်းစဉ်ကိုဒီဇိုင်းဆွဲခြင်း၊ တည်ဆောက်ခြင်းနှင့်လည်ပတ်ခြင်း
- စက်ရုံမန်နေဂျာ၏စွမ်းဆောင်ရည်ဖြင့်ထိန်းချုပ်ခြင်း
- ရပ်ရွာလူထု၏အသိအမြင်နှင့်အရေးပေါ်တုံ့ပြန်မှုဆောင်ရွက်ခြင်း
- OSHA 1910 (လုပ်ငန်းခွင်ဘေးကင်းလုံခြုံမှုနှင့်ကျန်းမာရေးစီမံခန့်ခွဲမှု)
- ISO 9000 (အပြည်ပြည်ဆိုင်ရာစံသတ်မှတ်ခြင်းဆိုင်ရာအဖွဲ့အစည်း)
- ISO 140001 နှင့် IFC / World Bank Standard)

သဘာဝပတ်ဝန်းကျင်စောင့်ကြည့်လေ့လာရေးအစီအစဉ် (EMoP)

ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်စစ်ဆေးမှုအစီအစဉ်တွင်စောင့်ကြည့်ရမည့်ပတ်ဝန်းကျင်ဆိုင်ရာအချက်အလက်များ၊ တည်နေရာ၊ အချိန်နှင့်အကြိမ်ရေများပါဝင်သော EMoP သည် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (EMP) တွင်ပါဝင်သော ထိခိုက်မှုလျှော့ပါးစေရေး နည်းလမ်းများအား အကောင်အထည်ဖော်မှုကိုစောင့်ကြည့်ရန်အသုံးဝင်သောကိရိယာတစ်ခုဖြစ်ပါသည်။

ပတ်ဝန်းကျင်အပေါ်ထိခိုက်မှုကိုထိန်းချုပ်ရန်ဆောင်ရွက်ချက်များအကောင်အထည်ဖော်မှုး

အကျိုးခံစားခွင့်တိုးမြှင့်ခြင်းနှင့်ဆိုးကျိုးသက်ရောက်မှုများလျော့ပါးသက်သာစေမည့်နည်းလမ်းများကိုထိရောက်စွာအကောင်အထည်ဖော်ခြင်းသည်စီမံကိန်းမှမျှော်လင့်ထားသောအကျိုးကျေးဇူးများကိုပိုမိုကောင်းမွန်စေပြီးစီမံကိန်းမှဆိုးရွားသောသက်ရောက်မှုများကိုရှောင်ရှားနိုင်သည်။ ထိခိုက်မှုလျှော့ချရေးအစီအမံများသည်စီမံကိန်းလုပ်ဆောင်မှုများကြောင့်ဖြစ်ပေါ်လာနိုင်သောဆိုးကျိုးများကိုလျှော့ချခြင်း၊ရှောင်ရှားခြင်း (သို့) ဖယ်ရှားပေးခြင်းများကိုလုပ်ဆောင်ရန်အထောက်အကူပြုနေပါသည်။

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုစနစ် (EMS)

သဘာဝပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုစနစ်(EMS) သည်နိုင်ငံတကာစံချိန်စံညွှန်း (ISO 14001) ကိုအခြေခံပြီးပတ်ဝန်းကျင်ထိန်းသိမ်းမှုကို စက်ရုံနေ့စဉ်လုပ်ရှားမှု၏ တစ်စိတ်တစ်ပိုင်းပင်ဖြစ်ပါသည်။

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုစနစ်၏အကောင်အထည်ဖော်မှု

EMS အတွက်အဖွဲ့အစည်းအတွက် လမ်းညွှန်နှင့်စာရွက်စာတမ်းများမှာ ၎င်းတို့၏ပတ်ဝန်းကျင်ဆိုင်ရာတာဝန်များကိုစီမံရန်ဖြစ်ပါသည်။ စက်ရုံအတွင်းရှိ လက်တွေ့ကျန်းမာရေးနှင့်ဘေးကင်းရေး၊ အလုပ်သမားများနှင့်ပတ်ဝန်းကျင်အပေါ်အကျိုး သက်ရောက်မှုများကို

အဖွဲ့အစည်းကစီမံခန့်ခွဲပါသည်။ အမှန်အားဖြင့် EMS ဆိုသည်မှာ Plan, Do, Check, Act (စီစဉ်ခြင်း၊ ဆောင်ရွက်ခြင်း၊ စစ်ဆေးခြင်း၊ အရေးယူဆောင်ရွက်ခြင်း တို့)အပေါ်အခြေခံပြီးလုပ်ထုံးလုပ်နည်းတစ်ခုဖြစ်ပါသည်။

အန္တရာယ်စီမံခန့်ခွဲမှုစနစ် (Risk Management System)

အန္တရာယ်စီမံခန့်ခွဲမှုစနစ်သည်အန္တရာယ်ကိုနားလည်ခြင်း၊ အန္တရာယ်ကိုအကဲဖြတ်ခြင်းနှင့်ထိရောက်သောအန္တရာယ်ထိန်းချုပ်မှုများကို အကောင်အထည်ဖော်ခြင်းနှင့်ပတ်သက်သည့်ဆုံးဖြတ်ချက်များချမှတ်ခြင်းတို့၏ ပြီးပြည့်စုံသော လုပ်ငန်းစဉ်တစ်ခုဖြစ်ပါသည်။ စွန့်စားမှုစီမံခန့်ခွဲမှုသည် ဤအောက်ပါမရှိမဖြစ်လိုအပ်သောအဆင့်များကိုပါဝင်ပါသည်။

အန္တရာယ်စောင့်ကြည့်လေ့လာခြင်း၊ အန္တရာယ်ကိုဖော်ထုတ်ခြင်း၊ အန္တရာယ်ကို ဆန်းစစ်ခြင်း၊ အန္တရာယ်ကိုအကဲဖြတ်ခြင်း၊ နှင့် အန္တရာယ်ထိန်းချုပ်ရေး

စောင့်ကြည့်ခြင်းနှင့်လမ်းညွှန်စံချိန်စံညွှန်း

စက်ရုံစီမံခန့်ခွဲရေးအဖွဲ့သည် IFC နှင့်ကမ္ဘာ့ဘဏ်၊ ECD(ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန)၊ ILO တို့၏ပတ်ဝန်းကျင်၊ ကျန်းမာရေးနှင့်ဘေးကင်းလုံခြုံရေး လမ်းညွှန်ချက်များတွင်ဖော်ပြထားသည့်စံချိန်စံညွှန်းများကို ၎င်းတို့၏စက်ရုံအတွက်လမ်းညွှန်ချက်များအဖြစ်လိုက်နာဆောင်ရွက်ရန် အဆိုပြုထားပါသည်။

အလုပ်အကိုင်ကျန်းမာရေးနှင့်ဘေးကင်းလုံခြုံရေးစီမံခန့်ခွဲမှု အစီအစဉ်

စက်ရုံဝင်းအတွင်းဖုန်မှုန့်များထွက်ရှိမှု၊ ဆူညံမှုနှင့်အခြားမလိုလားအပ်သော လုပ်ဆောင်မှုများကြောင့် အလုပ်သမားများ၏ကျန်းမာရေးအပေါ် ဆိုးကျိုး သက်ရောက်ခြင်းမှ ရှောင်ရှားရန်ဖြစ်ပါသည်။

စက်ရုံမှအလုပ်သမားများ၏ ကျန်းမာရေးလုံခြုံမှုအတွက်မျက်နှာအကာများလည်းမှ ဖုန်မှုံ့များဝင်ရောက်ခြင်းကြောင့် အဆုတ်ရောဂါများနှင့် အခြားအသက်ရှူလမ်းကြောင်းဆိုင်ရာရောဂါများဖြစ်ပွားမှုကိုလျှော့ချခြင်းတွင်အကူအညီရရှိသကဲ့သို့ Particle Matters များ ကိုရှူရှိုက်မိခြင်း မဖြစ်စေရန်အတွက်လည်းကူညီပါသည်။ ပုံမှန်ကျန်းမာရေးစောင့်ကြည့်စစ်ဆေးမှု (တစ်နှစ်လျှင်တစ်ကြိမ်) ကိုလည်းပြုလုပ်ခဲ့ပြီးဖြစ်ပါသည်။

ကျန်းမာရေးနှင့်ဘေးကင်းရေး၊ အရေးပေါ်နှင့်လူမှုရေး ပူးပေါင်းအစီအစဉ်

စီမံကိန်းရှိလုပ်သားအားလုံးသည်သူတို့၏အလုပ်နှင့်သက်ဆိုင်သောလုံလောက်သောကိုယ်ရေးကိုယ်တာအကာအကွယ်ပစ္စည်းကိရိယာများကို ဝတ်ဆင်ရန်လိုအပ်ပါသည်။
ကြီးကြပ်ရေးမှူးများကိုသူတို့၏ဌာနရှိသူတို့၏အဖွဲ့သားများ၏ကျန်းမာရေးနှင့်လုံခြုံမှုကိုစောင့်ကြည့်ရန်လေ့ကျင့်သင်ကြားထားပါသည်။
ကျန်းမာရေးနှင့်ဘေးကင်းရေးနှင့်သက်ဆိုင်သည့်သတင်းအချက်အလက်များကိုကြေညာချက်သင်ပုန်းတွင်လည်းဖော်ပြထားပါသည်။

မီးသတ်ဌာနမှညွှန်ကြားထားသည့်အတိုင်းစက်ရုံတွင်မီးဘေးကာကွယ်ရေးအစီအမံများနှင့်စနစ်တပ်ဆင်ထားပြီးမီးသတ်ကမီးငြိမ်းသတ်ရန် အတွက်လုံလောက်သောရေကိုသိုလှောင်ထားရှိပါသည်။ အရေးပေါ်မီးမတော်တဆမှုအတွက်ဖြေရှင်းဆောင်ရွက်မှုပြုလုပ်ရန်စက်ရုံမှ ဝန်ထမ်းများစွာကိုတာဝန်ပေးအပ်ထားပါသည်။

လူမှုရေးမူဝါဒ

စက်ရုံစီမံခန့်ခွဲမှုအဖွဲ့အနေနှင့် အလုပ်သမားများ၏အကျိုးကိုအစဉ်အမြဲဂရုစိုက်ဆောင်ရွက်နေပါသည်။ လူမှုရေးနှင့်ကျား၊ မတန်းတူညီမျှမှုကို စီမံကိန်းတွင် အပေးအယူမပါဘဲဆောင်ရွက်နေပါသည်။ မည်သည့်ပုံစံကိုမဆိုခွဲခြားဆက်ဆံခြင်းကိုတားမြစ်ထားပါသည်။ မျှတသောလုပ်ငန်းခွင်ပတ်ဝန်းကျင်ကိုအာမခံနိုင်ရန်အလုပ်သမားများသည်အလုပ်သမားသမဂ္ဂများဖွဲ့စည်းခြင်းနှင့် စီမံခန့်ခွဲမှုဆိုင်ရာပြဿနာများကိုတင်ပြခြင်းများ ပြုလုပ် နိုင်ပါသည်။

အဆောက်အဦးဆောက်လုပ်ရေးနှင့်ဆက်စပ်သောမီးဘေးနှင့်အန္တရာယ်ကင်းရှင်းရေးဆိုင်ရာပြဿနာများ

အရေးပေါ်အခြေအနေတွင်အလုပ်သမားအားလုံးသည်သူတို့၏လုပ်ငန်းခွင်နေရာများကိုလျင်မြန်စွာနှင့်အလွယ်တကူပြောင်းရွှေ့နိုင်ပြီးအဆောက်အအုံမှထွက်ခွာရန်လိုအပ်ပါသည်။ အဆောက်အဦးနေရာတွင် လိုအပ်သောအခန်းများဆောက်လုပ်ခြင်းနှင့်ပစ္စည်းကိရိယာများ၊ အသုံးအဆောင်များ၊ ပရိဘောဂများစသည်တို့ကိုမီးဘေးဆိုင်ရာ သတ်မှတ်ချက်စံချိန်စံနှုန်းများနှင့်အညီတိကျစွာလိုက်နာ၍နေရာချထားရမည်ဖြစ်ပါသည်။

ဤစက်ရုံတည်ဆောက်ခြင်းသည်လုံခြုံရေး၊ မီးဘေးနှင့်အရေးပေါ်စံချိန်စံညွှန်းများနှင့်ကိုက်ညီပါသည်။(ဇလျှင်၊ လေပြင်း)

စက်ရုံတည်ဆောက်မှုပုံစံအရ အဆောက်အအုံတစ်ထပ် ကိုဆောက်လုပ်ထားပြီး၊ ဤအဆောက်အဦး နှင့်တွဲဖက်ထားသောအခန်း (အဆောက်အဦး)များမှာ ကုန်လှောင်ရုံ၊ မီးစက်ခန်းနှင့်လောင်စာသိုလှောင်ခြင်းတို့ဖြစ်ပြီး အစိုင်အခဲစွန့်ပစ်ပစ္စည်းဧရိယာကိုသတ်မှတ်ထားသော နေရာတွင်သီးခြားပြင်ဆင်ထားပါသည်။

Spring River Knitting (Myanmar) ကျန်းမာရေး၊ ဘေးကင်းလုံခြုံရေးနှင့် ပတ်ဝန်းကျင် အဖွဲ့ HSE Team

Spring River Knitting (Myanmar) လီမိတက်သည် ၂၀၁၉ ခုနှစ်တွင်မီးသတ်အဖွဲ့ကိုဖွဲ့စည်းခဲ့ပြီး၊ အထူးသဖြင့်အရေးပေါ်ကြိုတင်ပြင်ဆင်ခြင်း အစီအစဉ်အတွက်အပတ်စဉ်လုံခြုံရေးဆိုင်ရာအစည်းအဝေးများကိုပြုလုပ်ခဲ့ပါသည်။

ဤအဖွဲ့သည်မီးဘေးကိစ္စသာမကလုပ်ငန်းခွင်ဘေးအန္တရာယ်ကင်းရှင်းရေး၊ ကျန်းမာရေးနှင့်စက်ရုံပတ်ဝန်းကျင်ဆိုင်ရာလှုပ်ရှားမှုများ (ထိခိုက်မှု

လျှော့ချရေး၊ စောင့်ကြည့်စစ်ဆေးခြင်းစသဖြင့်) အတွက်တာဝန်ရှိပါသည်။

၆. လူထုညှိနှိုင်းတိုင်ပင်မှုအစည်းအဝေးများနှင့်ရလဒ်များ

Spring River Knitting (Myanmar) စက်ရုံအတွက်ပထမအကြိမ် စီမံကိန်းနှင့် သက်ဆိုင်သည့် အများပြည်သူနှင့်ဆွေးနွေးညှိနှိုင်းပွဲကို ၂၁.၁၂.၂၀၁၈ ရက် နေ့တွင် ရွှေလင်ပန်းစက်မှုဇုန် အမှတ် ၂၆၃၊ ၂၆၄၊ ၂၆၅) မင်းကြီးမဟာ မင်းခေါင်လမ်းနှင့် ဝန်ဆောင်မှု လမ်းဒေါင့် ရှိ Jinli Knitting Factory ၏ အစည်းအဝေးခန်းမတွင် Jinli Knitting Factory နှင့်ပူးပေါင်းကာ ပြုလုပ်ခဲ့ပါသည်။ Spring River Knitting (Myanmar) ၏ မန်နေဂျင်းဒါရိုက်တာမှာ Jinli Knitting Factory ၏ အုပ်ချုပ်မှုဒါရိုက်တာ တစ်ဦးလည်းဖြစ်သောကြောင့်ပူးပေါင်းဆောင်ရွက်ခဲ့ခြင်း ဖြစ်ပါသည်။

ထိုအစည်းအဝေးကို AMK and Associate Environmental Consulting Limited ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ဆောင်မှုလီမိတက်၊ Jinli Knitting Factory စီမံခန့်ခွဲမှုအဖွဲ့ နှင့် Spring River Knitting (Myanmar) (ယခင် Fengyi Knitting Myanmar) တို့မှ စီစဉ်ဆောင်ရွက်ခဲ့ခြင်းဖြစ်ပါသည်။ ၎င်းအစည်းအဝေးအားတက်ရောက်ရန် လှိုင်သာယာမြို့နယ်အထွေထွေအုပ်ချုပ်ရေး ဦး စီးဌာန၊ စက်မှုဇုန် ဖွံ့ဖြိုးရေးတိုးတက်ရေးကော်မတီတို့အားဖိတ်ကြားခဲ့ပြီး စုစုပေါင်း ၃၂ ဦး တက်ရောက်ခဲ့ပြီးအကြံပြုချက်များပေးခဲ့ပါသည်။

<u>၆.၃.၂၀၂၀</u> ရက်နေ့နံနက် ၁၀၀၀ နာရီ တွင် Spring River Knitting (Myanmar) အထည်ချုပ်စက်ရုံအတွက်ဒုတိယအကြိမ် စီမံကိန်းနှင့် သက်ဆိုင်သည့် အများပြည်သူနှင့်ဆွေးနွေးညှိနှိုင်းပွဲ ကို Spring River Knitting (Myanmar) စက်ရုံအစည်းအဝေးခန်းမ၌ပြုလုပ်ခဲ့ပါသည်။

ဤအစည်းအဝေးကို Joey AMK Associated EIA Consulting Group နှင့်စက်ရုံမှစီမံခန့်ခွဲမှုအဖွဲ့တို့ကစီစဉ်ခဲ့ပါသည်။

သက်ဆိုင်ရာအစိုးရဌာနများဖြစ်သောလှိုင်သာယာမြို့နယ်အထွေထွေအုပ်ချုပ်ရေးဦးစီးဌာန၊ မီးသတ်ဌာန၊ မြို့နယ်စည်ပင်သာယာ၊ ECD၊ YCDC၊ စက်ရုံအနီးအနားရှိ တခြားစက်ရုံများ နှင့်ရွှေလင်ပန်း စက်မှုဇုန် မှတာဝန်ရှိသူများကို အစည်းအဝေးကျင်းပခြင်းမပြုမီ ၅ ရက်ကြို၍ ဖိတ်ကြားစာ နှင့်တကွ ဖိတ်ကြားခဲ့ပါသည်။ စက်ရုံရှေ့အပြင်ဘက်ရှိ ကြော်ငြာသင်ပုန်းတွင်လည်း ဖော်ပြထားခဲ့ပါသည်။ အစည်းအဝေးသို့ သက်ဆိုင်ရာ အုပ်ချုပ်ရေးရုံးများမှအရာရှိများနှင့်တာဝန်ရှိသူများ၊ အနီးပတ်ဝန်းကျင်မှ စက်ရုံများမှတာဝန်ရှိသူများနှင့် စက်ရုံမှကြီးကြပ်သူဝန်ထမ်းများ စုစုပေါင်း ၃၀ ဦးခန့် တက်ရောက်ခဲ့ကြပါသည်။

အစည်းအဝေးအစီအစဉ်အရ၊ Spring River Knitting (Myanmar) Factory's ကုမ္ပဏီလီမိတက်မှ <u>မန်နေဂျင်းဒါရိုက်တာ Mr. Tian Liaing Ming</u> ်မှ ကြိုဆိုနုတ်ခွန်းဆက်စကား ပြောကြားရာတွင် စက်ရုံမှာ အဓိအားဖြင့် သိုးမွေးဆွယ်တာအဝတ်အထည် များကို ထုတ်လုပ်ပြီး နိုင်ငံခြားသို့တင်ပို့သည့် လုပ်ငန်းများကိုလုပ်ဆောင်ကြောင်း၊ မှာယူသူမှ CMP စနစ်ဖြင့် ကုန်ကြမ်းများတင်သွင်းပြီး၊ စက်ရုံတွင်ချုပ်လုပ်/ ထုတ်လုပ် ကာ၊ နိုင်ငံခြားသို့ပြန်လည် တင်ပို့ခြင်း ဖြစ်ကြောင်း၊ စက်ရုံမှာ <u>၁၄.၉.၂၀၁၈</u> တွင် စီးပွားဖြစ်စတင်လည်ပတ်ခဲ့ကြောင်း၊ စက်ရုံမှာ အလျား ၂၄၀ ပေ × ၂၀၀ ပေ၊ အလျား ၂၄၀ ပေ × ၁၀၀ ပေ တစ်ထပ်အဆောက်အဦး ၂ လုံးဖြစ်ကြောင်း၊ အဆောက်အဦး ဆောက်လုပ်ခြင်းအတွက် YCDC အင်ဂျင်နီယာဌာန (အဆောက်အအုံ)၏ ခွင့်ပြုမိန့် ကို ၄.၁၁.၂၀၁၆ နေ တွင်ရရှိခဲ့ပြီးဖြစ်ကြောင်း၊ လက်ရှိအားဖြင့် ဝန်ထမ်း ၃၂၀ ဦးအား EC Contract ချုပ်ပြီးခန့်ထားခဲ့ပြီး ဖြစ်ကြောင်း၊ နိုင်ငံခြားဝန်ထမ်း ၃၅ ဦးရှိကြောင်းပြောကြားပါသည်။ EMP အစီရင်ခံစာအား ရေးသားပြုစုရန် AMK and Associate Envionmental Consulting Limited နှင့် ဆောင်ရွက် ခြင်းဖြစ်ပါကြောင်း၊ ပတ်ဝန်းကျင်စီမံခန့်ခွဲရေးအစီအစဉ်နှင့်ပတ်သက်၍ AMK and Associate Envionmental Consulting Limited မှ ဦးအောင်မြတ်ကျော်မှ ရှင်းလင်းမည်ဖြစ်ကြောင်း၊ စက်ရုံတည်ထောင်ခြင်းနှင့် ပတ်သက်၍ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အရ ဆက်စပ်ပတ်သက်သူများ အစည်းအဝေးကျင်းပခဲ့ခြင်းအတွက် လာရောက်သူများကို ကျေးဇူး တင်ရှိကြောင်း စကားပြန်မှ တဆင့်ပြောကြားခဲ့ပါသည်။

အစီအစဉ်အရ AMK Associate EIA Consulting Limited မှ Consultant <u>ဦးအောင်မြတ်ကျော်</u>မှ Spring River Knitting (Myanmar) Factory's မှ ၏ သိုးမွေးထည် စက်ရုံ တည်ထောင်ခြင်း အတွက် သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် များအပေါ်အကျိုးသက်ရောက်မှုများကို သုံးသပ် ဆင်ခြင် ခြင်းနှင့် ပတ်သက်၍ EMP လုပ်ငန်းစဉ်များမှ သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုရေးဆိုင်ရာစီမံခန့်ခွဲမှု အစီအစဉ် Environmental and Social Management Plan အရ စက်ရုံစီမံကိန်း အကောင် အထည်ဖော်မည့် ကုမ္ပဏီသည် စီမံကိန်း လုပ်ငန်းအားလုံးတွင် ထိခိုက်မှု လျှော့ချရေး နည်းလမ်းများအား လိုက်နာမှုနှင့် လုပ်ငန်းများ ထိရောက်မှုတို့ကို လေ့လာစောင့်ကြည့် ရန်နှင့် တည်ဆဲ ဥပဒေ ပြဌာန်းချက်များအရ လိုအပ်ချက်များ၊ စက်ရုံစီမံကိန်းလုပ်ငန်း၏ ဘေးကင်းလုံခြုံရေးနှင့်သဘာဝပတ်ဝန်းကျင်ဥပဒေ၊မူဝါဒများအား စက်ရုံတည်ထောင်ခြင်းအတွက် စက်ရုံကို အကြမ်းဖျင်း လေ့လာမှု များမှ ညစ်ညမ်းမှုတွင် လေထု၊ ရေထု၊ စွန့်ပစ်ပစ္စည်း၊ ဆူညံသံနှင့် တုန်ခါမှု မြေသားနိမ့်ဆင်းမှု အနံအသက်ဆိုးဝါးမှု မြေဆီ ညစ်ညမ်းမှု၊ အောက်ခြေအနည်ထိုင်မှုများကြောင့် ထိခိုက်နိုင်မှု အခြေအနေ၊ သဘာဝပတ်ဝန်းကျင်အနေအထားမှ သစ်တောကြိုးဝိုင်းမြေ၊ ဂေဟစနစ်နှင့်ရှားပါးတန်ဘိုးကြီးမျိုးစိတ်များ၊ မြစ်ချောင်းများ၊ ဘူမိဗေဒသွင်ပြင် လက္ခဏာများအား ထိခိုက်နိုင်မှု အခြေအနေ၊ လူမှုဘဝဝန်းကျင် ထူထောင်ခြင်းမှ ပြန်လည်ထူထောင်ခြင်း၊ ဆင်းရဲနွမ်းပါးပြည်သူများ၊ တိုင်းရင်းသား သွေးချင်းများ၊ လုပ်သားများ ၏နေထိုင်မှုဘဝ၊ မြေအသုံးချခြင်းနှင့် ဒေသ အရင်းအမြစ်များ၊ ရေသုံးစွဲမှု၊ လက်ရှိလူနေမှုဘဝနှင့် အလုပ်အကိုင်အခွင့်အလမ်းများ၊ အလုပ်အကိုင် အခွင့်အလန်း ခွဲဝေမှု၊ အကျိုးအမြတ်ထိခိုက်ဆုံးရှုံးမှု၊ လူမှုဘဝအခြေခံအဆောက်အဦးများနှင့် ဒေသခံများ၏ ဆန့်ကျင်မှု အခြေအနေစသည် များ၊ စီမံကိန်းကြောင့်သက်ရောက်မှုများနှင့်အရေးယူဆောင်ရွက်နိုင်ရန်နည်းလမ်းများ၊ လျော့ပါးစေရေးနည်းလမ်းများ အပြင် ဖြစ်နိုင်ဘွယ်ရှိသော စွန့်ပစ်ရေနှင့် ပစ္စည်းများ၏သက်ရောက်မှု၊ မြေထုပတ်ဝန်းကျင်အပေါ်သက်ရောက်မှု၊ လေထုပတ်ဝန်းကျင်အပေါ်သက်ရောက်မှု၊ ရေထု ပတ်ဝန်း ကျင် အပေါ်သက်ရောက်မှု၊ စက်ရုံလည်ပတ်ရာမှဖြစ်ပေါ် လာသော ဆူညံသံနှင့် တုန်ခါမှုခြင်းများ၏သက်ရောက်မှု၊ လုပ်ငန်းခွင်အတွင်း

အလုပ်သမားများ မတော်တဆ ထိခိုက်ဒဏ်ရရှိခြင်း များ၏သက်ရောက်မှု၊ သဘာဝဘေးအန္တရာယ်များ၏သက်ရောက်မှု အစရှိသည်တို့အားဖော်ပြပြီးလျှော့ပါးစေသောနည်းလမ်းများကို ရှင်းလင်းခဲ့သည့်အပြင်

- စီမံကိန်းအကြောင်းအရာနှင့်ဥပဒေလိုက်နာမှုများ
- စက်ရုံ၏ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး၊ လူမှုရေးနှင့် ကျန်းမာရေးဆိုင်ရာမူဝါဒ
- စက်ရုံ၏ အကြောင်းအရာများ၊ စက်ရုံ၏ လုပ်ငန်းအဆင့်ဆင့်လုပ်ဆောင်မှု
- စက်ရုံလုပ်ငန်းနှင့်ပတ်သက်သည့်နိုင်ငံတော်မှချမှတ်ထားသည့်ဥပဒေ၊မူဝါဒ၊လုပ်ထုံးလုပ်နည်းနှင့်အစိုးရဌာနများမှ ညွှန်ကြားချက်များ
- စက်ရုံဖွဲ့စည်းပုံ၊ စက်ရုံ၌ရှိရမည့်လိုင်စင်များ၊ စက်ရုံ၏ထုတ်လုပ်နှုန်း၊လိုအပ်သောရေ၊ လောင်စာဆီနှင့် လျှပ်စစ်ဓာတ်အား လိုအပ် ချက်
- စက်ရုံ၏ စည်းကမ်း၊ ဆိုင်းဘုတ်၊ သန့်ရှင်းရေးပစ္စည်း၊ ကိုယ်ရည်သုံးအန္တရာယ်ကာကွယ်ရေးပစ္စည်းများ
- စီမံကိန်းလုပ်ငန်းစဉ်နှင့်ဆက်နွယ်သော သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းမှု၊ ဥပဒေလုပ်ထုံးလုပ်နည်း၊ ထုတ်လွှင့်မှုစံနှုန်း၊ သတ်မှတ်ချက်နှင့်အခြားသောအစိုးရဌာနများ၏ဥပဒေညွှန်ကြားချက်များအကြောင်းကို ဆွေးနွေးရှင်းလင်းပြသခဲ့ပါသည်။

ဆက်လက်၍ အစည်းအဝေးတက်ရောက်သူများမှ ပြန်လည်ဆွေးနွေးရာတွင်

<u>လှိုင်သာယာမြို့နယ်စည်ပင်သာယာရေးဌာနမှ Supervisor of YCD ဦးကျော်ကျော်မှ</u> ရှင်းလင်းတင်ပြချက်များအား ကောင်းစွာသဘောပေါက်နားလည်ပါကြောင်း၊ သို့သော် ဘွိုင်လာနှင့်ပတ်သက်၍ အသေးစိတ်သိရှိလိုသည်မှာ လေထုညစ်ညမ်းမှုအတွက် ဆောင်ရွက်ထားမှု အခြေအနေ၊ ဆိုက်ကလုံးခံ၍ အငွေ့များထုတ်လွှတ်သည့်စနစ်အသုံးပြုမှုရှိမရှိ တို့ကို သိရှိလိုကြောင်း မေးမြန်းရာ

<u>စက်ရုံစီမံခန့်ခွဲရေးအဖွဲ့မှ</u> ဘွိုင်လာတွင် ဆိုင်ကလုံးစနစ်ကို အသုံးပြုသည့်အပြင် စုတ်ယူခြင်းနှင့် အစစ်များကို အသုံးပြုပြီး လူထုညစ်ညမ်းမှုကို ကာကွယ်နေပြီဖြစ်ကြောင်းပြန်လည်ရှင်းလင်းခဲ့ပါသည်။ ၎င်းအပြင် ရေဆိုးသန့်စင်ခြင်းစနစ်ကိုပါ စနစ်တကျဆောင်ရွက်နေပြီး ၎င်းမှ စွန့်ထုတ်သည့်ရေကို ဓာတ်ခွဲခန်းစစ်ဆေးမှုများအား အချိန်ဇယားနှင့် ဆောင်ရွက်နေပြီဖြစ်ကြောင်းနှင့် မိလ္လာစွန့်ပစ်မှုစနစ်ကို လည်း YCDC နှင့်ညှိနှိုင်းကာ ပုံမှန်စွန့်ပစ်နေပါကြောင်း ဆက်လက်ရှင်းလင်းခဲ့ပါသည်။

<u>ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာနမှ လက်ထောက်ညွှန်ကြားရေးမှူး ဦးစိုးမင်းသူမှ</u> လူထုနှင့်တွေ့ဆုံရှင်းလင်းဆွေးနွေးပွဲတွင် စက်မှုဇုန်ဖြစ်သည့်အားလျော်စွာ အနီးအနားစက်ရုံများမှ တာဝန်ခံများ နှင့် ပတ်ဝန်းရှိလူနေရပ်ကွက်များမှကိုယ်စားလှယ်များကိုလည်း တက်ရောက်စေလိုကြောင်း သို့မှသာ ပတ်ဝန်းကျင်ထိန်းသိမ်းမှုနှင့်ပတ်သက်၍ စက်ရုံများ၏လုပ်ဆောင်ရမည့်တာဝန်ဝတ္တရားများအား ပိုမို သဘောပေါက်နားလည်နိုင်မည်ဖြစ်ကြောင်းဆွေးနွေးခဲ့ရာ

<u>စက်ရုံမှ အုပ်ချုပ်ရေးအဖွဲ့မှ</u> အနီးအနားစက်ရုံများမှ တာဝန်ခံများအားဖိတ်စာနှင့်တကွ အစည်းအဝေးမတိုင်မီ ၅ ရက်ခန့်ကတည်းက ဖိတ်ကြားခဲ့ပါကြောင်း၊ အကြောင်းကြောင်းကြောင့် အနီးပတ်ဝန်းကျင်စက်ရုံတစ်ခုမှ သာလာနိုင်ခဲ့ခြင်းဖြစ်ကြောင်းနှင့် လူနေအိမ်မှာလည်း စက်ရုံပတ်ဝန်းကျင် တစ်ကီလိုမီတာအချင်းဝက် အတွင်းနည်းပါးနေခြင်းကြောင့် မလာရောက်နိုင်ဟုထင်မြင်ပါကြောင်းပြန်လည်ရှင်းလင်းတင်ပြခဲ့ပါသည်။

ရွှေလင်ပန်းစက်မှုဇုန်စီမံခန့်ခွဲရေးကော်မတီရုံးအဖွဲ့မှူး ဦးအောင်ငွေမှ

- CSR အစီအစဉ်ကိုကုမ္ပဏီမှအချိန်ဇယားအတိုင်းအကောင်အထည်ဖော်ရန်
- လူမှုဖူလုံရေးဘုတ်အဖွဲ့ရန်ပုံငွေကိုပုံမှန်သွင်းရန်
- စက်ရုံယူနီဖောင်းကို ၀ နှ်ထမ်းများ အတွက်ထောက်ပံ့ပေးရန်
- အလုပ်သမားဥပဒေအရအလုပ်သမားများအားပေးရမည့်ခွင့်များအား ပေးအပ်ရန်
- EMP အစီရင်ခံစာတွင်ပါ ၀ င်ရမည့် စစ်ဆေးခြင်း၊ စစ်ဆေးခြင်းနှင့်စောင့်ကြပ်ကြည့်ရှုခြင်းအစီအစဉ်ကိုမပြတ်ဆောင်ရွက်ရန် နှင့်
- စက်မှုဇုန်စီမံခန့်ခွဲမှုကော်မတီအစည်းအဝေးများသို့ ဖိတ်ကြားခံရပါက တက်ရောက်ရန် စသည်တို့အားဆွေးနွေးပါသည်။

၎င်းနောက် စက်ရုံတည်ထောင်ခြင်းနှင့်ပတ်သက်၍ အစည်းအဝေးတက်ရောက်သူများအား အကြံပြုရန် ပုံစံစာရွက်များအားဝေငှပေးခဲ့ပြီး ၎င်းတို့မှလည်းအကြံပြုစာတွင်မှတ်ချက်နှင့်အကြံပြုချက်များရေးသားပေးခဲ့ပါသည်။

အစည်းအဝေးကို ၁၂၀၀ နာရီတွင်အောင်မြင်စွာရုပ်သိမ်းခဲ့ပါသည်။

၇. စီမံချက်ဆောင်ရွက်မှုအကြောင်းအရာများ

ဖော်ထုတ်နိုင်သည့်သက်ရောက်မှုတစ်ခုချင်းစီအတွက်စီမံခန့်ခွဲမှုနှင့်စောင့်ကြည့်ကြီးကြပ်မှုအစီအစဉ်များကို Spring River Knitting (Myanmar) Factory’s ကုမ္ပဏီလီမိတက်မှ စက်ရုံတွင်အကောင်အထည်ဖော်နေပြီဖြစ်ပါသည်။ ဤစီမံချက်များသည်ဘေးကင်းလုံခြုံရေးနှင့်ကျန်းမာရေး အစီအစဉ်နှင့် အရေးပေါ်ပြင်ဆင်မှုအပေါ်အခြေခံထားပါသည်။

ပတ်ဝန်းကျင်ဆိုင်ရာအကာအကွယ်များအတွက်ကုန်ကျစရိတ်များကိုစီမံကိန်းကုန်ကျစရိတ်၏အဓိကအစိတ်အပိုင်းတစ်ခုအဖြစ်သတ်မှတ်ထားပါသည်။ ဤစက်ရုံအတွက်စီမံကိန်း၏အဆင့်အမျိုးမျိုးတွင်ပတ်ဝန်းကျင်ဆိုင်ရာရှုထောင့်များကိုထည့်သွင်းစဉ်းစားသင့်သည်။

၁။ အယူအဆအတည်ပြုခြင်း –ပဏာမပတ်ဝန်းကျင်ဆိုင်ရာအကဲဖြတ်ခြင်း။

၂။ စီမံကိန်းရေးဆွဲခြင်း- ပတ်ဝန်းကျင်ဆိုင်ရာသက်ရောက်မှုများအသေးစိတ်လေ့လာခြင်းနှင့်အကာအကွယ်များဒီဇိုင်း။

၃။ အရေးယူခြင်း – ပတ်ဝန်းကျင်ဘေးကင်းလုံခြုံရေးအစီအမံများကိုအကောင်အထည်ဖော်ခြင်း။

၄။ လုပ်ငန်းဆောင်ရွက်မှု – အကာအကွယ်များပါဝင်ခြင်း၏ထိရောက်မှုကိုစောင့်ကြည့်ခြင်း။

EMP ကိုအကောင်အထည်ဖော်ခြင်း

EMP ကိုအကောင်အထည်ဖော်ရာတွင် တိကျသောပတ်ဝန်းကျင်ဆိုင်ရာအသိအမြင်၊ တိကျသောပတ်ဝန်းကျင်ဆိုင်ရာသင်တန်း၊ ပြင်ပနှင့်စက်ရုံအတွင်း ဆက်သွယ်မှုများမှာမရှိမဖြစ်လိုအပ်ချက်များဖြစ်ပါသည်။

ဤစက်ရုံတွင်အထက်ဖော်ပြပါအကောင်အထည်ဖော်မှုနှင့် ပတ်သက်၍ တာဝန်ယူသူနှင့် ၎င်းတို့၏တာဝန်များကိုဤအစီရင်ခံစာ၏ Table 56 တွင်ဖော်ပြထားသည်။

ဤစက်ရုံ၏ပုဂ္ဂိုလ်ရေးတာဝန်ခံနှင့်ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြပ်ကြည့်ရှုရေးအဖွဲ့သည် စက်ရုံလည်ပတ်မှုစတင်ချိန်(၂၀၁၆)မှစ၍ အောက်တွင်ဖော်ပြထားသည့် အဓိက တာဝန် ဝတ္တရားများ ကိုဆောင်ရွက်ခဲ့ပါသည်။

- အမျိုးအားဖြင့်စွန့်ပစ်ပစ္စည်းစီမံခန့်ခွဲမှုစနစ်
- သက်ဆိုင်ရာစည်းမျဉ်းစည်းကမ်းများနှင့်အညီလိုက်နာစေရန်ကြီးကြပ်ခြင်း
- ပုံမှန်လည်ပတ်ခြင်းနှင့်ညစ်ညမ်းမှုကိုထိန်းချုပ်သည့်စက်ပစ္စည်းများ၏ပြုပြင်ထိန်းသိမ်းမှု
- EMP အကောင်အထည်ဖော်ခြင်းဖြင့်လုပ်ငန်းလည်ပတ်မှု၏ပတ်ဝန်းကျင်ဆိုင်ရာထိခိုက်မှုများကိုအနည်းဆုံးဖြစ်စေရန်ဆောင်ရွက်ခြင်း
- အတည်ပြုအချိန်ဇယားနှင့်သဘာဝပတ်ဝန်းကျင်စောင့်ကြည့်လေ့လာရေးကိုစတင်ခဲ့ခြင်း
- စောင့်ကြည့်လေ့လာထားသည့်ရလဒ်များအားပြန်လည်သုံးသပ်ခြင်းနှင့်ပြန်လည်စစ်ဆေးခြင်းများနှင့်အမှုစောင့်ကြည့်လေ့လာသည့်ရလဒ်များတွင်သတ်မှတ်ကန့်သတ်ချက်ထက်ကျော်လွန်ခြင်းရှိ မရှိစစ်ဆေးခြင်း
- ကောင်းမွန်သောပတ်ဝန်းကျင်ဆိုင်ရာအလေ့အကျင့်များနှင့်သက်ဆိုင်သည့် သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာဥပဒေများ / စည်းမျဉ်းစည်းကမ်း များ / စံနှုန်းများကို သက်ဆိုင်သောမှတ်တမ်းများနှင့်တကွ ထိန်းသိမ်းထားခြင်း
- ထိန်းသိမ်းထားသောသဘာဝပတ်ဝန်းကျင်နှင့်ပတ်သက်သောမှတ်တမ်းများကိုပြင်ပအတိုင်ပင်ခံများ၊ စောင့်ကြည့်လေ့လာရေးဓာတ်ခွဲခန်းများ၊ NGO များနှင့်ဒေသဆိုင်ရာအာဏာပိုင်များနှင့်ညှိနှိုင်းဆောင်ရွက်ခြင်း
- အများပြည်သူအားသတင်းထုတ်ပြန်ခြင်းနှင့် လိုအပ်သည့်အရေးယူခြင်းများကိုပြုလုပ်ခဲ့ခြင်း
- သဘာဝပတ်ဝန်းကျင်နှင့်လူမှုရေးပြဿနာများနှင့် ပတ်သက်၍ ဒေသခံအသိုင်းအဝိုင်းမှတိုင်ကြားချက်များကိုဖြေရှင်းခဲ့ခြင်း
- ပြန်လည်အသုံးပြုနိုင်သည့်အစိုင်အခဲစွန့်ပစ်ပစ္စည်းများကိုဒေသခံကန်ထရိုက်တာများသို့ပြန်လည်ရောင်းချခြင်း၊ YCDC နှင့်အတူ စွန့်ပစ်ပစ္စည်းများကိုစွန့်ပစ်ခြင်း၊ လစဉ်မီးသတ်ဆေးဘူးကိုစစ်ဆေးခြင်းနှင့်တစ်ခါတစ်ရံအစားထိုးလဲလှယ်ခြင်း၊ လစဉ်ပြုပြင်ထိန်းသိမ်းခြင်း မီးစက်နှင့်ဆူညံသံထိန်းချုပ်ခြင်းနှင့်မီးခိုးငွေ့လျှော့ချခြင်းအတွက်စက်အပိုပစ္စည်းအချို့ကိုအစားထိုးခြင်း။

<u>လုပ်ငန်းအစီအစဉ်</u>

စောင့်ကြည့်ကြီးကြပ်ခြင်းလုပ်ငန်းများကိုနေ့စဉ်လုပ်ငန်းခွင်ညွှန်ကြားချက်များကိုစုစည်းထားသည့် Maintenance Management System တွင်ထည့်သွင်းထားပါသည်။

စွန့်ပစ်ပစ္စည်းစီမံခန့်ခွဲမှုအစီအစဉ်ကို Spring River Knitting (Myanmar) Factory's ကုမ္ပဏီလီမိတက်မှ အကောင်အထည်ဖော် ဆောင်ရွက်ခဲ့ပါသည်။ ၎င်းတွင် EMP ၏အစိတ်အပိုင်းတစ်ရပ်အနေနှင့် ဆောင်ရွက်နေဆဲ စာရင်းစစ်ခြင်းနှင့်စွန့်ပစ်ပစ္စည်းများကိုစီမံခန့်ခွဲမှုလုပ်ထုံးလုပ်နည်းများပါဝင်ရပါမည်။

ပြန်လည်သုံးသပ်ရန်အတွက်ရရှိနိုင်သည့်တစ်ခုတည်းသောအရေးပေါ်ကြိုတင်ပြင်ဆင်မှုနှင့်တုန့်ပြန်မှုအစီအစဉ်မှာလေ့ကျင့်ခြင်းနှင့်လေ့ကျင့်ခြင်းနှင့်သက်ဆိုင်သည့်အရေးပေါ်တုံ့ပြန်မှုလက်စွဲ၊ ဤစီမံကိန်းများ၏အကောင်အထည်ဖော်မှုအဆင့်ကိုအကဲဖြတ်ဆန်းစစ်ရန်လိုအပ်ပါသည်။

<u>EMP စာရင်းစစ်ခြင်းလုပ်ထုံးလုပ်နည်း</u>

EMP စာရင်းစစ်၏ရည်ရွယ်ချက်များမှာ –

- EMP သည်ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအတွက်ဆောင်ရွက်နေသောအစီအစဉ်များနှင့်ကိုက်ညီမှု ရှိ / မရှိနှင့် အကောင်အထည်ဖော်နိုင်ခြင်းနှင့် ထိန်းသိမ်းနိုင်ခြင်း ရှိ / မရှိ ဆုံးဖြတ်ခြင်း
- EMP ကိုလွယ်ကူချောမွေ့ပြီးယေဘုယျအားဖြင့်တိုးတက်နိုင်သည့်နေရာများကိုဖော်ထုတ်ခြင်း
- ရလာဒ်များနှင့်ပတ်သက်သောသတင်းအချက်အလက်များကိုစီမံခန့်ခွဲမှုသို့ပေးပို့ခြင်း
- ပတ်ဝန်းကျင်ဆိုင်ရာအရာရှိမှစစ်ဆေးစေရန်အကူအညီတောင်းခံခြင်း

- လုပ်ငန်းလည်ပတ်ခြင်းအဆင့်၏ လုပ်ငန်းစဉ်အားလုံးအကျုံးဝင်သည့် စစ်ဆေးမှုများကိုခြောက်လတစ်ကြိမ်ပြုလုပ်ခြင်း

လုပ်ငန်းစဉ်များမှာ

- EMP ၏သတင်းထုတ်ပြန်မှုကို အခြေခံ၍ အချက်အလက်စာရင်းတစ်ခုချင်းစီ၏ပြည့်စုံမှု၊ တင်ပြမှုအချိန်၊ အဆိုပြုထားသောအဖွဲ့များသို့ဖြန့်ဝေခြင်းနှင့်ဖြည့်စွက်ခြင်းတို့အပါအဝင်သတ်မှတ်ထားသောလုပ်ထုံးလုပ်နည်းများနှင့်ကိုက်ညီမှု ရှိ - မရှိ အကဲဖြတ်သည့် စာရွက် စာတမ်းများကိုပြန်လည်သုံးသပ်ခြင်း၊
- စည်းမျဉ်းစည်းကမ်းလိုက်နာမှုကိုအကဲဖြတ်ခြင်း
- မှန်ကန်သောအရေးယူမှုမှတ်တမ်း၊ တိုင်ကြားမှုအားမှတ်တမ်းထားရှိမှုနှင့်ပတ်သက်သည့် နောက်ဆက်တွဲဆောင်ရွက်မှုကို အကဲဖြတ်ခြင်း၊ နှင့်အဖြစ်အပျက်များမှတ်တမ်း
- EMP အချက်အလက်များကိုစုဆောင်းခြင်းလုပ်ငန်းစဉ်နှင့်ပုံစံ၏ထိရောက်မှုကိုအကဲဖြတ်ရန်ရည်ရွယ်ချက်ဖြင့် တိုက်ရိုက်သတင်း ပေးပို့နိုင်သူများနှင့်တွေ့ဆုံမေးမြန်းခြင်း
- EMP လုပ်ငန်းများကိုပြီးမြောက်ရန်အတွက်သတင်း အရင်းအမြစ်များ၏လုံလောက်မှုကိုအကဲဖြတ်ခြင်းနှင့်
- ပတ်ဝန်းကျင်ဆိုင်ရာအသိပညာပေးမှုနှင့်သင်တန်းအစီအစဉ်ကိုအကဲဖြတ်ခြင်း

ပတ်ဝန်းကျင်စောင့်ကြည့် လေ့လာရေးလုပ်ငန်းများဆောင်ရွက်မှုအစီအစဉ်

သဘာဝပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ကိုအကောင်အထည်ဖော်ရန် ကုမ္ပဏီ၏တာဝန်ရှိသူများ၏ အဆိုအရပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအဖွဲ့ဖွဲ့စည်းပုံကို ဒေသခံအုပ်ချုပ်ရေးမှူးများ၊ ရွှေသံလွင်စက်မှုဇုန်မှတာဝန်ရှိသူများနှင့်လိုအပ်သောအစိုးရဌာနများမှပုဂ္ဂိုလ်တစ်ဦး၊ နှစ်ဦးစသည်တို့ဖြင့် ဖြင့်ဖွဲ့စည်းမည်ဖြစ်ပါသည်။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်များတွင် မြို့နယ်အဆင့် စည်ပင်သာယာရေးဌာနကျန်းမာရေးဌာန၊ မီးသတ်ဌာနစသည်တို့နှင့် ပူးပေါင်းဆောင်ရွက်သွားမည်ဖြစ်ပါသည်။

စီမံကိန်း၏ထုတ်လုပ်မှုကုန်ကျစရိတ်၏ ၅% ကို ရန်ပုံငွေအဖြစ် သဘာဝပတ်ဝန်းကျင်ရေးရာမြှင့်တင်ရေးတွင်ထည့်သွင်း၍ ပတ်ဝန်းကျင်စောင့်ကြည့်ရေး အစီအစဉ်များကိုအကောင်အထည်ဖော်ရန်စီစဉ်ထားပါသည်။

အဆိုပြုပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအဖွဲ့

Sr.	Representative	No.s of personnel
Government Department		
၁	လှိုင်သာယာမြို့နယ်အထွေထွေအုပ်ချုပ်ရေးဦးစီးဌာန	၁
၂	လှိုင်သာယာမြို့နယ် ကျန်းမာရေးဦးစီးဌာန	၁
၃	လှိုင်သာယာမြို့နယ် စည်ပင်သာယာရေး ဌာန	၁
၄	လှိုင်သာယာမြို့နယ် မီးသတ်ဦးစီးဌာန	၁
From Spring River Knitting (Myanmar)Garment Factory		
၅	အုပ်ချုပ်မှု ဒါရိုက်တာ	၁
၆	စက်ရုံမန်နေဂျာ	၁
၇	HSE မန်နေဂျာ	၁
Local Representative		
၈	ရွှေလင်ပန်း စက်မှုဇုန်ကြီးကြပ်ရေးကော်မတီ	၁

Spring River Knitting (Myanmar) Factoryအတွက်အရေးပေါ်တုံ့ပြန်မှုထိန်းချုပ်ရေးအစီအစဉ်

ရည်ရွယ်ချက်

(မီးဘေး၊ ရေကြီးခြင်း၊ မြေငလျင်၊ ခိုးမှု၊ ပုဂ္ဂိုလ်ရေးချိုးဖောက်မှုများ) - ဘေးကင်းလုံခြုံမှုဖြစ်စဉ်များ၊ မီးဘေးဆိုင်ရာအဖြစ်အပျက်များ၊ ခိုက်ရန်ဖြစ်ပွားမှုများ

တာဝန်ဝတ္တရားများ

အုပ်ချုပ်ရေးဌာန - ဖြစ်ရပ်၏သတင်းကိုလက်ခံရရှိပြီးနောက် စနစ်တကျနှင့် အချက်ပြသတိပေးခြင်း၊ စုရုံးခြင်းနှင့် ဖြေရှင်းခြင်း

ဌာနများ - အကျပ်အတည်းသို့မဟုတ်ရုတ်တရက်အန္တရာယ်ဖြစ်ပွားပါက အုပ်ချုပ်ရေးဌာနသို့ချက်ချင်းသတင်းပို့ခြင်း

လုံခြုံရေး - အရေးပေါ်အခြေအနေများရှင်းလင်းခြင်းလျင်မြန်စွာစုစည်းခြင်းနှင့်ကုမ္ပဏီ၏လုံခြုံရေးလုပ်ငန်းအတွက်အလုံးစုံတာဝန်ရှိသည်။

ဝန်ထမ်းများလိုက်နာရန် ကျင့်ဝတ်စည်းကမ်းများ

အထွေထွေပြဋ္ဌာန်းချက်

စက်ရုံတွင်ဝန်ထမ်းကောင်းများလိုအပ်ပါသည်။ ဝန်ထမ်းများအနေနှင့်လည်း ကောင်းမွန်သောစက်ရုံကို မျှော်လင့်ပါသည်။ စက်ရုံလုပ်ငန်း

လည်ပတ် မှု ၏ အဓိကရည်မှန်းချက် မှာနှစ်ဦး နှစ်ဖက်အကျိုးရှိသောစီးပွားရေးနှင့် ဝ န်ထမ်းများ၏အောင်မြင်မှုရှိစေရန်ဖြစ်ပါသည်။

<u>ဝန်ထမ်းတစ်ဦးချင်းကျင့်ဝတ်စည်းကမ်းများ</u>

လုပ်ငန်းဝင်ပေါက် လိုအပ်ချက်များ

မိမိ၏အရည်အချင်းနှင့်ကိုက်ညီသောလုပ်ငန်းဖြစ်ရန်လျှောက်ထားခြင်း၊ လိုအပ်သော အထောက်အထားပြည့်စုံစေခြင်း၊ ဓာတ်ပုံ၊ ပညာရေးဆိုင်ရာ အထောက်အထား၊ အောင်လက်မှတ်၊ ဘွဲ့လက်မှတ်၊ ထောက်ခံစာစသည်များပါဝင်ခြင်း၊ လုပ်ငန်းနှင့်ဆိုင်သောသင်တန်းများတက်ရောက်ရန်၊ အလုပ်ရှင်၊ အလုပ်သမား သဘောတူညီမှုစာချုပ်ချုပ်ဆိုရန်၊ စွမ်းဆောင်ရည်မြှင့်တင်ရေး သင်တန်းများတက်ရန် သဘောတူခြင်း၊ စာရွက်စာတန်း အထောက်အထားပြည့်စုံရန်၊ အခြေခံလိုအပ်ချက်များမှာ ကျန်းမာရေးကောင်းမွန်ပြီး ကူးစက်ရောဂါမရှိသူ၊ အသက် ၁၈နှစ်ပြည့်ပြီးသူ၊ လုပ်ငန်း လိုအပ်ချက်နှင့်ပြည့်စုံသူ ဖြစ်ရန်လိုအပ်ပါသည်။

၎င်းအပြင် ဝန်ထမ်းများတစ်ဦးချင်းစီမှ လုပ်ငန်းချိန်မှန်စေခြင်း၊ ခွင့်ခံစားမှုအတွက်စည်းမျဉ်းများကိုလိုက်နာခြင်း၊ ဌာနရွှေ့ပြောင်းမှုအတွက် စည်းမျဉ်းများကိုလိုက်နာခြင်း၊ သင်တန်းတက်ရောက်ခြင်း စည်းမျဉ်းများကို လိုက်နာခြင်း၊ လျှော်ကြေးနှင့်သက်သာချောင်ချိရေးစီမံခန့်ခွဲမှု စည်းမျဉ်းများကို လိုက်နာခြင်း၊ ပိတ်ရက် စည်းမျဉ်းများကို လိုက်နာခြင်း၊ ငွေကြေးသုံးစွဲမှု စည်းမျဉ်းများကို လိုက်နာခြင်း၊ စသော အချက်များကို ကျင့်သုံးရန် တာဝန်ရှိပါသည်။

<u>အုပ်ချုပ်မှုဆိုင်ရာ ကျင့်ဝတ် စည်းမျဉ်းများ</u>

ဘေးကင်းလုံခြုံမှု စီမံခန့်ခွဲမှု အနေနှင့် မီးဘေးလုံခြုံမှု နှင့် ယာဉ်လမ်းစည်းကမ်းများ၊ လျှပ်စစ်ဘေးအန္တရာယ်လုံခြုံမှု စည်းကမ်းများကို လိုက်နာကျင့်သုံးရန် တာဝန်ရှိပါသည်။

ကျန်းမာရေးစီမံခန့်ခွဲမှုအနေနှင့် အလုပ်ရုံသန့်ရှင်းရေးစီမံခန့်ခွဲမှု၊ ရုံးပတ်ဝန်းကျင် ကျန်းမာရေးစီမံခန့်ခွဲမှု၊ စည်းမျဉ်းစည်းကမ်းများကိုလိုက်နာ ကျင့်သုံးရန် တာဝန်ရှိပါသည်။

<u>တခြားစီမံခန့်ခွဲမှုများ</u>

၎င်းအပြင် စက်ရုံအတွင်းဝင်ရောက်မှု စီမံခန့်ခွဲမှု၊ စက်ရုံတံဆိပ်အမှတ်အသားဝတ်ဆင်ခြင်းစီမံခန့်ခွဲမှု၊ မော်တော်ယာဉ်ဝင်ရောက်မှု စီမံခန့်ခွဲမှု၊ တာဝန်ချိန် စီမံခန့်ခွဲမှု၊ တိုင်ကြားမှုစီမံခန့်ခွဲမှု၊ ဆုပေး ဒါဏ်ပေး (စည်းကမ်း) စီမံခန့်ခွဲမှု၊ စသည့်ချမှတ်ထားသည့် စည်းမျဉ်း စည်းကမ်းများကို လိုက်နာကျင့်သုံးရန်တာဝန်ရှိပါသည်။

နောက်ဆက်တွဲပြဌာန်းချက်များ

<u>ပစ္စည်းလုံခြုံမှုဆိုင်ရာအချက်အလက်စာရွက်များ (MSDS)</u>

ဓာတုပစ္စည်းများထုတ်လုပ်သူများနှင့်ကုန်ပစ္စည်းပေးသွင်းသူများသည်၎င်းတို့၏ထုတ်ကုန်များအတွက် MSDS နှင့်အတူ၎င်းတို့၏ဖောက်သည်များ အားဥပဒေအရပေးအပ်ရန်လိုအပ်ပါသည်။ တရားဝင်တာဝန်ဝတ္တရားမရှိသည့်တိုင် စက်ရုံများသည်၎င်းတို့ဝယ်ယူသော ဓာတုပစ္စည်းတစ်ခုစီ အတွက် MSDS (သို့) ညီမျှသောစာဖြင့်ရေးသားထားသောအချက်အလက်များကိုလက်ခံရရှိရန်ထုတ်လုပ်သူများထံအခိုင်အမာတောင်းဆိုရပါမည်။

<u>ဓာတုအန္တရာယ်ကင်းရှင်းရေးအချက်အလက်စာရွက်များ (CSDS)</u>

MSDS များသည်ဓာတုပစ္စည်းများ၏ဂုဏ်သတ္တိများနှင့်ဆိုင်သောအသေးစိတ်အချက်အလက်များကိုဖော်ပြပေးသည်၊ သို့သော်ဓာတုပစ္စည်းများ အသုံးပြုခြင်းနှင့်ကိုင်တွယ်ခြင်းတွင်အလုပ်သမားများအားအကြံပေးရာတွင် ပြည့်စုံအောင်အသုံးဝင်မည်မဟုတ်ခြင်းကြောင့် ဓာတုအသုံးပြုမှုနှင့် ကိုင်တွယ်ခြင်းဆိုင်ရာအကျဉ်းချုပ်သတင်းအချက်အလက်များကိုဖော်ပြရန်၊ လုပ်ငန်းစဉ်လုပ်ထုံးလုပ်နည်းများနှင့်ဓာတုအန္တရာယ်ကင်းရှင်းရေး အချက်အလက် စာရွက်များ (CSDS) လိုအပ်ပါသည်။ ၎င်းအပြင်အလုပ်သမားများနားလည်နိုင်သည့်ရိုးရှင်းသော မိခင် ဘာသာစကားဖြင့် ရေးသားသင့်သည်။ သက်ဆိုင်ရာဓာတုပစ္စည်းများကိုသိုလှောင်ထားသည့်နေရာများတွင်လည်း သိသာထင်ရှားစွာဖော်ပြသင့်ပါသည်။

၈. အကြံပြုချက်နှင့်နိဂုံးချုပ်

<u>အကြံပြုချက်များ</u>

ဤအထည်ချုပ်စက်ရုံအတွက်အောက်ပါအကြံပြုချက်ကို ကျန်းမာရေး၊ ဘေးကင်းလုံခြုံမှုနှင့်ပတ်ဝန်းကျင်ဆိုင်ရာ(HSE) အစီအစဉ်အတွက် ပိုမိုကောင်းမွန်သောအလေ့အကျင့်တစ်ခုအဖြစ်စဉ်းစားသင့်ပါသည်။

သန့်ရှင်းသောထုတ်လုပ်မှုအတွက်မူဝါဒ၊ သဘာဝပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုစနစ်အားဖော်ထုတ်ပြီးအကောင်အထည်ဖော်သင့်ပါသည်။

- စက်မှုလုပ်ငန်းများသည်ပတ်ဝန်းကျင်ဆိုင်ရာသန့်ရှင်းရေးအစီအစဉ်များကိုပုံမှန် ဆောင်ရွက်ရန် (ဥပမာ – သန့်စင်ခြင်းမရှိသော စွန့်ပစ်ရေကို ပြင်ပသို့စွန့်ပစ်ခြင်းမပြုရန်)
- အထွေထွေသဘာဝပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အတွက် လိုက်နာနိုင်သောစည်းမျဉ်းများထုတ်ပြန်ခြင်း၊ စောင့်ကြည့်စစ်ဆေးခြင်း၊ လိုအပ်သည့်အပြောင်းအလဲများဆောင်ရွက်ခြင်း၊ သဘာဝပတ်ဝန်းကျင်အရေအသွေးကို (ECD မှသတ်မှတ်ထားသည့် ထုတ်လွှတ်မှု စံနှုန်းများ) နှင့်အညီဆောင်ရွက်ခြင်း၊ အပါအဝင်သန့်ရှင်းသောထုတ်လုပ်မှုချဉ်းကပ်မှုအတွက် လေ့ကျင့်သင်ကြားခြင်း၊ အကြံပေးခြင်း နှင့် စာရင်းစစ်ဆေးခြင်းများ ဆောင်ရွက်ရန်

- စွန့်ပစ်ပစ္စည်းအနည်းဆုံးဖြစ်အောင်ပြုလုပ်ခြင်းသည်ညစ်ညမ်းမှုပမာဏနှင့်ထုတ်လုပ်မှုကုန်ကျစရိတ်ကိုသိသိသာသာလျှော့ကျစေနိုင်ပါသည်။
- အလုပ်သမားများအားကုမ္ပဏီမှပုံမှန်ကျန်းမာရေးစစ်ဆေးပေးရန်၊ ထုတ်လုပ်သူညွှန်ကြားချက်အရစက်မှုပညာရှင်များမှ စက်များကိုပုံမှန်ပြုပြင်ထိန်းသိမ်းရန်၊
- မီးဘေးကာကွယ်နိုင်ရန်လုံလောက်သောမီးဘေးကာကွယ်ရေးပစ္စည်းကိရိယာများထားရှိရန် အလင်းရောင်ကောင်းမွန်စေရန် နှင့် တံခါးပေါက်များဖွင့်ထားရန် စက်ရုံတစ်ခုစီ၏ကုန်လှောင်ရုံများတွင်အရေးပေါ်အခြေအနေ အတွက်စီစဉ်ထားရန်
- လျှပ်စစ်ပစ္စည်းကိရိယာများ၊ ဝါယာကြိုးများကို သန့်ရှင်းစွာထိန်းသိမ်းထားရန်နှင့် ၎င်းတို့၏ သက်တမ်းတစ်လျှောက် ပုံမှန်စစ်ဆေးရန်
- အလုပ်သမားများ အတွက် ပိုမိုလုံခြုံစိတ်ချရသော လုပ်ငန်းပတ်ဝန်းကျင်ဖြစ်စေရေးဆောင်ရွက်ပေးရန်
- စက်ရုံစီမံခန့်ခွဲမှုအဖွဲ့သည်ပတ်ဝန်းကျင်နှင့်လုပ်ငန်းခွင်ဘေးကင်းလုံခြုံမှုစံနှုန်းများကိုသေချာစေရန် (အစိုးရ၏ခွင့်ပြု သတ်မှတ်ချက် စံချိန်စံညွှန်းနှင့်အညီ) စီစစ် စစ်ဆေးရန်
- မီးဘေးကာကွယ်ရေးနှင့်အရေးပေါ်ပြင်ဆင်မှုပြင်ဆင်ခြင်းနှင့်အရေးပေါ်ထွက်ပေါက်များလုံလောက်အောင်ထားရှိခြင်းနှင့်ထုတ်လုပ်မှုဧရိယာအတွင်းရှိရှင်းလင်းပြတ်သားသော၊ ထွက်ပေါက်လမ်းကြောင်းများအား ရှင်းလင်းထားခြင်း မိခင် ဘာသာစကားဖြင့်ရေးသားထားသောညွှန်ကြားချက်များ၊ မီးခိုးရှာဖွေစက်နှင့်အရေးပေါ်ကိရိယာများ အားပိုမိုပြည့်စုံအောင်ဆောင်ရွက်ထားရန်

<u>လူ့စွမ်းအားအရင်းအမြစ်ဌာနအားအကြံပြုချက်</u>

- တည်ဆဲအလုပ်သမားဥပဒေနှင့်စက်ရုံဆိုင်ရာဥပဒေအရ အလုပ်ရှင်-အလုပ်သမား နှစ်ဦးသဘောတူစာချုပ်ကို မပျက်မကွက် ချုပ်ဆိုရန်၊
- သင်တန်း / အလုပ်ရုံဆွေးနွေးပွဲများမှလုပ်သားများအားလစာတွက်ချက်မှုကိုသိရှိနားလည်အောင်ရှင်းပြရန် (အားလပ်ရက်၊ ဆုကြေး၊ အခြေခံလစာ – အချိန်ပို စသည်တို့)
- တိုင်ကြားစာလက်ခံရေးဌာန ထားရှိရန် နှင့်စက်ရုံတွင်အကြံပြု ပုံးထားရှိရန်၊
- စက်ရုံရှိအလုပ်သမားများအား လုပ်သားကျင့်ဝတ်စည်းကမ်းနှင့်အလုပ်သမားတို့၏အခြေခံအခွင့်အရေးကိုနားလည်အောင်ရှင်းပြရန်
- လူမှုဝန်ထမ်း ရန်ပုံငွေ SSB ရန်ပုံငွေကို ကောက်ခံပြီး SSB ဌာနသို့မှတ်ပုံတင်ရန်၊
- ဝန်ထမ်းများ၊ ကြီးကြပ်သူဝန်ထမ်းများ၊ စီမံခန့်ခွဲမှုကော်မတီများပူးပေါင်းပြီး ညှိနှိုင်းရေးကော်မတီကိုဖွဲ့စည်းရန်၊

၂၀၁၅ ခုနှစ် ဒီဇင်ဘာလ၂၉ ရက်နေ့နေ့စွဲပါပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနှင့် သစ်တောရေးရာဝန်ကြီးဌာန၊ အမိန့်ကြော်ငြာစာအမှတ် ၆၁၆/၂၀၁၅၊ ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အပိုဒ်၁၃ ပါ လုပ်ထုံးလုပ်နည်းအပိုဒ် ၃၄၊ ၅၀၊ ၆၁ အရ စီမံကိန်းအကောင်အထည်ဖေါ်ဆောင်ရွက်စဉ် ကာလများအတွင်း သဘာဝပတ်ဝန်းကျင်နှင့်လူမှုပတ်ဝန်းကျင်ဆိုင်ရာ အစည်းအဝေး များအများပြည်သူနှင့်တိုင်ပင်ဆွေးနွေးခြင်းကိုစဉ်ဆက်မပြတ် ဆောင်ရွက်ရန်နှင့် ဒေသခံပြည်သူတို့၏လိုအပ်ချက်များအား အကောင် အထည် ဖေါ်ဆောင်ရွက်သွားမည်ဖြစ်ပါသည်။

<u>နိဂုံး</u>

ရန်ကုန်တိုင်းဒေသကြီး လှိုင်သာယာမြို့နယ်ရှိ ရွှေလင်ပန်းစက်မှုဇုံအတွင်း၊ အမှတ် ၁၄၈၊ ၁၄၉, မင်္ဂလာရာမင်းသားကြီးလမ်းနှင့် တွင်းသင်း တိုက်ဝန်ဦးထွန်းညိုလမ်းထောင့်တွင် တည်ထောင်ထားသော Spring River Knitting (Myanmar) ကုမ္ပဏီလီမိတက်မှ ကုမ္ပဏီလီမိတက်၏ သိုးမွေးထည်ထုတ်လုပ်ရေးစက်ရုံ တည်ထောင်၍ နိုင်ငံခြားသို့တင်ပို့ရေးလုပ်ငန်း များ ဆောင်ရွက်ခွင့် ရရှိထားသည့် (၂.၆ ဧကမြေကွက်) တွင် စက်ရုံ လုပ်ငန်းများ နှင့်ပတ်သက်ပြီး AMK and Associate (EIA Consulting Limited) မှ ပတ်ဝန်း ကျင် စီမံခန့်ခွဲမှု အစီရင်ခံစာ ရေးသားပြုစုရန် လေ့လာခဲ့ရာတွင် စက်ရုံသည် နည်းစနစ်ကျနစွာ စီမံပြီး အကောင်အထည်ဖေါ် ဆောင်ရွက် နေသော စက်ရုံ တစ်ခု ဖြစ်ပြီး၊ ခေတ်မီ စက်ပစ္စည်းများကို ဖြည့်စွက် အသုံးပြုကာ ထုတ်လုပ်နေကြောင်း လေ့လာတွေ့ရှိရပါသည်။

စက်ရုံ၏ဝန်ထမ်းများအားလုံးနှင့်အတူ လုပ်ငန်းခွင် နှင့်သဘာဝဘေးအန္တရာယ်ကင်းရှင်းရေး၊ ကျန်းမာရေး၊ စက်ပစ္စည်းကရိယာများ ကြံ့ခိုင်ရေး၊ သဘာဝပတ်ဝန်းကျင်ထိမ်းသိမ်းရေး စီမံဆောင်ရွက်ချက်များ၏ ပူးတွဲအကောင်အထည်ဖေါ်မှုကို Team Work ဖြင့်အစဉ်တစိုက်ကြိုးပမ်းဆောင်ရွက်ရန် သံမိဌာန်ချထားပြီး Safety Culture စဉ်ဆက်မပြတ် ပိုမိုတိုးတက်စေရန်(Continuous Improvement) အတွက် သက်ဆိုင်ရာ စီမံခန့်ခွဲမှု အဖွဲ့အစည်းများ ၏ လမ်းညွှန်ချက် အရ ဆောင်ရွက် သွားရန် သန္နိဋ္ဌာန်ချထားကြောင်း တင်ပြအပ်ပါသည်။

EXECUTIVE SUMMARY (ENGLISH VERSION)

E -1 Introduction

This report describes the findings of Environmental Management Plan of the proposed project of Spring River Knitting (Myanmar) Company Limited which is situated at No. (148, 149), Corner of Mat Kha Yar Min thar Gyi Street and Twin Thin Taik Wun U Tun Nyo Street , Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township in Yangon Region, Republic of the Union of Myanmar

The main objective of this report is to identify the major Environmental Impacts due to implementation of the project along with the effective measures to mitigate the adverse impacts, if any. There is some chemical process in the knitting factory for washing. The factory makes readymade clothing especially knitting wear.

This study was prepared upon a request from the owners to fulfill the requirements to support this developmental project.

The study tackles in detail all the environmental aspects, elements, impacts and the mitigation, safeguards and risk elimination measures that should be followed / carried out in order to protect the employees, the clients and the environmental elements and keep them all safe and secure.

The investor of this project have already long experience and the needed know- how in production industry; they have been well- known in this field since more than two decades from now.

Company Registration has been done on 14th March 2016 as Spring River Knitting (Myanmar) Company Limited and Registration Number is 100670402.

According to Myanmar Investment Commission's meeting 8/2019 held on 29th May 2019, approved the name of Fengyi Knitting Company Limited which is carrying out manufacturing knitting products on CMP basic can be changed to Spring River Knitting (Myanmar) Company Limited.

Investment has been approved by permit Numper 1151/2016 in 19th September 2016. And according to Myanmar Investment Commission's meeting 14/2019 held on 30th May 2019, approved capital the amount of foreign capital of Spring River Knitting (Myanmar) Company Limited which is carrying out manufacturing of knitting products on CMP basis be increased from USD 1.642 million to USD 2.605 million.

The consultant firm AMK and Associate EIA Consultant Team have carried out this EMP process through reconnaissance site visit, detail survey, data collection and analysis and submission of EMP report according to the guideline and procedure set up by MONREC.

This EMP generally covered all the four phases of the project, namely, the Planning Phase, the Construction Phase, the Operation Phase and the Decommissioning Phase. As Planning and Construction Phase are already over and the company is already producing some amount of garment especially underwear emphasis was given on the Operation Phase.

The proposed project has been developed in a period as soon as issued approval from MIC. It is operation stage now.

As Refer to Myanma Investment Commission's letter No. MI – 9/F-G/2019(5428) of 22nd August 2019, Commencement date of commercial operation of Spring River Knitting (Myanmar) Co.,Ltd is 14th September 2018.

E-2 Project Description

Spring River Knitting (Myanmar) Company Limited is well known in the knitting wear factory for its quality manufacturing, styling accuracy timely delivery and competitive pricing, leading 100 % exported oriented knitted wear in Yangon, Myanmar. This factory stands with a space of (1 storey x 200' x 240') building, (1 storey 100' x 240') building with high quality machineries from China and (120' x 20') Dinning Hall. It is located about one hour driving distance from factory to Yangon International Air Port, two hour drive from factory to Yangon Port (Sule Port, Industrial Port, Asia World Port, MEC port). This factory has a quality control team whose responsibility is to ensure proper quality standard by conducting inspections at different storages of production. Product range is manufacturing knitted wares, such as hats & berets, gloves & mittens, shawls & capes, neck tubes, scarves and head bands in this factory. Production capacity is nearly 2,200 pcs of knitted wears per day at peak season.

This Factory will be operated by Spring River Knitting (Myanmar) Limited, 100% Foreign Investment based on CMP system.

There is some chemical process in the Spring River Knitting (Myanmar) Limited as washing operation. This

company Limited will make products of as export quality by establishment of international standard factory **2.6 Acres (113256 ft^2)** area in Yangon Region.

The key facilities of best practices in this factory are Time attendance and pay roll, Housekeeping team, Medical facilities, Evacuations plan, Emergency exit, Fire drills, production waste bin, good working environment, safety issue as clear routes, right machine layout, opening doors along escape routes for fire resistant, lighting, adequate door and stair, etc.

The objective of the proposal is to implement the Spring River Knitting (Myanmar)Limited proposes to set up the factory at at No.148, 149, corner of Mat kha Min Thar Gyi Road and Twin Thin Tike Wun U Tun Nyo Street, Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township in Yangon Region, Republic of the Union of Myanmar. The nearest residential housings are approximate 20 m far to the south and north from the factory. The company (factory) site is reachable via a well-paved by road, of approximate 6 m wide that diverts from the main road Kha Yay Bin Road through Than Chet Wun U Nyunt Road.

The project will create employment opportunities by simulating local workforce and business development in the resources sector as estimated, for proposed (900) / currently 320 local persons who will be mostly from nearby districts.

By developing Manufacturing factory in the area of Hlaing thar Yar/ Shwe pyi Thar / Htan Ta bin Township, Yangon Division, it will increase the life style of local people training resources and employment opportunities and it will enable communities and families to share social, cultural, recreational and sports activities and the project will support resource development, and production to increase viability in the commercial part of Myanmar.

E-1.1 Project Proponent

The project Promoter of this project is Mr. Tian, Liangming (Chinese) citizenship from China and corporate members are Southern Enterprises Limited (ordinary shares 449), Flat 2 / F Block A, Hung Hom Bay Centre Kowloon, Hong Kong and Tonglu Spring River Knitting Group Co., Ltd (ordinary shares 1,050), No.333, Dongxing Road, Tonglu County, Hangzhou, Zhejiang, China and type of his business is manufacturing of various designs of knitted wear on CMP basis. The amount of foreign capital is 2.605 million USD investments for this project.

Company Information Summary

Company	:	Spring River Knitting (Myanmar) Company Limited
Factory	:	Manufacturing knitting ware Factory
Project Promoter	:	Mr. Tian, Liangming (Pass Port EC 6214769) Wing Kut Street, Central, RM 904 Harvest Building 29 – 35, Hong Kong,
Factory General Manager	:	Mr. Tian, Liangming (Pass Port EC 6214769),), email - Tljinze@163.com 09 – 253566188
Contact Person	:	Daw Myo Myint Aye (HR Assistant Manager), 09 788787066 jinjin21219@gmail.com
Factory Address	:	Block 25, No. 148, 149, Corner of Mat Kha Yar Min Thar Gyi Road and Twin Thin Tike Wun U Tun Nyo Street, Shwe Lin Ban Industrial Zone, Hlaing Thar Yar.

E-1.2 EMP project Implementation

A.M.K and Associates (Environmental Consulting) has taken an independent project for carrying out EMP study around Hlaing Thar Yar Township (Shwe Lin Ban Industrial Zone) area in Myanmar since January 2020 as assigned by Spring River Knitting (Myanmar) Company Limited. A.M.K and Associates (Environmental Consulting) performed the services described as reconnaissance study of Laboratory testing in ground water and soil sample. This service has been performed in accordance to the provisions specified in the studying schedule.

Environmental Professional and Project Director for study is U Aung Myat Kyaw of Joey AMK and Associate EIA Consulting Ltd, Environmental Management Team (No.17, Bandarbin St. Kyee Myindaing Township, Yangon, Myanmar) Environmental Consultant Group who is a chartered Environmentalist with more than 10 years' experience providing environmental and social assessment and management services across a range of sectors and international jurisdictions. Dr. Aung Lay Tin was assisted by a team of technical specialists who contributed to the project study.

Contact of A.M. K and Associate Environmental Consulting Limited is U Aung Myat Kyaw, 17, Bandarbin Street, Kyee Myin Daing Township, Yangon, Myanmar, Contact phone is 09 – 5162169 and email is joei0920@gmail.com

E-1.3 Project Component and Overview of the Project

This project is located upon the existing good environmental location and it is between 16°54'51.68"N, 96° 3'34.99"E (Gate of the Factory). The elevation of the site is (8) meter above mean sea level.

Size

According to the Ministry of Natural Resources and Environmental Conservation (Former MOCAF's Notification No. 616/2015, Environmental impact assessment procedures, Appendix – A (Dated December 29, 2015), table for type and size of Environmental Assment Analysis required to carry out the project, This textile manufacturing factory project proposes only producing estimated 2,200 pcs (knitting wear)/ 1,800 kg (under 10 ton) per day from the garment factory so as a SME Scale of factory.

Building Building floor plan & Layout plan

Reason for selecting this proposed site is to develop on existing good environmental building to upgrade after setting up this performance. Nature of terrain of this building is plain and Soil Physical Properties is quite enough and qualified for proposed project site and surrounding area.

The factory was one storey steel structured buildings and the total area was 74,000 ft^2. Factory layout drawing has been mentioned in Figure 11.

Source of Energy

Groundwater

The Project has 2 x 4" diameter tube wells for operation and domestic used such as washing clothes, bathrooms and Toilets. The depth of these tube wells range from 180 ft to 200 ft. This well can produce 30-40 gallons per minutes with one number of pressurized pumps, rain water; sewage water is in separation, toilet and septic tank. Water is stored in two ground water tank and one over head tank, capacity is 63.08 m^3 (13875 gallons). These wells can produce 1,800 gallons per hour from water level 140 – 150 feet. Daily water consumption is 20 m^3 (5000 imperial gallons)

Drinking Water

Drinking water for employee has been provided by nearby Drinking Factory which has been approved by Department of food and Drug Administration, Ministry of Health. Estimated consumption of drinking water is 600 liters per day for 300 employees.

Electricity

It has been built a main transformer station with one line of 11 KVA powers Transformer has been installed with high voltage power supply. For emergency case, one set of diesel generator silent type having capacity of 437 kVA is standby with generator house and acceptable stack height. Distribution panel and transformer are attached.

Based on 2019 electrical charge record, Annual power consumption could possbilily estimated (360,000) unit. Average daily electrical consumption is 1000 units.

Electrical Safety Certificate has been issued by EI.

Steam System

In Spring River Knitting (Myanmar) Factory, there is one ton smaller boiler and used for steam iron (Vacuum Ironing Tables). In most facilities, the ironing boards are attached to a ventilation system that captures the heat emitted from the iron and exhausts it to the outside environment and require only about 50 gallons of water for Boiler.

Project Design Formulation

In the proposed Garment Factory, environmental mitigation measures are integrated in the design of machine itself. This will enhance the mitigation measures in terms of specific mitigation measure, safety measures relating to mechanism. The factory manufacturer's specification identified the environmental assessment pertaining step by step and mentions the site specific mitigation measures to perform, the material to be used, waste disposal area as well other environmental requirement.

Civil design, production space, electrical design, lighting and natural light, water supply and drainage design,

ventilation design, air and dust collection design, environmental protection, safety and fire control design and also zoning classification etc. has been considered in development of this project. For zoning classification, there are areas of storage, hand washing, production, dining space, mini clinic, services, parking, and toilet (10 for male and 31 for female) and basin spaces.

Company Organization

Company organization chart has been shown in 1.4.6 Factory Organizationof this report. According to this organization, there are six main departments in this factory which are CSR Department, Financial Department, Sale Department, QC Department, Factory Management, and Washing Department.

Financial Statistics

In Financial Statistics, the investment for this factory development is 2.605 Million USD.

The use of machinery in this factory is maily kitting and related machines and which has been mentioned in Machinery List of 1.4.7 Tables of Financial Statistics

According to record of 2020 January, employees for this factory is total local employee – 320 persons and foreign expert – 35 persons.

Type of Raw Materials, Finished Product and Production Rate

Estimated total production is 6,613,000 pcs per year-1 on export sale (100%) and monthly production is approximately 551,000 pcs and daily production is 2200 pcs of knitted wear (scarves, neck tubes, heads & berets, gloves & mittens, headbands, sweater – kids, men, women, sweater cut pieces - kids, men, women, dress, tank top, short sleeved sweater, long sleeved sweater and pants) which are manufactured by raw matrial 645,800 pounds of Yarn (52% cotton & 48% acrylic, 100% Acrylic, 100% wool, wool 30% & Acrylic 70% etc.) or knitted panels (52% cotton & 48% Arclic, 100% Acrylic, 100% Wool, Wool 30% & Acrylic 70% etc.) and accessories such as mini lavel, care label, size label, price ticket, hand tag, sewing thread, softener, detergent, wash agent, hanger, tag pin, poly bag, tissue paper, button, tape 2” (roll), sticker, Zipper and packing materials

Almost all raw materials are imported from China and importing procedure are by sea freight.

Chemical Inventory

Besides using of lubricant and fuel for generator, for washing process and wastewater treatment plant, some chemical are used in this factory. Leavening agent, smoothing agent, Silicone oil, environmentally fridendly oyster sauce (Detergent Agents), are used for sweater washing process. And Sodium hydroxide, Polyacrylamide, Polyaluminium Chloride are used for wastewater (especially washing water) treatment system. These chemical has been approved RSL Compliance (Restricted Substances List) by SGS.

Employee Facilities

For working days, 312 working days annually for the workers and working hour is 8 hours per day. Gazzetted holiday has been provided to factory employees. Average 2 hours as over times for this factory and overtime charge has been added in Monthly payment for employees.

Normally half of Saturday and Sunday are holiday. Approximately 53 Sundays, 26 Saturdays and 29 – 30 gazetted holidays such as International new years day, Independence day, Union day, Full Moon days of Myanmar Month, Peasant day, Armed Forces Day, Thingyan holidays, Myamar New year holidays,

Labour day, Martyrs day, Eid ui-Adha Day, Thadingyut holiday, Deepavali, Tazungdaing Holiday, National Day, Christmas day, and New Year’s Eve.

Dining Room Canteen, toilets, fire extinguishers for fire safety, bicycle, motor cycle parkings, rest room has been provide as employees’ facilities.

According to this factory’s operation process, some chemical raw materials required as necessary to perform washing process.

Process of Knitting

<u>Production Step for this knitting factory</u>

Yarn in package form
↓
Place the yarn package in the creel
↓
Set the m/c as per design & GSM

Circular knitting	Flat Bed Knitting	Circular knitting
↓	↓	↓
Withdraw the roll fabric and weighting	Design & Size Analysis	Withdraw the roll fabric and weighting
↓	↓	↓
Roll Marking	Machine Setting for the Required Design	Roll Marking
↓	↓	↓
Inspection	Knitting of the collar / Cuff	Inspection
↓	↓	↓
Dispatching	Confirm required quality	Dispatching
	↓	
	Inspection of the collar / cuff weighting	
	↓	
	Dispatching	

Washing process on knit garments

There are different types of wash, applied on the knit garments are pointed in the below:

1. Enzyme Wash,
2. Stone Enzyme Wash or Heavy Enzyme wash,
3. Rubber Ball Wash,
4. Hot Wash,
5. Softener Silicon Wash,
6. Acid Wash,
7. P.P Spray,
8. Garment Dye,
9. Cold Dye,
10. Pigment Dye,
11. Tie Dye,
12. Deep Dye

Between them, Enzyme Wash, Rubber Ball Wash, Hot Wash, Softener Silicone Wash, has been used by Spring River Knitting (Myanmar) **on concept of washing process.**

<u>Enzyme Wash:</u> The wash in which enzyme is used called enzyme wash. This enzyme may be neutral or acid depends on the requirement of shed. In this wash, enzyme is used for producing different types of abrasion for the garments. As a result, the garments are looking very nice to see. The main target of enzyme wash is to change the outlook of any knit garments.

<u>Rubber Ball Wash</u>: Rubber ball wash is nothing but a garments and softener wash. In this process, garments will more soft and at a time seam abrasion will come. When any knit garments needed more hand-fell with seam abrasion that time we will use this process.

<u>Hot Wash</u>: Normally in knit fabrics, hot wash is used to prevent the shrinkage problem after completing different treatment of that garments. Hot wash should be done before making any garments. It's should be noted that, When a garment have any treatment such as- Garment dye, Cold dye, P.P spray etc. then it's a mandatory process to complete fabrics hot wash before making of that garment. Otherwise, it will create problems during measurement.

<u>Softener Silicon Wash</u>: When any knit garments needed more hand-fell and softness in the same occasion, in

that case, this wash will be used. For this wash, softener and silicon both will be used together where silicon will be used for softening the cellulose and silicon for surface slipper. The softener nay be cationic or nonionic.

Supporting Operations

Many of support operations are common to any manufacturing industry, such as administrative functions, facility and equipment maintenance, and boiler and backup power generator operation.

Also Spring River Knitting (Myanmar) factory has support operations such as administration, steam generation, power generation are being provided for the main production operations.

Waste generation at factory during operation phase from this factory are solid waste total (estimated 8.32 ton / year only) and liquid waste. For the liquid waste, it is generated mainly from sewage (Total 41 toilets) , domestic wastewater and from washing process. There's wastewater treatment plant has been installed and it has been treated all wastewater which generated from factory operation.

As there's some chemical use in this factory operation, that may some hazardous waste generation in this Spring River Knitting (Myanmar) knitting factory.

The generation of used oil from changing lubricant from generator engines (one time per 6 months) has been planned and sold to reused contractor and not too much amount.

Flow chart of the production process for input and output has been shown in 1.6.2 Flow Chart of the Complete Production Process of this report

E-1.4 Surrounding Environmental Condition

Information relating to the physical, technical and environmental parameters was collected from client and other agencies such as regional administration department; head of the Company's management, meteorological department, internet and development directorates, and set up study limit is 1 kilo meter radius of the surrounding proposed factory area etc., employee were interviewed in detail to understand the socio economic, culture and customs of the area.

The surveys were conducted inside the Hlaing Thar Yar Township, established at Plot No. 148+149, Corner of Mat Kha Yar Min Thar Gyi Road and Twin Thin Tike Wun U Tun Nyo Street, Shwe Lin Ban Industrial Zone, and Hlaing Tharyar Township, in Yangon Region, 2.6 Acre and in factory compound area.
The area had only flat plain in relatively good condition. The flora biodiversity is relatively very low with small trees and bushes.

General

Rainfall in Yangon is the average annual precipitation ranges from 227 mm falls during the rainy season, including 75-80% in the rainy season. Sunshine duration in Yangon is minimum 25% and maximum 90%. Relative humidity is minimum 54% (November to April) and 95.6% (November to April). Ambient temperature is minimum 22°C and maximum 32.8° C. Win speed is average 5.9 km/h and maximum 36.7 km /h. The yearly average relative humidity is 75.7%. Mean annual rainfall is 2909.3 mm, mean temperature is 27.05°C and mean annual evaporation is 347 mm. Climate is tropical with average minimum and maximum temperature. February to May is hottest time.
Hydrological characteristic of this area is based on underlying sediments and surrounding drainage system. Water bearing horizon is nearly 300 ft in this Hlaing Thar Yar (Shwe Lin Ban Industrial Zone) is 2400 gph for 8 inches diameter tube well.
Relative humidity is high throughout the year with monthly average raining between 54-95%. The monthly average is always above 75.7%
The north = easterlies (monsoons) generally between December and mid-April and the south easterly trade winds which prevail between June and mid-October .The trade winds are stronger usually 5.9 km /h and the max wind speed is 14.6 km / h during 2016 to 2018.

Existing Topography

This area is flat plain area and it is implemented by DEHSD for industrial Zone

Regional Geology of Yangon, soil, Geotechnical Hazard, major earthquake intensities around Yangon area has been mentioned in 1.7.2 Existing Topography of this report.

Hydrology and Drainage

The Project site is located about two kilometer west of the Hlaing River. The Hlaing River is a marine estuary that runs through Yangon before discharging into the Gulf of Martaban of the Andaman Sea. The river is used by ocean-going vessels to reach the Yangon Port, and is a source of irrigation water for paddy cultivation in the Ayeryawaddy Delta via the Twante Canal.

A perimeter drain surrounds the Project site. The drain is small and was most probably designed for an average rainfall interval occurrence of less than five years. The perimeter drain has appeared too been connected to any main drainage network. Surface runoff is expected to flow naturally along the gradient towards Hlaing River. A storm water drain will therefore be constructed from the development with its discharged point one kilometer away. No flood occurrence has however been reported at the Project site and its immediate surrounding area.

Land Use

Determination of the Area is to be impacted by the project. (Base line – information of land) Around project site has been determined with interaction of the project with economic, social, biological and physical environment.

There are no land use for forest, agriculture, and farming purposes and so the proposed project will also have no impact on land utilization pattern and land use plan.

There is no further additional land use for that project. In Hlaing Thar Yar Township, currently there are no land use for forest, agriculture, and farming purposes and so the proposed project will also have no impact on land utilization pattern and land use plan.

The survey of the surrounding land use was focused on a radius of 1 km from the Project boundary. The area is almost completely built-up comprising of institutional, commercial, and very less residential buildings. There are some factories and companies around this Spring River Knitting (Myanmar) Factory, Yi Xuan (Waterproof Fabric Manufacturer) is at the front, Yuan Xin Guang Co., Ltd is at right side and Red Dragon Food Industry is at the back. At left side, there's Twin Thin Tike Wun U Tun Nyo Street.

There is one main road named Mat Kha Yar Min Thar Gyi Road is at the front of Factory. This Road is right side of Than Chet Wun Main Road of the Shwe Lin Ban Industrial Zone and connect with Kha Yay Bin Main Road which has Shwe Pyi Thar River Bridge.

Physical environment: Air, Noise and Water

Duration for Air Quality Survey and Methodology

2 times monitoring for Air quality survey has been performed. Once was on (15.12.201) near boiler and another on (18.1.2020) near generator.

The project site air quality was tested with EPAS (HAZ – SCANNER) environmental parameter air station. This instrument can be used to measure ambient air quality and to measure and document critical USEPA criteria pollutants, including NO_2, CO_2, CO, SO_2 etc. EPAS provides direct reading in real time with data – logging capabilities.

	Date	Parameters						
		NO_2	O_3	PM_{10}	$PM_{2.5}$	SO_2	CO (US.EPA)	CO_2 (ACGIIT
NEQEG		200 µg/m^3	100 µg/m^3	50 µg/m^3	25 µg/m^3	20 µg/m^3 24 Hr 500 µg/m^3 10 min	9000 ppb	5000 ppm
16°54'50.11"N, 96° 3'31.06"E	15.12.2018	71	45.1	26	12	15.0	71.6	-
16°54'51.52"N, 96° 3'34.29"E	18.1.2020	65.8	65.8	22	12	12.7	241.3	-
16°54'51.56"N, 96° 3'34.684"E	**4.2.2022**	**41.16**		**15.51**	**4.22**	**184.80**	**53.49**	**213.29**

Monitoring Result

Results of ambient air quality measured are mentioned in above results. Collected data are less than the WHO Guidelines, and NEQEG value. According to these data, it can be said there are no significant effect on the environment

Noise level

In order to assess the noise levels within the study area, noise monitoring was carried out at five locations once within the study area on 15.1.2020. One location is gate where near generator sets where most noise

generated in this factory. And other locations are 200 m from factory where Transportation Company is located, boiler area, in front of the factory, and knitting machine (Production area). At each noise monitoring station, noise level as *Leq* was recorded on an hourly basis for 24 hours continuously using digital noise meter (Lutron SL-4001, Serial Number I 95341). The summarized results of noise levels as *Leq day* (Ld) and *Leq night* (Ln) are given in ***below*** and are compared with World Bank Standards as given in ***below table*** ascertain the status of existing noise levels.

The factory is located at the industrial zone. And it can be considered as industrial, commercial receptor especially and simultaneously running of other factories are just beside at the front and right of the project area. Working Environment measurement (WEM) as Ventilation, lighting, noise and heat has been checked by Factories and general laws inspection Department on 8.11.2019 and results from 2 auto knitting areas, weaving line A, hand weaving, weaving line B, QC, weaving M/C, Cutting are 63.1, 60.5, 58, 55.5, 60.5, 57, 68 and 59 respectively. (Mentioned at Figure 43)

Water Quality

For drinking water has been purchased from Purify Drinking Water Company. And underground water has been extracted from tube well for domestic use.

In this project there has been operated with some Chemical Process for washing process. Wastewater Treatment system has been constructed in this factory and wastewater from washing process and domestic use has been treated before disposed.

All the water quality has been tested by laboratory testing. (It has been mentioned in 1.8.3 Water Quality of this report). The all the water qualities are within the related standards according to results of water quality.

For biological environment, there were no protected species or species of conservation value identified in this area.

Regional Socio-Economical Environment

Dozens of little houses are perched along the edge of the factory areas, some recently settled, while other others have been living for over 10 years.

Unfortunately, these are not isolated cases. Many others migrated from rural areas to Yangon's industrial zone, in search of employment. In 2016-17, over 130,000 workers have been employed in several categories of work throughout the complex

According to the workers from Hlaing Tharyar industrial zones, their monthly living cost is between K100, 000 and K-200, 000.

The township is connected to other parts of Yangon across the Yangon river over the Aung Zeya Bridge, the Bayinnaung Bridge, and the Shwe Pyi Thar Bridge so that's why existing access to the proposed site is from more entries and exits to serve other entry and exits to downtown.

There are 7 industrial zones inside Hlaing Thar Yar Township such as Industrial Zone 1, 2, 3, 4, 6, 7 (total 1401.44 Acre) and Industrial Zone 5 (Shwe Lin Ban Industrial Zone) is separate (222.95 Acre). Total 612 factories in Hlaing Thar Yar Industrial Zones and there are 60000 workers are working at Zone 1, 2, 3, 4, 6, 7. In Zone 5 (Shwe Lin Ban), there are 6000 employees are working at 162 factories.

Hlaingthaya Industrial Zone, consisted of mostly garment and other light industries, is one of the largest industrial zones in the country. After Cyclone Nargis the township experienced a jump in population due to refugees.

The township has 48 primary schools, 9 middle schools and 8 high schools. And Yangon Technological University also maintains a campus in Hlaingthaya.

There's no culture and heritage building around project area.

E-3 Health Policies and Commitments, Legal and Institutional Arrangement

E-3.1 Safety Health & Environment Policy (SHE)

Legal Principle Basis

- Factory Act 1951(as amended 2016) section 13-58
- Occupational Safety and Health Act, [15.03/2019]

- H&M Best Chemical Management Practice Guideline
- H&M Zero Discharge of Hazardous Chemicals

Objective

Generally, the aim of SHE policy is to make enterprise operates with high efficiency and guarantee the safety of crews and properties simultaneously; on the other hand, improve the image of enterprise in sustainable development responsibility.

For workers, Management at Spring River Knitting (Myanmar) Co., Ltd believes that safety is the first priority and all accidents are preventable, because of this belief it has adopted a "Zero Accident "philosophy. Spring River Knitting (Myanmar) will make every effort to eliminate all incidents/accidents in daily operation. All Spring River Knitting (Myanmar) employees at the work site will be accountable for the effectiveness of the Factory SHE principles at all times.

Duties of Employer Employee

Employer

a. Set up a crew to execute SHE principles
b. Guarantee the welfare for the workers
c. Assess the risks and hazards
d. Provide proper and sufficient Personal Protective Equipment(PPE) to workers on relevant positions
e. Training workers periodically to give them general knowledge of SHE policy and be familiar with potential occupational hazards and how to prevent them.
f. Review and update the content of policy at least annually in accord with the national law and maintain the mechanism works practically.

Employee

a. Follow the safety instructions of occupation and general
b. Cooperate with safety training activities
c. Report safety risks and accidents timely

Working Details

Safety Items

Fire Safety, Smoking Policy, Occupational Safety, First Aid/Injury Management, Trauma Counseling

Health Items

Worker's Welfare, and Cleanliness &Housekeeping,

Environment Items

Waste Management, Emission to Air & GHG Control, Effluent/Wastewater (No processing in this factory), and Water Use

E-3.2 Environmental and social law related to the proposed project; Rules and regulations Procedures

The law Rules and regulations The role and responsibilities of the relevant governmental organizations that will be involved in the process are: Health of workers; Occupational safety; Accidents Career opportunities; Public Holidays; Salary These programs are designed to address epidemics and health care. Administrative Sector Agriculture and irrigation; Culture Urban Development Financial and tax sector; Health The hotel and tourism sectors; Industry National Planning and Economic Development; Science and technology; The transport sector; Laws that are enacted by the environment, such as environmental protection, are mandatory.

In addition to the above, there are other laws which are required by the factory Procedures Guidelines are outlined in the Chapter 2 of report section.

Environmental Monitoring Plan's guide line from ECD, and YCDC, and Environmental Standards and guideline values for air, noise and water are also mentioned in Chapter - 2 of this report.

E-4 Summary of Impacts and Mitigation Measures

Committment for Environmental Conservation by Spring River Knitting (Myanmar)

Regarding objects emitted into soil, water and air environment, Spring River Knitting (Myanmar) will comply with National Environmental Quality (Effluent) Guidelines issued by Myanmar Environmental Conservation Department in 2015 and it is their committment.

Pre-analyzing on environmental related matters

The implementation for pre, analyzing on-environmental related matters was done according to transfer job to the AMK and Associate, environmental services to draw revised EMP for garment that function with the system of CMP which can be performed the implementations of environmental conservation which are

- Learning and observation on MIC proposal of Company
- Meeting with BOD for the implementation process of Company
- Discussion with General Manager and responsible persons; and requested necessary information
- Learning in products site
- Detail learnt and observed on production situation, ventilation, lighting, fresh air condition, chemical using or not, fire protection, safety, system for cleaning, social welfare, health program and administrative system
- Dialogue and frankly discussion with all staffs in their sites.
- Discussion with representatives of branches
- Discovered related rules and acts and referred on that

E-4.1 Impact Identification and Impact Assessment

This Environmental Impact Assessment has been conducted, based on ISO 14001

This environmental impact assessment is conducted, not only because it is required by law, but also to measure the exact impact/s of the activity on the environment and to propose what suitable mitigation measure/s that can be undertaken to decrease these impacts to the least.

- Positive Impacts: The facility will save work for approx. 300 families in the first phase, this is very important for a nation under occupation suffering unexpected harsh conditions siege, road-cuts, embargos, invasions where experience shows that such irresponsible and irrational invasions led to great damage and wrecking of the structures.
- Negative Impacts: As an axiom, no whatever economic activity is without negative impact, especially on the environment.
- This environmental impact assessment is conducted, not only because it is required by law, but also to measure the exact impact/s of the activity on the environment and to propose what suitable mitigation measure/s that can be undertaken to decrease these impacts to the least.

Hazardous materials:

In this factory, there is some chemical material use in washing process, and using of diesel fuel for generator and caustic soda etc. for spot cleaning operation.

Anyhow, the company will follow the following measures to monitor and minimize the negative effect/s when handling any considered hazardous (or can generate hazardous) material:

- Allocating these materials in a special fully closed store with good ventilation devices.
- Making access to these materials authorized only for certain skilled and trained persons (better also limitation in number).
- Person/s to deal with these materials only when they wear the suitable and protective dresses. All related precautions should be strictly followed.
- Following the exact procedures when handling such materials, e.g. exact dose, disposal restrictions, special processing, storage conditions.... etc.
- Sprouting detailed awareness among all workers to keep them knowledge-updated about such materials (and those will be introduced in the future) , their chemistry, hazardous nature, right ways to handle and the exact methodology to work with them.

Air Emissions and Ambient Air Quality:

The major sources for air quality deterioration additives are (e.g. pigments + oil vapors + odors), smoke and

gases from generator, kitchen and emissions from different mechanical and electric appliances. The mitigation measures to be carried out are installation of efficient ventilation system + workers wear suitable masks when needed + sustainable maintenance for all machinery + continuous surveillance.

Noise:

In spite of the level of noise in working with most of the machinery in the factory are within the human accepted level (Decibel), some mitigation measures will be carried out in case of exceptional noise levels arise during any phase of work; e.g. workers wear ears' anti-noise devices + keeping continuous checking and sustainable maintenance for all machinery.

Solid wastes:

It is inevitable that, during the working of the factory, the solid wastes will increase both quantitatively & qualitatively. The company shall apply a strict policy within its all sections aims to minimize the solid wastes to the minimum by introducing the following measures: (1) Solid waste separation and implying recycling when possible. (2) Introducing suitable, clean and sufficient containers and keep them always closed and emptying them daily on regular bases. (3) Cleaning around and spraying insecticides when necessary and (4) Arranging awareness training programs for all personnel on how to handle solid wastes.

Wastewater:

In contrary to many other industries like metal, food, leather ... etc., garment industry (without dyeing process) is well-known not necessary to use that much water. Major wastewater will be produced by the personnel daily household uses, flushing and cleaning.

Pollution Source from water Environment and Mitigation Measures

Based on the sensitivity of the ground water underlying the site with respect to any pollution incident can be assessed as normal.

The project site is situated near to Hlaing River. Waste water from this industrial Zone will discharge into this river via public drains. Based on this factor the sensitivity of surface water with respect to any pollution incident can be assessed as moderate.

Topography and Physiographical Impact

Construction period will have very localized impact on topography and physiography of the factory compound.

During operation period, there is very little industrial air pollution (odor air inside factory) and waste water from industrial use and employee use, solid waste from factory operation

Impact on soils

There will be no impact on soil of the factory compound during construction and operations.

Raw material

Specification of raw material is which resistance to chemical is good and moderate, not recycled, not hazardous.

Land Use

There will be no impact on land use of the area. Cutting of two to three small trees for extension of factor construction will be inevitable.

Terrestrial

There will be no impact on the terrestrial flora and fauna of the surrounding area due to operation and existing old factory.

Socio-Economic

No Adverse impact can be expected on socio-economic condition of surrounding area from the proposed factory during operation period, it is located in government owned industrial zone. It is to increase in local economic and social benefit by creating employee, not social impact to land use, culture heritage.

Pollution and Emission Sources-Characteristics, Quantification and prediction

Pollution and Emission Sources-Characteristics, Quantification and prediction has been mentioned in 3.4 Pollution and Emission Sources-Characteristics, Quantification and prediction of this report which are included Air Emission and noise, and Water Pollution during both operational phases (Construction and

operation).

E - 4.2 Significant Aspects, their Impacts on the Environment and Mitigation Measures

Environmental Problems associated with construction stage

As the project access roadway has served the transportation of this area for a long time, most environmental impacts from the widening would occur only during the construction. The severities of these impacts are considered to be minor to moderate because they can be mitigated by implementing appropriate mitigation measures. Environmental Problems associated with construction stage are;

- Blockage of entrance/ access;
- Traffic congestion and safety
- Soil erosion and flooding during wet season;
- Nuisance noise during the construction;
- Deterioration of air quality from construction machinery and vehicles; and
- Dust generation during dry season

Environmental Effects during operation

The identified environmental effects from operation of the proposed project are listed in table of Identified impacts during operation. The absence of environmentally sensitive areas within the project area precludes any significant indirect environmental effects. Major impacts would include increased noise, vibration, air pollution, and waste management and road accident due to road traffic and soil erosion and flooding due to blockage of water flow and poor condition of shoulder. SPRING RIVER KNITTING (MYANMAR) will follow good practice during maintenance and coordinate with local government and other concerned agencies to reduce the impacts.

Actual Situation of labor and working condition

Factory's rules and regulation concerning labor and employment cover the following issues;

- General Rules,
- Employment Contract
- Working rules/ discipline
- Salary, allowance, holiday and leave
- Basic pay scale system and overtime
- Health control, safety and sanitation

Spring River Knitting (Myanmar) Company Limited confirmed

- Not to apply child labor / forced labor
- Complying government regulation with social security and labor law
- Already working and discussing with Shwe Pyi Thar Region – labor Department for employment of labor

<u>The waste generation on account of this project is negligible.</u>

Though there are aspects connected with the activities of this product but their negative impact on the environment is very low and minimal. World over, this type of project is considered as low risk project. There are very little possibilities of adverse impact on biological and socio economical environment of project. This project shall rather bring in more prosperity to local population and shall enhance their quality of life.

Health Standards for this factory with Health Impacts

Identification of Potential Hazards

<u>Safety measures</u>

- May cause by machines, tools, or other equipment
- By explosives, combustible or inflammable substances.
- By electricity, heat or other energy.
- By inappropriate work methods in operating, maintaining, transporting, handling of heavy objects.
- In relation to performance of other work

Health measures

- By failure to maintain the proper standards of ventilation, lighting, illumination, thermal insulation damp-proofing, cleanliness, etc.

Hazard Control

Working Environment Measurement and Improvement

- Measure and evaluate the working environment and establish and report the results and a plan for improvement of the working environment.
- Prioritize the conditions to be improved based on the resulted of measurement by Head of the relevant department.
- Voluntary efforts to improve the working environment in connection with the facilities which they are in charge of shall be made by employees.

Medical Examination

- Medical examination for employees on a regular basis and from time to time. An employee who is found or suspected to have health problems as the result of the medical examination to take the second medical examination and promptly notify the employee of the results.
- Appropriate measures such as change of the working place, Reassignment and transfer or shorter working hour if deemed to be necessary to maintain the health of the employees as the result of the medical examination.

Management of Employee with Health Problems

- Control any health disorder of employees, the person in charge of the safety and health shall watch the health of him or her from time to time and notify the health management department immediately upon detecting any health problems of an employee.

E - 4.3 Significant Impacts and mitigation/corrective measures during the Decommissioning

The Decommissioning Phase comes after the long Operation Phase which usually last for several decades depending on the availability of benefit and profit of the working condition both personal and social. At the end of the long Operation Phase the relief of the land will change or the landscape will greatly altered, and that will depend on the duration and the magnitude of the operation. Damage car or vehicles' body, old parts of the engines, gear box etc. will remain greatly impacting the aesthetic natural beauty of the original landscape. The decommissioning work simply means the clearing and tidying up op the old site

Spring River Knitting (Myanmar) has given commitment to comply decommissioning and rehabilitation work guided by the Environmental Law (2012)

E - 4.4 anticipated environmental and Social Impact Evaluation

The environmental impacts may include all those that are beneficial or adverse, short or long term, temporary or permanent direct or indirect and local or regional. And it has been mentioned by table at Table 35 of this report.

E – 4.5 Potential impacts on factory operations & production processes,and to provide responsibility

Based on the factors the sensitivity of the underlying soils with respect to any pollution incident is assessed as medium to high.

As natural drainage must not be disturbed or altered as far as possible, so artificial drainages has to be constructed in alignment with the original natural ones by project proponent as necessary.

Machine injuries: Machines using in knitting factory and other cutting tools can cause minor injury to workers' hands. Sewing machines used to make knitting wear are powerful and use needles that can cause severe harm to machine operators.

Hand injuries caused by vibrating tools: Nailing machines and other equipment that vibrates can lead to a problem called "dead hand," vibration-induced white finger (VWF), hand-arm vibration (HAV), or Raynaud's phenomenon. The vibration limits blood from flowing freely to the fingers, causing them to tingle and lose feeling, turn white, then blue, and even develop ulcers. This injury is not curable. The best way to reduce the damage from it is to ensure that any person who develops signs is immediately changed to a job with no vibration. It can be prevented by making sure workers do not work too many hours with vibrating tools,

regularly rotate out of jobs with vibrating tools, and inspect and maintain tools on a schedule

Strain and overuse injuries: Workers often sit or stand in the same position all day. If you can sit, chairs might not support your back and legs. In badly equipped factories, you might have only short stools instead of chairs, causing neck, back, leg, and knee pain

For the potential impacts by the above injuries, project proponent and factory management will provide the following;

- **to install guards on the needle areas and on the v-belts above and below the table**
- **to perform practices as training for 2-handed controls on cutting, puncturing, nailing, and stamping machines**
- **Practices to shut off power of electric or other sensorsto a machine if the worker's body is in the wrong place**
- **To prevent injuries to workers who are cleaning, fixing, or adjusting machines, to give training to follow lock out and tag out procedures for repair and maintenance work.**
- **Rotate jobs during the day so no one does any job too long.**
- **Demand that the factory provide you with chairs and equipment that fit your body and your job.**
- **Set up your work area so you have what you need close at hand and you do not have to reach, bend, or twist too much.**
- **Exercise to stretch and strengthen your muscles**

Dangers from dust: Although knitting operations do not generate a lot of dust and small bits of material and only a little of dust generate, breathing these can cause irritation and other breathing problems.

To prevent above dangers from dust it has to be perform the following;

- **Provided practices to use a vacuum cleaner or at least a damp cloth to clean the dust from surfaces around your work area at least 2 times during your shift.**
- **Provide practice to use material that is tanned without heavy metals, and toxic chemicals.**
- **Rules have been designated that Aafter working at chemical storage area, boiler room, wash chemicals and dust off your hands regularly in washing room, especially before eating or drinking.**

Prevention of Impact caused by waste disposal

- **Recycled some of the office waste**
- **Dispose the domestic solid waste at an approved land fill or dump site and avoid open burning of the solid waste**
- **The domestic sewage and waste water from baths, toilets (manually flushing toilets) will go to a small septic tank and then to soak pit. Do not discharge of untreated waste water into the open or into-stream, river or water bodies through public drain.**
- **Do not wash down oil spill with water. Soak the oil spill with absorbents or available rags and discard it at an approved land fill.**
- **to refuel vehicles only at designated refueling area**
- **The floor of fuel store must be spreaded with concrete floor to prevent the oil from leaking underground. Construct a small bund (drainage) around the fuel depot.**
- **Discipline all workers for good housing practice, not to litter.**

Prevention of Impact caused by Traffic

- **Educate the drivers of vehicles and instruct them to drive slowly especially when using a public road. Instructed the drivers to follow the principle of defensive driving.**

Prevention by impact of emergency and health (hospital) service

- **Train at least two workers for first aid training while another three to five workers for firefighting.**
- **Provide adequate First Aid Kits, Fire extinguishers (cylinder) and water jet pumps. Most of all provide Personnel Protective Equipment (PPE) to workers exposed to dust, smokes, heat, vibration etc.**
- **Try to respond immediately and adequately in case of a serious accident.**
- **For emergency response, organize regular mock drills for first aid works and also drills for fire fighting.**

Prevention from visual impact and lighting

- **Avoid excessive use of light at night;**

- **Use yellow light lamp (bulb) for outside**
- **If too many insects aggregate at a lamp switch off the light for a few minutes**

Prevention from impact of social illness or anti-social behavior on the project and vice versa

- **to prohibit the use of narcotics among the workers**
- **to ban the drinking of alcohol in the work place and if possible inside the working area**
- **As for dealing with the local people educate the workers regarding local cultural behavior, etiquette, conducts, and awareness to achieve responsible and health community interactions.**
- **deal with the workers on a fair and square basis**
- **Do not let overworked, underpaid, unfair dealing and unhealthy relation between the employer and employees.**

Prevention of impact by potential security

- **To make fencing or walling of the compound**
- **set up effective security gate; no unauthorized access to the project site is permitted**
- **to check all the entering and leaving of the project site**
- **Do not let the workers mingle freely with the local people, especially during working hours**
- **Let security guards to be attentive and dutiful.**
- **To let all workers to wear uniform, and let them keep ID card for easy identification.**
- **Keep every material that are of certain value and that could be easily stolen under lock and key.**
- **to educate and discipline the workers**
- **set up punitive measures, such as suspension or sacking (termination of employment) for workers found to be in contravention of the rules or requirements**

E-5 Overall Budget for Implementation on the EMP

E-5.1 Estimated Budget for EMP Implementation

The project will launch environmental enhancement and protection measures in a phased manner during the construction stage. The cost for environmental protection measures has been estimated and included in the project cost, the proponent assures that adequate cost of the implementation of the environmental protection measures and environmental monitoring will be included in the project cost.

Implementation of Mitigation Measures

The Project will implement the environmental benefits augmentation and mitigation measures. The SPRING RIVER KNITTING (MYANMAR) Company Limited Industry Project will be responsible for overall mitigation measures. Many of cost for the mitigation measures are included in project cost. Beside this, tentative cost for other benefit augmentation measures and adverse impact mitigation measures is 2% profit of the project per year.

The mitigation measures should be integrated into project design and tender documents. Using this approach, the mitigation measures will automatically become part of the project construction and operation phase. By including mitigation measures in the contract or in specific items in the Bill of Quantities, monitoring and supervision of mitigation implementation could be covered under the normal engineering supervision provisions of the contract.

Supervision and Monitoring

The purpose of supervision is to make sure that specific mitigation parameters identified in the environmental assessment and as bound by the contract is satisfactorily implemented. Likewise, monitoring is necessary such that the mitigation measures are actually put into practice.

E-5.2 Estimated Cost for Environmental and Social management plan (for First implementation period)

For first implementation period, Estimated Cost for Environmental and Social management plan including Planning and Administration, Awareness and Training, Meeting Cost, Implementatin cost for EMP, Demonstratin and Drill, Air Quality Noise, Water testing, Monitoring and Evaluation, Mitigation Measures, Donation for Environmental Activities, and General and it can be estimated 610 lekh in Myanmar Kyats. (Has been mentioned in Table 45 of this report)

Estimated Cost for annual environmental impacts and Mitigation Measures including air pollution, noise,

solid waste (sludge), water pollution, energy consumption, green belt development is about 2150 USD per year.

Mitigation of impacts on Ground water and surface water at decommission phase is estimated 60 USD per year up to two years after decommission. (Has been mentioned in 4.2.1 Impacts, Mitigation Measures, Frequency and Responsible Party of this repot)

Social Impacts and Benefit Augmentation / Adverse Impact Mitigation Measure Cost for Operatgion phase is estimated 700,000 in Myanmar Kyats which is included socio-economic environment, cultural and physical environment, chemical environment and enhancement issue.

4.2.2 Annual Social Impacts and Benefit Augmentation / Adverse Impact Mitigation Measure Cost.

Annual Estimated Cost for Environmental Monitoring is 2270 USD. 4.3 Annual Environmental Monitoring Parameters, Frequency, Responsibilities and Estimated Cost. It is included air pollution, noise, solid waste (sludge), water pollution, energy consumption, and green belt development.

Budget for Provision PPE Annually is estimated 4500 USD.

E-5.3 Using of Extra Expenditures

As per the company's decision, more programs for Environmental Management, Mitigation, and Monitoring program will be done by company operation expense and if the proposed budget will be needed with inadequate funding for above programs, the management and monitoring procedure, the company will spend more by company expense.

And for the regional development for the local community and environment plan, Spring River Knitting (Myanmar)will be the one who would like to take part in as a part of them as CSR Policy of Spring River Knitting (Myanmar).

CSR Program has been planned for the development of Surrounding Social Community from 2% of profit on the factory revenue and profit to 30% of the Health, 30% for Social and Philanthropy, 20% for other activities are also planned to be used. Especially for the Road damage caused by heavy trucks' transportation of raw materials, finished products in the Shwe Lin Ban Industrial Zone liaised with Industrial Zone Administration Committee, working with the relevant government departments , and the adjustment plans in Spring River Knitting (Myanmar)Garment Company Limited and to be included as part of this program.

E-6 Management and Monitoring Sub-Plans for Each Identified Impact

During impact assessment for this factory, some adverse impact has been identified and mentioned in 3.3 Impact Identification and Impact Assessment and this chapter will be described management and monitoring plan for those each identified impact.

Chemical and Hazardous Material Safety Management Sub – Plan

Some hazardous chemicals has been used by this factory as washing process and wastewater treatment process. And related with using the chemical materials in this factory, factory management has to consider for chemical managed plan.

Hazards Associated with Chemical Materials are;

Health Hazards - A variety of health hazards are associated with chemicals in factories

Physical Hazards - Chemical materials may present physical hazards as well as health hazards. The more common of these include: flammability, oxidizing capacity, water reactivity, pressurized or compressed gases and liquids, and incompatibility and possible reactivity with other chemicals. When these potential hazards are present, awareness is critical for the proper storage and use of the relevant chemical materials.

Hazardous Material Storage, Handling and Transportation

Handling, storage and transportation of all hazardous material (ex: fuel, chemical additives) at factory must comply with all permit from Government, applicable law and regulations in Myanmar.

Material data sheet must be on file at factory store for each and every chemical, chemical product used and stored at factory. The MSDC must be available for review by concerned workers and they understand do and don't.

Factories that require chemical processes are required to provide solid waste and hazardous waste management as well as provide training for employees.

Air Pollution Control Management Sub-Plan

All discharges to air from the factory must comply with permits, applicable laws and regulation, emission standard from ECD, Government's department and communities

Air Emissions Management Sub - program

- Fumes, dust, vapor, smoke and anything that enters the atmosphere that could harm the environment should not be released unchecked from the factory facility.
- The factory should develop an inventory for the following air emissions where relevant:
    - Sulfur dioxide
    - Particulate matter
    - Volatile organic compounds
    - Other relevant vapor or gases
- The inventory should cover type, amount and source of emissions.
- Air emissions sources should be equipped with pollution control devices such as fume hoods, scrubbers, filtration screens or water baths etc.

Noise Management Sub- plan

HSE group checks regularly generator, and maintain noisy equipment whenever HSE group can check with noise meter in these rooms weekly, 65 dB or not.

Solid Waste Management Plan at Factory

All the waste categories has been mentioned at Table 12 and according to that record, it can be said that industrial waste as cutting piece and fabric piece is very small amount (daily 0.5 kg and annual (5.37 ton - 5370 kg). Also these cutting pieces and fabric piece has been provided to some small recycle factory such as pillow manufacturing with free of charge weekly. They have brought these by themselves from this factory.

Domestic waste such as from dining room and kitchen has been disposed to Htein Bin Waste station daily as it's close to factory by schedule as cooperated with YCDC since project started.

Other solid waste such as packing box and cupboard are about 26.3 ton per year. They are systematically stored and use as recycle when necessary.

Industrial Waste Water, Domestic Sewage, Storm Water Control Management

Wastewater Treatment System at Spring River Knitting (Myanmar) Factory

Wastewater treatment system has been constructed in this factory since establishment.

The function of Wastewatger Treatment System and process has been shown at

5.2.6 Wastewater Treatment System at Spring River Knitting (Myanmar) Factory of this report.

Storm Water Management

There are storm water drains in factory compound and connect to public drain with standard specification (length, width, height) in these drain, settlement area, sieve area in place to protect sedimentation and plastic and other debris.

Environmental Monitoring Sub-Plan for each Identified Impact

In order to implement the environmental management program and according to company officials following structure Environmental Management Group is going to be formed organized by one or two persons from near by factories, local administratives, Shwe Lin Ban Industrial Zones' officials and necessary government Departments such as YCDC, Health, Firefighting etc. , cooperate with the officials at the township level, Environmental management measures as a private fund set up production (5%) of the target will be placed on promoting the Environmental Affairs and monitoring programs are scheduled to be implemented for the structure and personnel practices.

The emergence of the Environmental conditions has to be reported to residents, Shwe Lin Ban Industrial Zone's personnel and thoughly discuss with Environment technicians from industrial businesses, Local government agencies, Township Administrator, Education, Health professionals, who are appointed to set the factories in the Hlaing Thar for right of ways of negotiating solutions, good methods to reduce the solution must be undertaken.

Environmental Monitoring Group has to be formed for this factory is including mainly by the relevant government departments, this garment factory project officials, local representatives of the respective district ward who are elected have to be formed.

Monitoring System: Good quality data, monitoring can also include evidence as well as a complaints register. It is cooperated of the following subjects and methods

Frequency of monitoring to waste water treated waste water, quality of ground water, air pollution, solid waste removal management and frequency, checking and provision of firefighting equipment, emergency response sensors and PPE, and including budget of these works and management of HSE Group.

Monitoring and guide line standard: the factory owner group proposes guidelines for their plant mentioned in IFC and World Bank Environmental, health, and safety guidelines of ECD, World Bank and ILO etc. Environmental issues of concern arising from the manufacturing of garment products primarily include Air Emission, Waste water, Solid waste and Resource and Energy consumption.

Management Plan for Factory Operation and Production Process

Engineering Management Plan includes Electrical Design, Water supply and Drainage Design, Ventilation Design, Dust Collecting Design, Environmental protection, and Energy Conservation design.

Machine Injuries Prevention and Health Management Plan includes Machinery Safety Plan, Health Measure Plan, Electrical Hazard Management Plan, and Fire Hazard Safety Management Plan.

Warehouse Storage and Good housekeeping Management Sub – Plan

All of these warehouse are labeled, with signs and declared to indicate special storage area with firefighting equipment, extinguisher ventilated, fuel storage area are provided with material safety Data sheet and handling procedure. MSDS sheets are available to them to read in Myanmar language. Workers in factory are aware of the emergency response plan for hazardous material used, fire, explosion from fuel storage and generator house.

Good housekeeping

Good housekeeping is a number of practical measures based on common sense that factory management can undertake to improve their production, workplace safety, obtain cost saving and reduce the environmental impact of factory operations.

Human Resources and Management Plan

According to the labor intensive manufacturing industry, the H.R department is preparing policies and procedure for workers in this factory shown in 5.4.5 Human Resources and Management Plan

Emergency Management Plan

Spring River Knitting (Myanmar)has been developed Emergency Management Plan including Fire Emergency,

Security Management Plan, Sign Management for Health, safety, fire safety, environmental Management Plan and Environmental Communication and Reporting Plan.

Implementation of Environmental Management and Mitigation

Design of Environmental Management Plan at industrial sector, effective safety and loss management programs include a number of key elements that form the basis for.

1. Designing, construction and operation the process facilities
2. Controlling performance by the factory manager
3. Community awareness and emergency response
4. OSHA 1910 (occupational safety and health administration)
5. ISO 9000 (the international organization of Standardization)
6. ISO 140001 and IFC / World Bank Standard)

Environmental Monitoring Plan (EMoP)

The environmental monitoring plan includes information on environmental parameters to be monitored, location, time and frequency, cost of sampling and stage of project during which monitoring should be conducted. EMoP will be a useful tool to monitor implementation of mitigation measures included in EMP.

Measures to control the impact of the implementation on the environment

An effective implementation of benefit maximization measures and adverse impacts mitigation measures would optimize the benefits expected from the project and avoid/minimize the adverse impact from the project. Mitigation measures are recommended actions that reduce, avoid or offset the potential adverse on the environmental consequences of the project activities.

Environmental Management System

Environmental Management System (EMS) is based on the international standard (ISO 14001) which recognizes environmental stewardship as part of factory daily activities

Implementation of Environmental Management System

The guidance and documentation to organization for EMS is to manage their environmental responsibilities. The organization will manage its potential impacts on the ground in factory and on the health and safety, welfare of its workers and surrounding. Actually the EMS is a set of procedure based on Plan, Do, Check, Act.

Risk Management System

Risk Management system is the complete process of understanding risk, assessing risk, and making decisions about implementing effective risk controls. Risk management involves these following essential steps, which are constantly repeated.

Risk Monitoring

Risk identification

Risk Assessment Risk Analysis

Risk Evaluation

Risk Control

Monitoring and guide line standard

The factory owner group proposes guidelines for their plant mentioned in IFC and World Bank Environmental, health, and safety guidelines of ECD, World Bank and ILO etc.

Occupational Health and safety Management Sub-Plan

To avoid any adverse effects on the health of workers due to dust, noise and other insufficient measures has to be monitored in factory compound.

For the safety of workers at factory, dust masks have also been provided. Dust masks are help to prevent inhalation of PM there by reducing the risk of lung disease and other respiratory disorders. Regular health monitoring (once in a year) of workers has also been carried out

Integrated Health and safety, Emergency and Social Plan

All workers in the project are required to wear adequate personal protective equipment relevant to their

jobs. Supervisors are trained to monitor health and safety of their crews in their department. Health and safety related information is also posted on the announcement board.

The factory has installed fire safety measures and system as instructed by the fire department and the factory stores sufficient amount of water for extinguishing fire. The factory has assigned a number of staff to coordinates for emergency fire accident.

Social policy

Factory Management takes care of the welfare of its workers. Social and gender equality is exercised without a compromise in the project. Discrimination of any forms is forbidden and harsh penalty is promised. To guarantee the fair working environment, workers are allowed to organize labor unions and bring up issues to the management.

Fire and Safety Issues Related to Building Construction

It is essential that all workers can quickly and easily evacuate their work areas and exit the building in the event of an emergency. Building construction, and the arrangement of equipment, utilities, furniture, etc. within the building spaces, must be strictly in accordance with fire codes and meet health and safety regulations and guidelines.

Factory Building comply with safety, fire & emergency Standard

(Earthquake, wind)

As per design of factory building, 1½ storey of RC building is arranged for production line, attached rooms to this building are ware house, generator room, fuel storage, toilets. Designated solid waste area is separately prepared.

Spring River Knitting (Myanmar) HSE Organization

Spring River Knitting (Myanmar) Limited has formed firefighting team in 2018. This team has performed weekly safety meeting especially for including emergency preparedness program. This team is responsibity not only for fire case but also for occupational safety, health, and factory environmental activities (impact mitigation, monitoring etc.).

Result of the Public Consultation

The first Public Consultation Meeting for this Jinli Knitting Factory, (263,264,265), Conner of Min Gyi Maha Min Kaung Street and Wun Saungmu Street, Ward No.(25), Shwe Linban Industrial Zone, Hlaing Tharyar Township, Yangon Region, Republic of the Union of Myanmar on 21.12.2018.

That meeting was management by AMK and Associate Environmental Consulting Limited, Jinli Knitting Company and Spring River Knitting (Myanmar) management (Former Fengy Knitting) group. It was invited to Township General Administration Department, Townshp Development Committee, and Industrial Development Committee.Total 32 persons has attended and given suggestions.

The Second Public Consultation Meeting for this Spring River Knitting (Myanmar) Factory was carried out at Spring River Knitting (Myanmar) Factory's Meeting room on 6.3.2020.

This meeting was managed by Joey AMK and Associate EIA Consulting Group and management group from factory.

It has already invited to officials of concern government departments such as Township General Administration Department, firefighting department, Township Municipal, YCDC, Head of village near by factory and officials from Shwe Lin Ban industrial zones with invitation letter before 5 days in advance and also already announced in Factory Notice Board outside and in front of factory. At the meeting, officials from the respective administrative office and members of surrounding factory (about 30 persons) attended.

According to the meeting agenta, U Aung Myat Kayaw from AMK Associate EIA Consulting Limited, Consultant of Spring River Knitting (Myanmar) Limited for setting up a Knitting factory explained impacts on environmental and community review of the EMP process for Environmental and Social Management Plan.

He has explained that, to be the best company Methods reducing the impact on all similar projects in compliance to monitor and study the effectiveness of operations and requirements of the existing legal provisions, Pollution from pollutants from the survey of the factory for the establishment of safety and environmental laws and policies of the plant project. Also explained Water Waste Noise and Vibration Soil degradation, bad life, soil contamination, pollution The condition of the bottom sediment, Forest habitats

from environmental conditions, endangered species; Rivers, Vulnerability to geological features; Rehabilitation from social life; Poor people Ethnic people; The lives of workers; Land use and local resources; Water use; Current life and job opportunities; Employment sharing are required.

Also he has explained at the same time required to avoid for Loss of profits and damage of social infrastructure and local opposition.

Impact of the project and ways to take action; In addition to mitigation measures, the impact of potential wastewater and materials; Effects on the environment; Effects on the environment; Effects on water environment; Effects of noise and vibrations generated from the operation of the plant; The impact of workers' accidents on the job; In addition, the mitigation measures were explained, as well as mitigation measures

Discussions

U Kyaw Kyaw, Supervisor of YCDC explained that all of the explaination has clear understood. But necessary to explain for the using boiler of this factory in bit detail that it has been protected for air pollution whether it has been used cyclone method or not.

Factory management explained that boiler has been used cyclone method and installed scrubbers and filter to prevent air pollution.For the water treatment plant, it has been systematically installed and outlet wastewater has been performed laboratory testing by normal schedule till now since it was established. Also he explained that solid waste and sewage has been disposed by liasing with YCDC regularly since project start.

U Soe Min Thu, the Deputy Director of Environmental Conservation Department, said in this public consultation meeting, it has to be included more persons from nearby factory as this is within Industrial zone as well as near by households.

Factory Management has explained that it has been invited with invitation letter to nearby factories before 5 days ahead but only come from one nearby factory and may other factories be busy with their operational condition. Also explained there is no houses around 1 kilometer radius of this factory.

U Aung Ngwe executive officer from Shwe Lin Ban Industrial Zone Management Committee has explained

- CSR program has to be implemented by the company as per schedule
- Social Security Board Fund has to be submitted regularly
- Factory Uniform has to be provided to employees
- Anly leaves which has to be provided to employees as per labor law
- Inspection, checking and monitoring plan are to be performed as included in EMP Report
- To be attended meeting governed by Industrial Zone Management Committee.

After that, meeting attendees are distributed suggestion form for advice and their comment on the establishment of the factory, and they also wrote comments and suggestions.

The meeting was successfully concluded at 1200 hours.

Results of public consultation Meetings and providing needs of the local community

As a result of the two public consultation meeting for this factory, it can be said there is no seriously effect by the project. And the anxiety of the local community is very few.

In accordance with local community's recommendations and requirements, to avoid side effect, solid waste from knitting manufacturing process is stored at separate place systematically and recycle plan has to be applied.

CSR activities for regional development have been continuous and sustained since the project began, and CSR activities have been carried out in necessary sectors and will continue to be carried out.

E-7 Contents of Each Sub-Plan

Management and Monitoring Sub plans for each identified impact are being implemented at Spring River Knitting (Myanmar) Limited’s Factory. These sub-plans are based on Safety and Health Plan and Emergency Preparation.

Cost of measures for environmental safeguards should be treated as an integral component of the project cost and environmental aspects should be taken into account at following various stages of the project for this factory.

1. Concept validation : Preliminary environmental assessment.

2. Planning : Detailed studies of environmental impacts and design of safeguards.
3. Execution : Implementation of environmental safety measures.
4. Operation : Monitoring of effective of built in safeguards.

In implementation of EMP, Specific Environmental Awareness, Specific Environmental Training, External and Internal Communication, and Document and Data control and Reporting are included essentially.

In this factory, roles and responsibilities on Environmental / Social has been mention in Table 56 of this report.

Personal in charge and their group for environmental monitoring of this factory has been done their major duties and responsibilities (as shown below) since starting factory operation

- Mostly waste management system
- Compliance with all relevant rules and regulations
- regular operation and maintenance of pollution control devices
- minimize environmental impacts of operations by implemented to EMP
- initiated environmental monitoring as per approved schedule and guide line
- Review and inter pretention of monitored results and corrective measures in case monitored results are above the specific limit
- Maintain documentation of good environmental practices and applicable environmental laws / rules and regulation/ norms as reference, and knowledge to employee
- Maintained environmental related records
- Co-ordination with regulatory agencies, external consultants, monitoring laboratories, NGO and local authority
- Maintained of report of public in commence and the action plan and action taken
- solved any complaints from local community about environmental and social issues
- Maintained selling of reused, recycled solid waste material to recycled local contractor, disposal transfer of organic waste with YCDC, checking of fire extinguisher monthly and sometimes changing, maintenance generator of every month and replacing some spare parts for noise control and smoke deduction, oil spill prevention at fuel tank

Work Planning

A Waste Management Plan has been partially developed by FHL. This should incorporate auditing and waste tracking procedures, which have been developed as part of the EMP.

The only Emergency Preparedness and Response Plan available for review were: the Emergency Response Manual, which had relevance to training and drill, precaution signboard to environmental measures. The level of implementation of these plans needs to be assessed.

EMP Auditing Procedure

The objectives of the EMP Audit are to:

- Determine whether the EMP conforms to planned arrangements for environmental management and whether it has been property implemented and maintained.
- Identify areas where the EMP can be streamlined and generally improved: and
- Provide information on the results to management.

The audit should be undertaken by the Environmental Officer, with assistance from an external party as appropriate.

The audits should be conducted on a six-monthly basis and cover all elements of the operation

Scope

- Review of documents that from the basis of the information flow of the EMP and evaluate overall compliance with the nominated procedure, including degree of completeness of-each data record, timing of submittal, distribution to nominated parties and filing;
- Assessment of regulatory compliance;
- Evaluation of follow-up action regarding on Corrective Action Records, the Complaints Register; and

the Incidents Record;

- Interviews with individuals providing direct input to the EMP with the objective of assessing effectiveness of the EMP data gathering process and format;
- Assessment of the adequacy of resources to accomplish the EMP tasks; and
- Assessment of the environmental awareness and training program.

Environmental Monitoring Action Plan

In order to implement the environmental management program and according to company officials following structure Environmental Management Group is going to be formed organized by one or two persons from near by factories, local administratives, Shwe Lin Ban Industrial Zones' officials and necessary government Departments such as YCDC, Health, Firefighting etc. , cooperate with the officials at the township level, Environmental management measures as a private fund set up production (5%) of the target will be placed on promoting the Environmental Affairs and monitoring programs are scheduled to be implemented for the structure and personnel practices.

Proposed Environmental Management Group

Environmental Monitoring Group has to be formed for this factory is including mainly by the relevant government departments, this garment factory project officials, local representatives of the respective district ward who are elected have to be formed. The proportion of the representatives proposed as follows.

Sr.	Representative	No.s of personnel
Government Department		
1.	General Administration Department of Hlaing Thar Yar Township	1
2.	Township Health Department	1
3.	YCDC of Township Municipal	1
4.	Townshp Fire Department	1
From Spring River Knitting (Myanmar)Garment Factory		
5.	Administration Director	1
6.	Factory Manager	1
7.	HSE Manager	1
Local Representative		
8.	Shwe Lin Ban Industrial Zone administration Department	1

Emergency Response Control Program for Spring River Knitting (Myanmar) Co., Ltd

Purpose

(Such as fires, floods, earthquake, thefts, violations of personal: Safety incidents, fire incidents, staff fights, staff injuries, sudden illness, etc. to ensure that the frequency of accidents and accidents Negative impact.

Scope

Spring River Knitting (Myanmar) Co., Ltd., all employees.

Responsibilities

Administration : Received an incident after the news, organized and rescued in an orderly and alarm.

Departments : Crisis, or sudden danger immediately report to the Department of Administration.

Safety responsible person : the overall responsibility for the company's security work, to quickly organize the exclusion of emergencies

Code of Conduct for Employee

General Provision

"The factory needs good staff, employees hope good factory", the basic goal of business operations is to achieve a win-win business and employees, but also the way of sustainable development of enterprises.

Code of Personnel Management

Entry management includes Qualified staff must meet the relevant entry procedures, Entry procedures include, Provide own valid identity document, Recently I 1-2 photos 2, Factories require employees to provide academic qualifications of the staff should provide academic credentials, Sign "entry registration form", Accept employee training, signed a "labor contract" with company, the contract period of 1 year,

Collection of fingerprints, for the brand, Accept job skills training, after passing the official examination and those who do not have the entry formalities will not be regarded as employees of the Company.

In Administrative Code of Conduct, Safety management covers fire safety and traffic lanes, as well as safety management. It is our responsibility to abide by the electrical safety rules.

As for health management, the practice of cleaning the factory Office environment health management; it is our responsibility to abide by the rules.

Attendance management, Leave management, Transfer management, Compensation and welfare management, Holiday management, Turnover management, and those are responsibility to abide by the rules.

Access management, Label management, Vehicle management, Item management, On duty management, Complaint management, Reward and punishment (discipline) management, and those are also responsibility to abide by the rules.

Supplementary Provisions

Material Safety Data Sheets (MSDS)

Manufacturers and suppliers of chemicals are often required by law to provide their customers with MSDSs for their products. Even in the absence of such legal obligation, factories should insist on the receipt of the MSDS or equivalent written information for each chemical that they purchase.

Chemical Safety Data Sheets (CSDS)

MSDSs provide detailed information on the properties of chemicals, but they may not be very useful for advising workers in the use and handling of these chemicals. Therefore, Operation Procedures and Chemical Safety Data Sheets (CSDS) should be created to provide brief summary information on chemical use and handling. These should be written in simple language that is understandable to the workers and should be posted conspicuously at locations where the relevant chemicals are stored or used.

E-8 Recommendation and Conclusion (Summary)

Suggestion

- Industry should construct functional environmental treatment plan and operate them regularly (ex: No water should be discharged without proper treatment.
- Specific service such as training, counseling, audits etc. should be provided for general environmental management, new and potential regulation, cleaner production approach including monitoring, migration, bench marking, and environmental performance indicator (emission standard from ECD).
- Adaption of waste minimization can provide a significant decrease of pollution amount as well as production cost.
- All workers need regular checkup of healthy by the company employed doctor. Some technicians need regular maintenance to machine according to manufacture instruction.
- Ensure to have sufficient fire prevent equipment and fire exist doors, emergency exist in each factory's ware house.
- Need to check electrical equipment, outlets, wires, dust free clean electrical outlets regularly with their lifetime
- Confirm better and safer working environment for the workers
- Factory management group ensure the criteria of environment and work place safety standard (in house complying with government standard)
- Workers are the main part of a factory, at it cannot run in a single day without their contribution and work skill and workmanship. Therefore, first priority should be health and safety issue, work place environment should be comfortable for them, provision of social welfare to workers according to labor law (Myanmar labor organization social law)
- Awareness develops and capacity building and activities should be carried out for all workers and management group at factory in relation to the environmental issue of this garment factory, understanding of emission standards from ECD.

- Preparation of fire safety and emergency preparedness and regular check for these including lack of emergency exits and clear, lighted escape routes in production area, unclear or blocked exit pathway and excessive travel distance to exists, instruction written in local language, safety inspection for alarms, smoke detector, and emergency equipment.

Suggestion to Human Resources Department

According to existing labor law and factory law,

- Employee contract between owners and employee must be in place for everyday.
- Awareness of salary calculation to workers by training / workshop (Holiday, incentive, piece rate, basic pay: etc.
- Establish complain center and suggestion box at factory (Already done)
- Understanding of code of conduct by workers in factory by workshop, and fundamental right of workers ad owner
- SSB fund has to be deducted and make registration to SSB Department.
- Establish Co-ordination committee formed by workers, supervisor, HR, Management committee.

Conclusion

Based on the finding of labor survey, their working hour is 48 hour during one week. Management committee has understood the labor law relating to this industry and worker's health and safety, rights and payments, problems solving the disputes between employer and workers justly and right fully, quickly.

Ministry of Environmental Conservation and Forestry dated 29th December 2015; Order No 616/2015; Environmental Impact Assessment Procedures; Article 13 Procedures 50 According to the project, the environmental and social meetings, the public consultation process, and the needs of the local people will be implemented during the project implementation.

AMK and Associate (EIA Consulting Limited) has undertaken the environmental impact assessment project of Spring River Knitting (Myanmar) Company Limited which is situated at corner of Mat kha Min Thar Gyi Road and Twin Thin Tike Wun U Tun Nyo Street, Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township in Yangon Region, Republic of the Union of Myanmarand found that the factory is technically organized and operated factory using modern equipment and is being developed and used.

Work environment and disaster management, as well as health care along with all employees of the factory It is committed to the continuous implementation of environmental conservation measures.

In the spirit of the organization and it is committed and will follow the guidance of the respective management organizations and to perform continuing improvement with safety culture.

CHAPTER 1: PROJECT DESCRIPTION

1.1 Project Background and Objective

1.1.1 Project Background

Spring River Knitting (Myanmar) Company Limited is well known in the knitting wear factory for its quality manufacturing, styling accuracy timely delivery and competitive pricing, leading 100 % exported oriented knitted wear in Yangon, Myanmar. This factory stands with a space of (1 storey x 200' x 240') building, (1 storey 100' x 240') building with high quality machineries from China and (120' x 20') Dinning Hall. It is located about one hour driving distance from factory to Yangon International Air Port, two hour drive from factory to Yangon Port (Sule Port, Industrial Port, Asia World Port, MEC port). This factory has a quality control team whose responsibility is to ensure proper quality standard by conducting inspections at different storages of production. Product range is manufacturing knitted wares, such as hats & berets, gloves & mittens, shawls & capes, neck tubes, scarves and head bands in this factory. Production capacity is nearly 2,200 pcs of knitted wears per day at peak season.

Spring River Knitting (Myanmar) Company Limited proposes to set up the knitted wear manufacturing factory at Plot No. 148+149, Corner of Matkhayar Min Thar Gyi Road and Twin Thin Taik Wun U Tun Nyo Road, Survey Block No.25, Shwe Lin Ban Industrial Zone, Hlaing Tharyar Township, in Yangon Region, Republic of the Union of Myanmar. This Factory will be operated by Spring River Knitting (Myanmar) Company Limited, 100% Foreign Investment based on CMP system. The proposed factory would be renovated the existing factory within a period of 6 months after getting MIC approval.

The main objective of this report is to identify the major Environmental Impacts due to implementation of the project along with the effective measures to mitigate the adverse impacts, if any. There is some chemical process in the Spring River Knitting (Myanmar) Company Limited. This company Limited will make products of as export quality by establishment of international standard factory 2.6 Acres (10,521.83 m^2) area in Yangon Region.

About the project

Spring River Knitting (Myanmar) Company Limited (Principal organization Profit Legend Investment Development Ltd) is well known in the knitting wear factory for its quality manufacturing, styling accuracy timely delivery and competitive pricing, leading 100 % exported oriented knitted wear in Yangon, Myanmar. This factory stands with a space of 10521.83 m^2 with high quality machineries from China. It is located about one hour driving distance from factory to Yangon International Air Port, two hour drive from factory to Yangon Port (Sule Port, Industrial Port, Asia World Port, MEC port). This factory has a quality control team whose responsibility is to ensure proper quality standard by conducting inspections at different storages of production. Product range is knitted wear (sweater). Production capacity is nearly 6,630(000) pieces per year.

Key facilities of Best Practices in this factory;

1. **Time attendance and pay roll**: Proposed plan set up computerized software based time attendance and payroll system for all workers and employees.
2. **Housekeeping team**: the factory has a house keeping team for maintaining neat and tidy environment and technical control of humidity and temperature in factory in accordance with health and safety, emission standard from ECD.
3. **Medical facilities**: the workers enjoy free health care treatment and medical care. It appointed qualified and experienced nurse permanently. There is one first aid box for every 100 workers.
4. **Evacuations plan**: there are some diagram directions kept in the floor of the factory showing direction for all employees to run out in case of any emergency situation. There is emergency response plan in Myanmar language at factory, at the main notice board of factory and wall at inside factory.
5. **Emergency exit**; there is 4 major exits and two extra exit in factory and ware house for use by the worker in case of any emergency in the factory.
6. **Fire drills**; there are firefighting equipment in the factory as per factory law, firefighting law and electrical law. In order to use them effectively as and when required that have a firefighting team who are specially trained to deal with any fire emergency. There is arrangement for fire drills on

regular basis, once every month

7. There are bins for production waste at each workers, machine and store area. There is waste selection and management system by housekeeping group and they are using 3 R systems – reuse, Recycle and reduce. Permanent disposal removal arrangement is working with YCDC.
8. **Working environment**: the size of factory and numbers of workers are reasonable measurement with production flow, machinery and their space requirement , workers space requirement, power consumption, water consumption and workers comfort levels and reasonable salary and incentives, and working hours

   Condition of factory building is that lighting is high internal gains from artificial lighting, natural lighting from window and main doors. Ventilation box are at roof. Machines produce only noise and it is not hot work environment except boiler room and ironing section. The factors of planned building height, floor space, volumes of factory air space are very essential to make source of energy efficient and workers comfortable.
9. **Safety issue**: at factory organization, safety need for the workers is mandatory to maintain at every level. Without the working practice systematically, facility of this necessary gear, a lot of accident is occurred in factory. Some important cause of non-accident are given below;
   - Routes are clear by storage material
   - Machine layout is with reasonable measurement
   - Provision of emergency lighting
   - Doors, opening along escape routes are fire resistant
   - Factory is artificially lighted (emergency light) inside factory in time of hazard as the electricity is disconnected for safety reasons
   - Adequate door and stair case are provided to aid quick exit.
   - Provision of proper exit route to reach
   - Awareness for health, safety and environment to workers
   - Job training awareness training, fire and emergency drill relating to HSE plan are implemented with experts at factory
   - Provision of in house HSE plan in Myanmar Language to workers, knowledge of some accidents occurred in garment factory due to boiler explosion, fire in store/ fuel tank, machine and material movement, arranging weekly meeting for progress of work

Observation studied by the walk through investigation

The work through investigation in factory yielded the following observations;

1. Jobs were varied with respect to garment product, processes and operation (maintenance / computer main control) and were performed both individually and in groups.
2. Jobs were well structured and routinely organized.
3. Tasks were generally repetitive and burden.
4. Work space was not congested and sitting purpose / postures were typically enough and comfortable. Sitting cross-legged crouched or leaning forward was common.
5. Time schedules were sometime tight and often required hurrying in performing tasks.
6. Rest areas were enough for lunch time and others and can arrange working training for HSE awareness.
7. Working seats / chair are made of plastic which would have allowed micro breaks for resting the upper body after stressful session of body bending and neck. There is no cushion at chair.
8. Working space and equipment design feature that would have allowed workers to assume comfortable.
9. Equipment including sewing machine was generally new and in appropriately designed / some machines are computerized.
10. There was a general control over work. There was a general meeting every week, supervisors from each department must attend and can mention their problem and working / operational needs
11. Health care for the various work related disorders are needed due to the result of working with constrained postures, hand working.
12. First aid boxes for every 50 workers are arranged, there is a person trained the first aid and Medicare, pre hospitable.

13. Firefighting equipment, fire alarm, extinguisher, emergency sign are in place as per instruction from firefighting department.
14. Factory management committee has already trained housekeeping group and their responsibility is day to day work, and provision of dust bin, waste classification (reuse, reduce, recycle) keeping hazard material collection, and toilet and washing area, designated waste tank area cleaning.
15. Generator and boiler section and operation are handled by certified person with experience and education.
16. All of permits, approvals and directives from several government departments are in hand and applying.
17. The work place environment variable measures were relative humidity and ambient air temperature, by means of standard instruments.
18. Factory in house health, safety and environmental management plan is prepared and in hand, HSE Department already explained to workers in Myanmar Language.
19. Health and safety management program in HSE plan includes the following.
    - Emergency and first aid procedure
    - Medical precautionary measures
    - House keeping
    - Safety awareness
    - Safety training / ERP training / fire prevention plan
20. Waste management procedure in HSE plan is as follows;
    - Factory activities comply with environmental conservation law, emission standard from ECD.
    - Training of environmental protection training.
    - Forming organization of HSE group with allocated budget for their work
    - Responsibility of housekeeping group / security group
    - Monitoring of environmental impact with third party (ex: air/ noise/ waste water; etc.)
21. It is noticed that preparation of safety sign, warning sign and main notice board for health and safety, emergency exit, purpose and firefighting equipment in factory has been already managed.
22. Canteen space is enough for workers with waste bins, toilets for workers are normal.
23. Electrical system, sanitary system and water supply system, boiler system, generator-electrical system in factory are as per drawing and under Myanmar Building Code
24. Fuel storage and chemical storage (Hazard exposure), ash storage from boiler, waste area are designed by certified engineer.
25. In factory roof element is corrugated sheet, wall is brick plaster, floor is concrete, slab, normal temperature is 26°C – 29°C

1.1.2 Objective

The objective of the proposal is to implement the Spring River Knitting (Myanmar) Company Limited proposes to set up the factory at Plot No. 148+149, corner of Mat Kha Yar Min Thar Gyi Road and Twin Thin Taik Wun U Tun Nyo Road, Myay Taing Quarter No.25, Shwe Lin Ban Industrial Zone, Hlaing Tharyar Township, in Yangon Region, Republic of the Union of Myanmar. The nearest residential housings are approximate 10 m far to in front / one beside from the factory. The company (factory) site is reachable via a well-paved by road, of approximate 6 m wide that diverts from the main high way road. The main building hosts the factory facilities (Machinery, tools warehouse/s), places for workers, administration office, rest rooms, etc. as well as all other utilities (e.g. sanitary, stores, corridors, etc.). The middle yard between two buildings will be used as site for loading, unloading, parking, visitors' avenues, etc. All utilities are under repositioning in progress. Wall of the building were made up of reinforced concrete headed by a galvanized barbed wire of 1.5 m height goes around the whole facility. An electrical gate and a guardian room at the main entrance have been already built. Below is a proposed layout for the building at Spring River Knitting (Myanmar) Company Limited's knitted ware Manufacturing Factory.

EMP Background

The proposed project is designed to demonstrate (i) the business and environmental advantages of cleaner production and (ii) a financially and technically sustainable model of central effluent treatment facilities to develop further capacity of the Ministry of National Resources and Environmental Conservation (MONREC) in monitoring and enforcing pollution control. The project will have four components: (i) Monitoring and

Environmental Compliance; (ii) Industry Pollution Prevention and Abatement Demonstration Program; (iii) Design, Construction and Operationalization; and (iv) Program Management, Monitoring and Evaluation and Stakeholder Engagement.

This Environmental Management Plan (EMP) assesses the environmental impacts due to the proposed Spring River Knitting (Myanmar) Company Limited's design/manufacturing and export factory project. The EMP specifies measures towards addressable of the impacts. The EMP has been prepared based on a review of sub-project designs; field visits, and secondary data to characterize the environment and identify potential impacts; and consultations with stakeholders. An Environmental management plan (EMP) outlining the specific environmental measures to be adhered to during implementation of the sub-project has been prepared. Project is being in an operation phase, and EMP is prepared based on preliminary design and identification of impacts observation during study period.

Objective of Proposed EMP for this Project

The purpose of the environmental assessment process is:

a. To assess and establish the existing environmental and socio economic conditions in the project area.
b. To assess the potential environmental or socio economic impacts of project activities and identify issues of concern.
c. To support the goals of environmental protection and sustainable development.
d. To integrate environmental protection and economic decisions at the earliest stages of planning an activity.
e. To predict environmental, social, economic and cultural consequences of a proposed activity and to assess plans to mitigate any adverse impacts resulting from the proposed activity, and
f. To provide form the involvement of the public, department of the Government and Government agencies in the review of the proposed activities.
g. To facilitate an appropriate follow up process with requirements for monitoring, management, audit and evaluation.
h. To prepare an EMP report as per the relevant guidelines for submittal to the concerned Environmental Protection Agency (Environmental Conservation Department)

Scope of Work

International standards and guidelines have been considered in order to conform to IFC Performance Standards for environmental, ecological and social considerations and IFC guidelines on environment, health and safety for assembling and manufacturing projects. Environmental data through physical survey (Monitoring of effluent, air quality and drinking water quality). Following data was collected through field visits and secondary data available with various agencies.

Physical Survey

- Proposed environmental study area
- Climatology
- Topography, Geology
- Hydrology, hydrogeology
- Ecology, flora and fauna
- Socio-Economic conditions
- Sensitive Areas & Land use patterns

Technical Survey

- Process details
- Utilities availability
- Liquid Effluent Generation
- Air Emissions
- Solid waste generation
- Transportation
- Mechanisms

Approach and Methodology

EMP report is based on the observations made by AMK team during visits to the Project campus and collection of primary and secondary environmental data. Literatures have also been reviewed and relevant information has been collected for environmental and social baseline. Reconnaissance surveys and public consultation have been conducted to identify the major environmental and social issues within block (considered as study area). The sampling locations have been identified on the basis of:

- Climatological conditions;
- Existing topography;
- Location of water bodies;
- Location of towns/ sensitive areas; and

- Accessibility, power availability, security of monitoring equipment.

AMK has followed the standard SEIA methodology and technique during the entire study and whenever necessary it has used its own judgment based on its own experience and knowledge. During the entire study, appropriate quality checks have been taken into consideration and best management practices have been followed for a quality output. Discussions have also been made with state level government agencies during survey of the area. Environment monitoring and site surveys have been conducted within the Project in January, 2019. The environmental monitoring was carried out for ambient air quality, water quality, soil and sediments quality, noise levels, traffic density and meteorology. Detailed surveys have been carried out for Assessment of ecological status, socio-economic profile etc., in addition to collection of details available from authentic secondary sources. Interpretation of Satellite imagery has been made for assessment of land use pattern; drainage pattern etc. and findings are verified with the help of ground verification and details available with authentic secondary sources. Impacts are identified based on the actual and foreseeable events, including operational events of the proposed project activities. Processes that may create risks to the natural environment and socio-economic environment are considered in terms of key potential environmental impacts. Mitigation measures to be adopted under EMP for all specified significant social and environmental impacts likely to result out during the proposed project activities are also a part of the EMP report.

The likely identified impacts and recommended mitigation measures are based on the following:

- Project information provided by project proponent;
- Baseline information and reconnaissance survey of the study conducted by *AMK*;
- *AMK's* past experience in similar projects; and
- Standard National/International environmental management guidelines/practices.
  Details of the methodology and technique used for the study are discussed in subsequent Chapters.

Benefits for the Local People

The project will create employment opportunities by simulating local workforce and business development in the resources sector as estimated, for proposed (900) / currently 320 local persons who will be mostly from nearby districts.

By developing Manufacturing factory in the area of Hlaing thar Yar/ Shwe pyi Thar / Htan Ta bin Township, Yangon Division, it will increase the life style of local people training resources and employment opportunities and it will enable communities and families to share social, cultural, recreational and sports activities and the project will support resource development, and production to increase viability in the commercial part of Myanmar.

The project will also deliver governments' commitments for Myanmar territories regional economic development.

1.2 Project Proponent

Project Promoter

The investor of this project have already long experience and the needed know- how in production industry; they have been well- known in this field since more than two decades.

The project Promoter of this project is Mr. Tian, Liangming (Chinese) citizenship from China and corporate members are Southern Enterprises Limited (ordinary shares 449), Flat 2 / F Block A, Hung Hom Bay Centre Kowloon, Hong Kong and Tonglu Spring River Knitting Group Co., Ltd (ordinary shares 1,050), No.333, Dongxing Road, Tonglu County, Hangzhou, Zhejiang, China and type of his business is manufacturing of various designs of knitted wear on CMP basis. The amount of foreign capital is 1.642 million USD investments for this project.

Company Registration has been done on 14th March 2014 as Spring River Knitting (Myanmar) Company Limited and Registration Number is 100670402.

According to Myanmar Investment Commission's meeting 8/2019 held on 29th May 2019, approved the name of Fengyi Knitting Company Limited which is carrying out manufacturing knitting products on CMP basic can be changed to Spring River Knitting (Myanmar) Company Limited.

Investment has been approved by permit Numper 1151/2016 in 19th September 2016. And according to

Myanmar Investment Commission's meeting 14/2019 held on 30th May 2019, approved capital the amount of foreign capital of Spring River Knitting (Myanmar) Company Limited which is carrying out manufacturing of knitting products on CMP basis be increased from USD 1.642 million to USD 2.605 million.

Company Information Summary

Company	:	Spring River Knitting (Myanmar) Company Limited
Factory	:	Manufacturing Knitting Factory
Project Promoter	:	Mr. Tian, Liangming (Pass Port EC 6214769) Wing Kut Street, Central, RM 904 Harvest Building 29 – 35, Hong Kong,
Factory General Manager	:	Mr. Tian, Liangming (Pass Port EC 6214769),), email - Tljinze@163.com 09 – 253566188
Contact Person	:	Daw Myo Myint Aye (HR Assistant Manager) 09 788787066 jinjin21219@gmail.com
Business Nature	:	Export & Import and Design
Product	:	Hats & berets, gloves & mittens, shawls & capes, neck tubes, scarves and head bands in this factory.
Manufacturing Process	:	Mention in
Office / factory Address	:	Plot No. 148+149, Myay Taing Quarter No.25, Shwe Lin Ban Industrial Zone, Hlaing Tharyar Township, in Yangon Region, Republic of the Union of Myanmar
Land Area	:	2.6 Acre
Land Owner	:	U Myat Soe (NRC 12/La Ma Ta (N) 021454, U Tun Win (12/La Ma Ta (N) 018300
Land rental fees	:	USD 5.2 per square foot per annum for first 50 years, to ber revised every 5 years
Factory Area	:	Factory Building - 1 no.s – 200 ft x 240 ft
	:	Factory Building - 1 no.s - 100 ft x 240 ft
	:	Dinning Hall - 1 no. - 120 ft x 20 ft
Factory Building Completed	:	2017
BCP from YCDC	:	30.1.2017 (009731)
Company Registration / date	:	100670402
Factory Start Operation Date	:	14.9.2018 (Ref: MIC – 9F – G/2019 (5428)
Employed Local Employee	:	900(currently only 320 person's ref: EC Contract)
Foreign Employee	:	35 people (male -20, female – 15)
Production Capacity	:	6613 (000) Pcs 551,000 pcs / month
Main facility / Equipment	:	Auto Computerized Kniting machines and related machines
Energy consumption	:	
Electrical	:	**1,000 unit / day, Average 360,000 kW / year** (based on year 2019)
Fuel	:	Diesel 150 gallons / month depends on YESC System Break down
Water	:	Water -600 m^3/ month, **20 m^3/ day**
Surrounding Environment	:	Located in Shwe Lin Ban Industrial Zone, Hlaing Thayar Township
Potential environmental	:	Scrap from production process is deposited at designated area and provided to small pillow factory with FOC. Solid waste including packing material and paper waste from office, domestic waste from canteen, empty box are mainly to be recycled, reused, resell to reuse contractor
Social welfare to	:	Creation of employment opportunities communities, Workers
Infrastructure	:	1 hour drive to airport ware house, two hour drive to Yangon Port and Thilawar port. Connect to Yangon – Patheing Highway
Environmental Procedure	:	Define the roles, responsibilities and actions to be taken to ensure that activities are performed and environmental management implementation is in accordance with environmental policy, comply the legal of Myanma Environmental Law, rule and emission standard from MoNREC that are applicable to factory operation Method for environmental assessment is the follow sheet during operation a. Type of waste Source of waste Volume of Waste Made of disposal b. Impact rate (low / high) Control /un-control Significant/ Un-Local/Regional c. Required permits for factory set up and operation Transformer Permit, YCDC Permit, Factory License, electrical Inspect (EI from MI) MIC permit, Safety (fire department, Labor Department.(all certificates are

		issued respectively)
Prevention of pollution	:	avoiding energy consumption, reduce or control the power consumption, Emission or discharge of any type of waste in order to reduce environmental impact
Environmental Management System	:	Part of an organization's management used to develop and implement its environmental policy and manage its environmental aspects
Environmental Policy	:	Overall intentions and directions of an organization related to its environmental performance
Environmental Targets	:	Detailed performance requirement, zero accident and all the impacts are met with emission standard

Yangon Region Investment Monitoring Team led by Chairman Naw Pan Thinzar Myo, Minister for Karen Ethnic Affairs, Public Information Affairs, Hotel and Tourism, Yangon Region Government and Officials from relevant Departments conducted ground field inspection on Spring River Knitting (Myanmar) Co., Ltd which is manufacturing of knitting products on CMP basis at Hlaing Thar Yar Township on 9th August 2019. The Team discussed and coordinated the needs of this company.

Yangon Region Investment Monitoring Team led by Chairman Naw Pan Thinzar Myo, and the officials from relevant departments conducted field inspection on Jinli Knitting & Spinning Co., Ltd, Spring River Knitting (Myanmar) Co., Ltd, Hengrun Garment Co., Ltd and Jiangusu Soho (Myanmar) Industry Co., Ltd which are manufacturing of knitwear, knitting products and garment on CMP basis at Hlaing Thar Yar Township on 9th August 2019. During the inspection, the team coordinated for the requirements of the companies.

Dr. Malar Myo Nyunt, Deputy Director General of the Directorate of Investment and Company Administration met with Mr. Tian Liang Ming, General Manager of the Spring River Knitting (Myanmar) Co., Ltd on 18th June, 2019 in Yangon. During the meeting, they cordially discussed matters relating to the investment.

ကုမ္ပဏီမှတ်ပုံတင်လက်မှတ်

Certificate of Incorporation

SPRING RIVER KNITTING (MYANMAR)COMPANY LIMITED

Company Registration No. 100670402

မြန်မာနိုင်ငံကုမ္ပဏီများအက်ဥပဒေ ၁၉၁၄ ခုနှစ် အရ

SPRING RIVER KNITTING (MYANMAR)COMPANY LIMITED

အား ၂၀၁၆ ခုနှစ် မတ်လ ၁၄ ရက်နေ့တွင်

အစုရှယ်ယာအားဖြင့် တာဝန်ကန့်သတ်ထား သည့် အများနှင့်မသက်ဆိုင်သောကုမ္ပဏီ

အဖြစ် ဖွဲ့စည်းမှတ်ပုံတင်ခွင့် ပြုလိုက်သည်။

This is to certify that

SPRING RIVER KNITTING (MYANMAR)COMPANY LIMITED

was incorporated under the Myanmar Companies Act 1914 on 14 March 2016 as a Private Company Limited by Shares.

ကုမ္ပဏီမှတ်ပုံတင်အရာရှိ

Registrar of Companies

ရင်းနှီးမြှုပ်နှံမှုနှင့်ကုမ္ပဏီများညွှန်ကြားမှုဦးစီးဌာန

Directorate of Investment and Company Administration

Former Registration No. 93FC/2015-2016(NPW)

Figure 1: Company Registration

THE REPUBLIC OF THE UNION OF MYANMAR

Myanmar Investment Commission

Amendment on Permit No. 1151/2016 dated 19th September 2016

The Myanmar Investment Commission, at its meeting 8/2019 held on 29th May 2019, approved the name of Fengyi Knitting Company Limited which is carrying out manufacturing of knitting products on CMP basis be changed to Spring River Knitting (Myanmar) Company Limited.

(n) Name of Company Incorporated in Myanmar SPRING RIVER KNITTING (MYANMAR) COMPANY LIMITED

for Chairman

(Mya Thuza, Joint Secretary)

Date: 12 June 2019

Location: Yangon

THE REPUBLIC OF THE UNION OF MYANMAR

Myanmar Investment Commission

Amendment on Permit No. 1151/2016 dated 19th September 2016

The Myanmar Investment Commission, at its meeting 14/2019 held on 30th August 2019, approved the amount of foreign capital and the total amount of capital of Spring River Knitting (Myanmar) Company Limited which is carrying out manufacturing of knitting products on CMP basis be increased from US$ 1.642 million to US$ 2.605 million.

(h) Amount of Foreign Capital .... US$ 2.605 MILLION ....

(j) Total amount of capital (Kyat) .... EQUIVALENT IN KYAT OF US$ 2.605 MILLION ....

for Chairman

(Thant Sin Lwin, Acting Secretary)

Date: ~~22~~ 18 September 2019

Location: Yangon

Form (2)

1232-e
19-9-2016

THE REPUBLIC OF THE UNION OF MYANMAR
The Myanmar Investment Commission
PERMIT

Permit No. 1151/2016 Date 19 (15) September 2016

This Permit is issued by the Myanmar Investment Commission according to the section 13, sub-section (b) of the Republic of the Union of Myanmar Foreign Investment Law-

(a) Name of Investor/Promoter MR. TENG JINQIANG

(b) Citizenship CHINESE

(c) Address NO.9, YANGSHANFAN VILLAGE, HENGCUN TOWN, TONGLU COUNTRY, ZHEJIANG PROVINCE, PEOPLE'S REPUBLIC OF CHINA

(d) Name and Address of Principal Organization PROFIT LEGEND INVESTMENT DEVELOPMENT LTD., FLAT 27/F BLOCK A HUNG HOM BAY CENTRE KL, HONG KONG

(e) Place of incorporation HONG KONG

(f) Type of investment business MANUFACTURING OF KNITTING PRODUCTS ON CMP BASIS

(g) Place(s) at which investment is permitted PLOT NO. 148+149, MYAY TAING BLOCK NO. 25, SHWE LIN BAN INDUSTRIAL ZONE, HLAING THARYAR TOWNSHIP, YANGON REGION

(h) Amount of Foreign Capital US$ 1.64 MILLION

(i) Period for foreign capital brought in WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF MIC PERMIT

(j) Total amount of capital (Kyat) EQUIVALENT IN KYAT OF US$ 1.64 MILLION

(k) Construction period 18 MONTHS

(l) Validity of investment permit 20 YEARS

(m) Form of investment WHOLLY FOREIGN OWNED

(n) Name of Company incorporated in Myanmar FENGYI KNITTING COMPANY LIMITED

19.9.16

Chairman
The Myanmar Investment Commission

Figure 2: MIC Permit

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်
Myanmar Investment Commission အမှတ်(၁)၊ သစ္စာလမ်း၊ ရန်ကင်းမြို့နယ်၊ ရန်ကုန်မြို့

တယ်လီဖုန်း -၀၁-၆၅၇၈၂၄ စာအမှတ်၊ မရက - ၉/ နစ-ထွေ/ ၂၀၁၉([illegible])
ဖက်(စ်) - ၀၁-၆၅၇၈၂၄ ရက်စွဲ ၊ ၂၀၁၉ ခုနှစ် စက်တင်ဘာလ ၅ ရက်

အကြောင်းအရာ။ **Spring River Knitting (Myanmar) Co., Ltd. မှ မတည်ငွေရင်းပမာဏ တိုးမြှင့်၍ စက်ပစ္စည်း အခွန်အကောက်ကင်းလွတ်ခွင့်ဖြင့် တင်သွင်းခွင့်၊ ထုတ်ကုန်ပစ္စည်းများ တိုးမြှင့်ထုတ်လုပ်ခွင့်၊ ကုန်ကြမ်းပစ္စည်းများ တိုးမြှင့်တင်သွင်းခွင့်နှင့် ဝန်ထမ်းတိုးမြှင့် ခန့်ထားခွင့်ပြုပါရန် တင်ပြလာခြင်းကိစ္စ**

ရည်ညွှန်းချက် ။ Spring River Knitting (Myanmar) Co., Ltd. ၏ ၁၈-၇-၂၀၁၉ ရက်စွဲပါစာ

၁။ Spring River Knitting (Myanmar) Co., Ltd. မှ ရည်ညွှန်းပါစာဖြင့် တင်ပြလာသည့် ကိစ္စနှင့် စပ်လျဉ်း၍ ၂၀၁၉ ခုနှစ် ဩဂုတ်လ ၃၀ ရက်နေ့တွင် ကျင်းပခဲ့သော မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ ၁၄/၂၀၁၉ ကြိမ်မြောက် အစည်းအဝေးမှ အောက်ပါအတိုင်းဆုံးဖြတ်ခဲ့ပါသည်-

(က) မတည်ငွေရင်းပမာဏ အမေရိကန်ဒေါ်လာ ၁.၆၄၂ သန်း မှ အမေရိကန်ဒေါ်လာ ၀.၉၆၃ သန်း ထည့်ဝင်၍ စုစုပေါင်း အမေရိကန်ဒေါ်လာ ၂.၆၀၅ သန်းသို့ တိုးမြှင့်ခွင့်ပြုရန်။

(ခ) တိုးမြှင့်မတည်ငွေရင်းမှ ပူးတွဲပါ စက်ပစ္စည်း ၃၃ မျိုး တန်ဖိုး အမေရိကန်ဒေါ်လာ ၈၁၃,၃၁၁.၅၀ အား မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုနည်းဥပဒေ ၁၀၅ နှင့် အညီ ၂ နှစ် အတွင်း အခွန်အကောက်ကင်းလွတ်ခွင့်ဖြင့် တင်သွင်းခွင့်ပြုရန်။

(ဂ) ပူးတွဲပါအတိုင်း ကုန်ကြမ်းပစ္စည်းများ တိုးမြှင့်တင်သွင်းခွင့်ပြုရန် နှင့် ထုတ်ကုန်ပစ္စည်းများ တိုးမြှင့်ထုတ်လုပ်ခွင့်ပြုရန်။

(ဃ) ပြည်တွင်းဝန်ထမ်း ၁၇၉ ဦး နှင့် ပြည်ပဝန်ထမ်း ၅ ဦး တိုးမြှင့်ခန့်ထားခွင့်ပြုရန်။

၂။ သို့ဖြစ်ပါ၍ ကော်မရှင်၏ ဆုံးဖြတ်ချက်ကို သိရှိနိုင်ရန်နှင့်လိုအပ်သည်များ ဆက်လက်ဆောင်ရွက်နိုင်ရန် အကြောင်းကြားပါသည်။

ဥက္ကဋ္ဌ(ကိုယ်စား)
(သန့်စင်လွင်၊ ခေတ္တအတွင်းရေးမှူး)

မန်နေဂျင်းဒါရိုက်တာ
Spring River Knitting (Myanmar) Co., Ltd. (ကော်မရှင်ခွင့်ပြုမိန့်တွင် ပြင်ဆင်ရန် ဝန်ဆောင်ခအဖြစ် ကျပ် ၁၀၀,၀၀၀(ကျပ် တစ်သိန်း တိတိ) အား ရင်းနှီးမြှုပ်နှံမှုနှင့် ကုမ္ပဏီများ ညွှန်ကြားမှု

၂

ဦးစီးဌာနသို့ ပေးသွင်းထားသည့် ငွေသွင်းချလံ (မူရင်း) နှင့် ကော်မရှင် ခွင့်ပြုမိန့် (မိတ္တူ)ကို ဤကော်မရှင်ရုံးသို့ ပေးပို့ပါရန်နှင့် ခွင့်ပြုမိန့်တွင် တစ်လအတွင်းပြင်ဆင်ရန်)

မိတ္တူကို
ညွှန်ကြားရေးမှူးချုပ်၊ ကုန်သွယ်ရေးဦးစီးဌာန
ညွှန်ကြားရေးမှူးချုပ်၊ အကောက်ခွန်ဦးစီးဌာန
ညွှန်ကြားရေးမှူးချုပ်၊ ပြည်တွင်းအခွန်များဦးစီးဌာန
ရင်းနှီးမြှုပ်နှံမှုဌာနခွဲ (၂)၊ ရင်းနှီးမြှုပ်နှံမှုနှင့် ကုမ္ပဏီများညွှန်ကြားမှုဦးစီးဌာန
ကုမ္ပဏီရေးရာဌာနခွဲ၊ ရင်းနှီးမြှုပ်နှံမှု နှင့် ကုမ္ပဏီများညွှန်ကြားမှုဦးစီးဌာန
ရန်ကုန်တိုင်းဒေသကြီးဦးစီးမှူးရုံး၊ ရင်းနှီးမြှုပ်နှံမှုနှင့် ကုမ္ပဏီများညွှန်ကြားမှု ဦးစီးဌာန
ရုံးလက်ခံ၊ မျှောစာတွဲ

Figure 3: Amendment on increased capital

THE REPUBLIC OF THE UNION OF MYANMAR
MYANMAR INVESTMENT COMMISSION
No(1), Thitsar Road, Yankin Township, Yangon

Sr. No.......... Date..........

Tel - 01-657824
Fax - 01-657824

Our ref : MIC -9/F-G/2019(5428)
Date : 22 August 2019

Subject : **Commencement date of commercial operation of Spring River Knitting (Myanmar) Co., Ltd.**

Reference: Spring River Knitting (Myanmar) Co., Ltd.'s letter dated 31-7-2019

1. In accordance with the terms and conditions set by the Myanmar Investment Commission in the Permit No.1151/2016 dated 19th September 2016, it is confirmed that **14th September 2018** shall be the date of the commencement of commercial operation of Spring River Knitting (Myanmar) Co., Ltd. at Plot No.148+149, Myay Taing Block No.25, Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township, Yangon Region for manufacturing knitting products on CMP basis.

2. It is notified that Spring River Knitting (Myanmar) Co., Ltd. is advised to contact with the relevant departments for income tax exemption for a period of 5 years including the year of commencement date of commercial operation according to rule 224 of the Myanmar Investment Rules.

for Chairman
(Mya Thuza, Joint Secretary)

Managing Director
Spring River Knitting (Myanmar) Co., Ltd.

cc:

Office of the Union Minister, Ministry of Commerce
Office of the Union Minister, Ministry of Planning and Finance
Director General, Department of Trade
Director General, Customs Department
Director General, Internal Revenue Department
Yangon Region Office, Directorate of Investment and Company Administration
Office Copy

Figure 4: Commencement date of Commercial operation

Project Implementation Schedule

		2016										2017												2018												2019											
		3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
	Company Registration	■																																													
	Land least contract											■																																			
	MIC Permit							■																																							
	Form of Permit from DICA	■																																													
	Building Construction(BCC)									■																		■																			
	Exporter / importer Registration								■																																						
	Membership (UMFCCI)					■																																									
	Membership (MGMA)																													■																	
	Private Industrial registration														■																																
	Membership (MLF)																																														
	Fire Safety Certificate (Fire Dept)																																														
	Business License (YCDC)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Income Tax Registration																																														
	Waste Management Contract (YCDC)																																														
	Electrical Safety Certificate (EI)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Medical Clearance (YCDC)																																														

မြန်မာနိုင်ငံအထည်ချုပ်လုပ်ငန်းရှင်များအသင်း

MYANMAR GARMENT MANUFACTURERS ASSOCIATION

၂၉၊ မင်းရဲကျော်စွာလမ်း၊ လမ်းမတော်မြို့နယ်၊ ရန်ကုန်မြို့။

အသင်းဝင်လက်မှတ်

(၂၀၁၈ ခုနှစ်)

Mr.Tian Liangming (Fengyi Knitting Company Limited)

အမျိုးသားမှတ်ပုံတင်အမှတ် PP No.G 30919913 သည်

မြန်မာနိုင်ငံအထည်ချုပ်လုပ်ငန်းရှင်များအသင်းတွင် ၁၃ ၁၃၇၉ ခုနှစ်၊ နယုန် လ၊

လဆုတ်၇ ရက် (၂၀ ၂၀၁၈ ခုနှစ်၊ ဇွန် လ၊ ၁ ရက်နေ့)

အသင်းဝင်အမှတ် ၄၆၈ ဖြင့် မြန်မာနိုင်ငံအထည်ချုပ်လုပ်ငန်းရှင်များအသင်း၏

အသင်းသားတစ်ဦးဖြစ်ပါကြောင်း။

အတွင်းရေးမှူး

ဥက္ကဋ္ဌ

TIAN LIANG MING

အသင်းသား(သို့မဟုတ်)
၎င်းကိုယ်စားလှယ်၏
နမူနာလက်မှတ်

Figure 5: Member of Myanmar Garment Manufacturer Association

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံ
ကုန်သည်များနှင့်စက်မှုလက်မှုလုပ်ငန်းရှင်များအသင်းချုပ်
The Republic of The Union of Myanmar Federation of Chambers of Commerce and Industry
No.(29), Min Ye' Kyaw Swar Road, Lanmadaw Township, Yangon, Myanmar.
Established In1919

အသင်းဝင်လက်မှတ်
Certificate of Membership

Membership No. & Date
33900(21-7-2016)

အောက်ဖော်ပြပါနိုင်ငံခြားကုမ္ပဏီ သည်ဤကုန်သည်စက်မှုအသင်းချုပ်တွင် ၂၀၁၆ ခုနှစ်၊ ဇူလိုင်လ (၂၁) ရက်နေ့မှစ၍ အသင်းဝင်တစ်ဦး ဖြစ်ပါကြောင်း။

The under - mentioned **Foreign Company** is a member of the UMFCCI with effect from **33900 (21-7-2016)**

အသင်းဝင်အမည်နှင့် လိပ်စာ **ဖုန်းရီနစ်တင်း(န်)ကုမ္ပဏီလီမိတက်**
အကွက်အမှတ်(၁၄၈+၁၄၉)၊ တွင်းသင်းတိုက်ဝန်ဦးထွန်းညိုလမ်းနှင့်မက္ခရာမင်းသားကြီးလမ်းထောင့်၊ ရွှေလင်ပန်းစက်မှုဇုန်၊လှိုင်သာယာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး။

Member's Name & Address **Fengyi Knitting Company Limited**
Plot No.(148+149), Corner of Twin Thin Tike Won U Tun Nyo Street & Hmac Kha Yar Min Thar Gyi Street,Shwe Lin Ban Industrial Zone,Hlaing Thar Yar Township, Yangon Region.

လုပ်ငန်းမှတ်ပုံတင်အမှတ်နှင့်ရက်စွဲ ၁၀၀၆၇၀၄၀၂(၉၃အက်ဖ်စီ/၁၅-၁၆(နပတ)(၁၄.၃.၁၆)
Business Registration No. and Date **100670402(93FC/15-16(NPW)(14.3.16)**

Tel **95-1-613753** **Fax** - **e-mail** -

Secretary General **President**

Signature of Member (or) Representative
Name & NRC No. **Mr.Tian Liangming (PP No. EC6214769)**
Designation **Director**

Extended Period				Extended Registration No.	Authorized Signature
(1) From	1-1-2019	to	31-12-2020	(00891)	Joint Secretary General
(2) From		to			

31689

Figure 6: ကုန်သည်များနှင့်စက်မှုလက်မှု လုပ်ငန်းရှင်များအသင်းဝင်လက်မှတ်

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
ရန်ကုန်တိုင်းဒေသကြီးအစိုးရ
ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးကော်မတီ
စီမံခန့်ခွဲရေး၊ ပြည်သူ့ဆက်ဆံရေးနှင့်ပြန်ကြားရေးဌာန

၂၄၃၅၂၀၂၈၈

(၂၀၁၉/၂၀၂၀) ဘဏ္ဍာနှစ် လုပ်ငန်းလိုင်စင်
(စက်ရုံ၊ အလုပ်ရုံ၊ သိုလှောင်ရုံသုံးစွဲရန် အထောက်အကူပစ္စည်းထုတ်လုပ်ခြင်း၊ ရောင်းချခြင်း၊ တည်ခင်းခြင်း၊ ဖြန့်ဖြူးခြင်း၊ ဝန်ဆောင်မှုလုပ်ငန်း၊ အခြားလုပ်ငန်း)

ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးကော်မတီ၊ စီမံခန့်ခွဲရေးဆိုင်ရာ နည်းဥပဒေ၊ အခန်း (၂) နည်းဥပဒေ ၃(ဈ)အရ အောက်အမည်ပါသူတို့အား လိုင်စင်နှုန်း **၁၂၀၀၀၀/- ကျပ်** (စာဖြင့်၊ ကျပ် **တစ်သိန်းနှစ်သောင်းတိတိ) ပေးသွင်းစေပြီး လှိုင်သာယာ** မြို့နယ်၊ **ရွှေလင်ပန်းစက်မှုဇုန်**ရပ်ကွက် ၊ **မကွေးရာမင်းသားကြီး** လမ်း ၊ အမှတ် **၁၄၈/၁၄၉**၊ အခန်းအမှတ် - တွင် **Spring River Knitting (Myanmar) Co., Ltd.** အမည်ပါ **သိုးမွေးယက်ထည်** ဆိုင်/လုပ်ငန်းအား လုပ်ကိုင်ခွင့်ပြု၍ ဤလုပ်ငန်းလိုင်စင်ကို ထုတ်ပေးလိုက်သည်။

စဉ်	အမည်	နိုင်ငံသားစိစစ်ရေး ကတ်ပြားအမှတ်	လိပ်စာ
၁။	Mr.TIAN LIANGMING	EC-6214769	၁၄၈/၁၄၉၊ မကွေးရာမင်းသားကြီးလမ်း၊ ရွှေလင်ပန်းစက်မှုဇုန်၊ လှိုင်သာယာ

ဤလုပ်ငန်းလိုင်စင်သည် **၂၀၂၀** ခုနှစ်၊ စက်တင်ဘာ ၃၀ ရက်နေ့တွင် သက်တမ်းကုန်ဆုံးသည်။

ဤလုပ်ငန်းလိုင်စင်အား မြင်သာသောနေရာတွင် မှန်ဘောင်ဖြင့် ချိတ်ဆွဲထားရမည်။

ဌာနမှူး (ကိုယ်စား)

*ပူးတွဲပါလိုင်စင်စည်းကမ်းများအား လိုက်နာဆောင်ရွက်ရမည်။

Figure 7: Business Licence from YCDC

030266

The Government of The Republic of the Union of Myanmar
Ministry of Commerce
Department of Trade

CERTIFICATE OF EXPORTER/IMPORTER REGISTRATION

1. Enterprise Name (မြန်မာ/အင်္ဂလိပ်): SPRING RIVER KNITTING (MYANMAR) COMPANY LIMITED.
2. Registration No: 42049(07-10-16)
3. Registration Term: FIVE YEAR
4. Start Date : 07-10-2016
5. End Date : 13-03-2021

6. Address : (မြန်မာ/အင်္ဂလိပ်) Plot No.148+149, Myay Taing Block No. 25, Matkhyar Min Thar Gyi Road, Shwe Lin Ban Indristrial Zone, Hlaing Thar Yar Township, Yangon Region,Myanmar

7. Business Registration No : 100670402(14-3-2016)

8. Type of Business : (မြန်မာ/အင်္ဂလိပ်)
- Sole Proprietorship [illegible]
- Partnership [illegible]
- Limited Company [illegible] (~~Myanmar~~/Foreign)
- Co-operative Society [illegible]
- Others(Please specify) [illegible]

9. Type of Service : New / Extension / Amendment

10. Contact No :

Telephone No.	Fax No.	e-mail
01-613753		

11. Remarks :

According To EICC-139/2019(30-7-2019) From FENGYI KNITTING COMPANY LIMITED. to SPRING RIVER KNITTING (MYANMAR)COMPANY LIMITED Plot No.148+149, Myay Taing Block No.25, Shwe Lin Ban Industrial Zone, Hlaing Tharyar Township, Form of Permit No.93FC/2015-2016(NPW)(14-3-2016) And MIC Permit No.1151/2016(19-9-2016)

12. Terms and Conditions : [illegible]

I hereby register the above mentioned enterprise as Exporter/Importer subject to the following terms and conditions: [illegible]

(a) Line of goods permitted - all items except prohibited and restricted items. [illegible]

(b) The enterprise must abide by the Export/Import rules and Regulations prescribed for the registered Exporters/Importers. [illegible]

Stamp

29.7.2019

For Director General

EIREG101679EIREGEX12130012

Figure 8: Certificate of Exporter / Importer Registration

1.3 EMP project Implementation

Field observation of the project site, Township and its surrounding was carried out during the period of January 2020 by AMK and Associate Environmental Consulting Limited. A line transect survey was carried out in the proposed and direct observations were made to identify water resources, land use pattern, environmentally sensitive and protected areas. Other reliable information was collected from respective authorities. Secondary information for the report was gathered from printed materials and other sources of Government Departments, Authorities, Ministries, NGOs and relevant websites etc.

A.M.K and Associates (Environmental Consulting) has taken an independent project for carrying out Revised EMP study around Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township area in Myanmar since January 2020 as assigned by Spring River Knitting (Myanmar) Company Limited. A.M.K and Associates (Environmental Consulting) performed the services described as reconnaissance study of Laboratory testing in ground water and soil sample. This service has been performed in accordance to the provisions specified in the studying schedule.

Personal performing the EMP Study and their Qualification

The project site and environmentals inspection was conducted by U Aung Myat Kyaw, Prof: Dr. Aung Lay Tin and U Thaung Aye Lwin during January, 2019 and a photographic record of the key features identified during the inspection. Consultations were also held with the individuals and organizations noted in report (summary) are shown below; Environmental Professional and Project Director for study was U Aung Myat Kyaw of **Joey AMK and Associate EIA Consulting Ltd, Environmental Management Team (No.17, Bandarbin St. Kyee Myindaing Township, Yangon, Myanmar)**Environmental Consultant Group who is a chartered Environmentalist with more than 10 years' experience providing environmental and social assessment and management services across a range of sectors and international jurisdictions. Dr. Aung Lay Tin was assisted by a team of technical specialists who contributed to the project study as detailed in below table;

The project developer the Spring River Knitting (Myanmar) Company Limited assigned the AMK and associate (EIA Consulting Limited) for the development of EMP report with the relevant group of consultants to fulfill the technical and legal requirement of the factory project. The lists of consultants with their relevant technical expertise are as follow.

Table 1: Survey team of the Environmental and Social

Sr.	Name of Consultant	Degree	Technical Expertise
	Mr. Aung Myat Kyaw Reg: 00110	B.Sc (Geology)	Team Leader
	Mr. Josiah Bowles (U Kyaw Zeya)	M.S in water and waste water Engineering	Senior water quality and field specialist
	Dr. Zin Mar Lwin	Ph.D in Environmental Science	Environmental and Agricultural expert (Advisor)
	Dr. Aung Lay Tin Reg: 00065	B.E (Mining) P.hD(Mining Engineering) (Environmental Field)	Project Management Team consultant/ Hazard Waste Management
	Ms. Swe Hlaing Win Reg: Processing	- Master of Social Science (NUS) - Master of Arts (Geography)	Hydrology, Sediments and Geomorphology, Environmental and social Impact assessments and Management consultant Environmental Legal consultant)
	Daw Cho Cho Aung Reg: Processing	B.Sc (Chemistry) - Chief Technician, Irrigation Department	Wastewater Analysis (BOD, COD) Soil, Water Lab analyst and Chemical Engineering
	U Thaung Aye Lwin Reg: 00064	B.E, AGTI (Mining Engineering)	Project Management Team Consultant/ Geology - Soil
	Daw Swe Zin Win Reg: 00109	M.Sc, B.Sc (Geology, Engineering Geologist)	Project Management Member. Gelogy - Soil
	Mr. Nay Soe Tun Reg: Processing	B.Sc Geology	Field Surveyor/ Data collection
	- Wai Lin Kyaw Reg:00063 - Thet Paing Oo - Reg:00066	B.Sc (Geology)	Field Surveyor/ Soil, water sample collection

Table 2: Project Team and Their Contribution

Sr.	Name of the staff	Position	Contribution to EIA/ SIA
	Mr. Aung Myat Kyaw Phone: 09-5162169 joei0920@gmail.com	Senior Environment and social specialist/ Tam Leader	* Over all in – charge of the project * Preparation of schedule for baseline data collection * Guided the team of experts for baseline data collection * Asses the water quality status of the factory area. * Identify and assess the impacts on soil water, air, noise and suggestion on mitigation measures. * Preparation of EIA Report and EMP Preparation
	Dr. Aung Lay Tin Phone: 09 –256036414 aunglaytin@gmail.com	Environmental Engineer	* Assess the air and noise quality status of the factory * Identify and assess the environmental impacts on air noise water from process line, Waste Management and suggestion on mitigation measure. * Preparation of EIA report and EMP.
	Mr. Josiah Bowles (U Kyaw Zeya) Phone: 09- joeziah@gmail.com	Hydrology, Ground Waste and water Conservation Specialist	* Asses the water quality status of the factory area. * Identify and assess the impacts on water quality and suggestion on mitigation measures. * Contribution and Preparation of EIA/SIA report and EMP Preparation.
	Daw Swe Hlaing Win Phone: 09-5192513 swehlaingwin@gmail.com	Social Expert	* Preparation of stakeholder consultation engagement plan and questionnaire form * Analysis and assessment of data collected in stakeholder consultation * Identify and assess the impacts on socio-economic environment and suggestion on mitigation measures. * Contribution in Preparation of EIA report and EMP preparation
	U Thaung Aye Lwin Phone: 09 – 43157295 thaungayelwin@gmail.com Dr. Aung Lay Tin	Risk and Identification Expert - HSE plan module construction.	* Site visit * Baseline and secondary data collection at the site * Representation in the local public consultations and stakeholder meeting * Identification of hazard/ risks, ie, possible manmade and natural disasters, source of impact. * Suggestion of appropriate mitigation matures to minimize the adverse impact on health, safety and environment. * Contribution in preparation of EIA report and EMP preparation
	Daw Cho Cho Aung Phone: 43081844 chochoyati@gmail.com	-	* Asses the wastewater quality status of the factory area by laboratory analyzing * Identify and assess the impacts on impact on chemical using and suggestion on mitigation measures * Suggestion of appropriate mitigation matures to minimize the adverse environmental impact on using chemical affect
	Wail in kyaw 09-43199913 wailinnyagon@gmail.com Thet Paing Oo 09-975112401 thetpaingoo.tpt@gmail.com Nay Soe Tun Phone: 09421073122 naysoetun7@gmail.com	Environmental Surveyor	* Site visit * Baseline and secondary data collection * Contribution in Preparation of EIA/SIA report and EMP preparation
	Ms. Swe Zin Win Phone: 450004712 ms.swwzinwin@gmail.com	Environmental Specialist (Myanmar)	* Baseline and secondary data collection * Data analysis/ report preparation * Translation and interpretation (Burmese)

Contact of A.M. K and Associate Environmental Consulting Limited is U Aung Myat Kyaw, 17, Bandarbin Street, Kyee Myin Daing Township, Yangon, Myanmar, Contact phone is 09 – 5162169 and email is joei0920@gmail.com

Previous Experience for JOEY AMK and Associates EIA Consulting Limited (Summary)

2008-2009	**EIA Consultant for following projects:** • **Base line Survey for PTTEP Pipeline** • **CNPC Onshore Pipeline Project [International Environmental Management (Canada)]** • **Monitoring Survey for onshore seismic Survey Project**
2012- 2015	**A. Pathein Industrial Zone for F/S and EIA (Study with Team Engineering, ACE Engineering)** **B. EP-3, MP-4, B-2, M-4, YEB Blocks as local Partner with International consultant firm [ACE Engineering Company (Singapore) and ARCADIS-SENESINDIA (India)] for EIA Survey in Myanmar**
2015-2018	**C. Moung Kung Sugar Mill project for Willmar (5000TPD) [with Environ Myanmar]** **D. NgaOo Sugar Mill project for Willmar (3000 TPD) [with Environ Myanmar]** **E. LNG Power Plant project for Supreme Co.,Ltd in Ayeyarwaddy Division (1000 MW Plant) [with Environ Myanmar]** **F. Win and Win Veneer Factory Project, in Bago Division, (Nyaung Inn Industrial Zone)** **G. Hydropower project for Ayeyar Mon Co.,Ltd in Tachilake region (50MW Plant) [with Environ Myanmar]** **H. Tong Thai Garment factory in Yangon for IEE and EMP Study, Prepared, and Submitted Report** **I. Jinli Knitting and Spinning Factory in Yangon for IEE and EMP Study, Prepared, and Submitted Report** **J. Wan He Knitting Factory in Yangon (Hmawbi) for IEE and EMP Study, Prepared, and Submitted Report**
2018 -	**K. IEE and EMP Study, Asia General Transformer Company, Prepared, and submitted Report** **L. EMP for Eternal Ease (Myanmar) Garment Factory in Shwe Pyi Thar, Yangon, Prepared and submitted Report** **M. EMP for Fook Hing (Shwe Kha Yu) Garment Factory in Hlaing Thar Yar, Yangon, Prepared and submitted Report** **N. IEE and EMP study for Nippon Concrete (Myanmar) Factory in Mawlamyaing, Mon, Prepared and submitted Report**

Data Collection

The project data of, factory layout plans and design parameter are provided by Spring River Knitting (Myanmar) Company Limited. Some data on demographic distribution in the area are sourced from local government offices.

1.4 Project Component and Overview of the Project

The promoter of China Citizen has setup this development of Manufacturing garment sector for this investment. This project will be operated by foreign investment namely as Spring River Knitting (Myanmar) Company Limited.

Therefore the commercial feasibility of this project has been proved. The project is expected to enforce and broaden the local private sector and associated with related accessories will generate added value in terms of profit.

Spring River Knitting (Myanmar) Company Limited has proposed to establish International Standard Knitting Manufacturing at Hlaing Thar Yar Township area (Shwe Lin Ban Industrial Zone), Yangon Division. This project is located upon the existing good environmental location and it is at 16°54'51.68"N, 96° 3'34.99"E (Gate of the Factory)

The elevation of the site is (6) meter above mean sea level.

1.4.1 Size of Project (Land Area)

Current performance of small and medium enterprises (SMEs) has shown the gradually growth in Myanmar.

If the local SMEs could connect with the foreign investors and develop as the supporting industries, it would bring the win-win strategy for both parties. Thus, foreign investment is crucial to improve both quality and quantity of the products as well as help local firms in terms of technological transfer.

The proposed project Spring River Knitting (Myanmar) Company Limited**'s**, factory is going to develop on 2.6 Acre Land, 2 storey Factory area and to establish manufacturing garment factory.

According to the Ministry of Environment and Forestry Notification No. 616/2015, Environmental impact assessment procedures, Appendix – A (Dated December 29, 2015), table for type and size of Environmental Assment Analysis required to carry out the project, This knitting factory project proposes only producing estimated 2200 pieces (1800 kg) or under 10 ton per day from the knitting factory as a SME Scale of factory.

1.4.2 Factory Building floor plan & Layout plan

Reason for selecting this proposed site is to develop on existing good environmental building to upgrade after setting up this performance. Nature of terrain of this building is plain and Soil Physical Properties is quite enough and qualified for proposed project site and surrounding area.

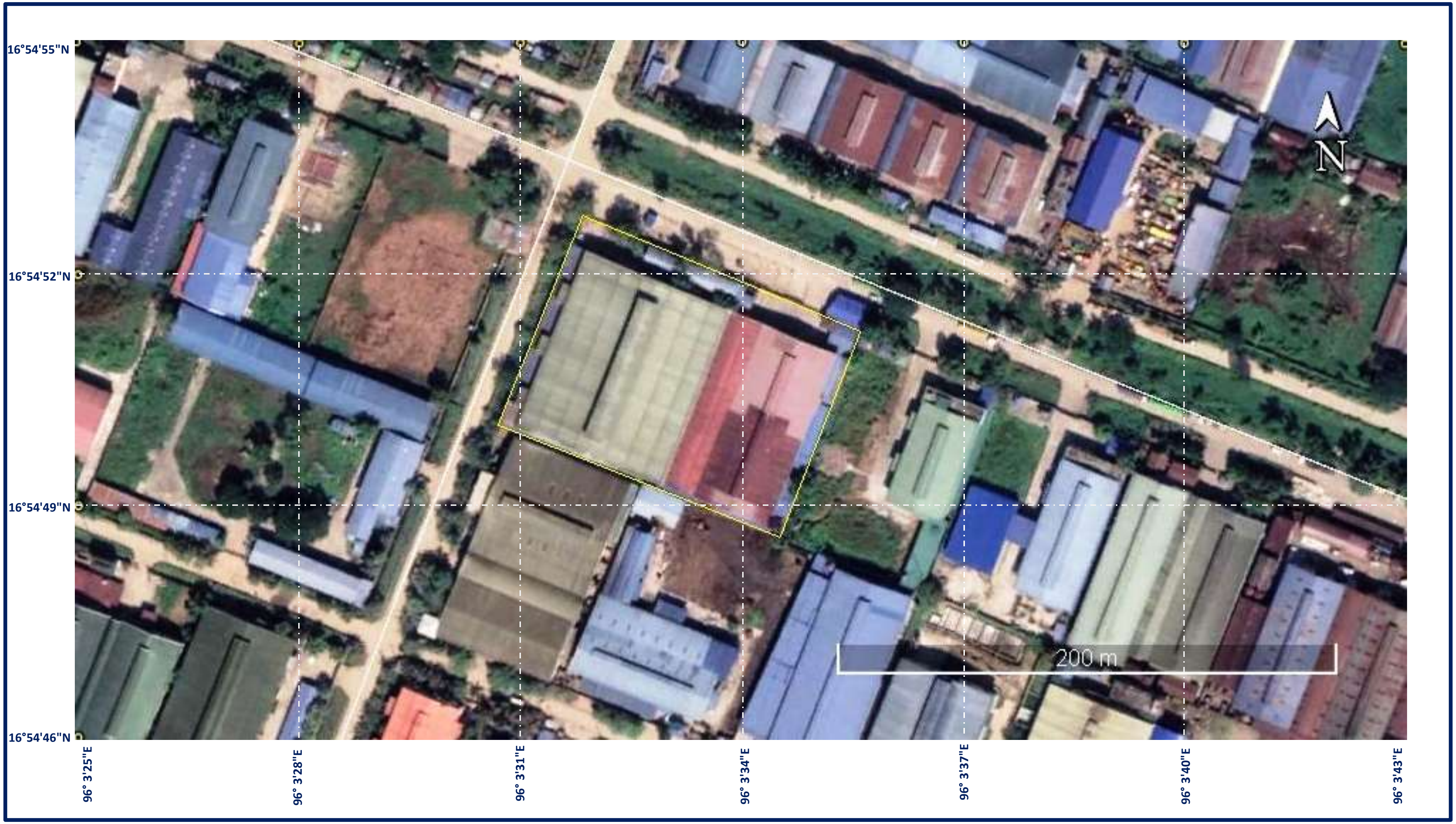


Figure 9: Location of Spring River Knitting (Myanmar) Factory, and surrounding factories

1.4.3 Factory Layout Plan, Building Inspection and Observation

Design of the Building

Each building must meet the administrative and technical requirements in accordance with the function of regarding building reliability requirements include the requirements for safety, health, comfort and convenience.

- regarding building safety requirements include the requirements of the building's ability to support the load, and the ability of the building to prevent and counter the danger of fire and lightning hazards
- the building's health requirements include ventilation, lighting, sanitation systems, and the use of building materials requirements
- the comfort requirements include the requirements of comfortable space and inter space relation, air condition, the view, as well as the level of vibration and noise
- the convenience requirements include ease of connection to, from, and within the building, as well as the completeness of infrastructures and facilities that enable the utilization of the building
- the operation of the building includes the development, utilization, concern, and demolition
- includes the rights and obligations of owners and tenants

This building has been satisfied two requirements, which are administrative requirements and the technical requirements in accordance with the function of the building.

Administrative requirements

1. Building ownership status
   Status of building ownership is evidenced by a proof of ownership of the building issued by the local government.
2. Building completion certificate
   Building completion certificate has been issued by YCDC as the following requirements has already finished which are:
   a. proof of land ownership status or proof of land use agreements;
   b. Personal data of building owner;
   c. Technical plan of the building;d.
   d. Results of the environmental impacts analysis for buildings that produce significant impacts on the environment.

Technical Requirements

1. Building structure requirements, covering:
   a. building utilization and intensity requirements
      - Requirements of the building location utilization (Building Structure and Environmental Management Plan)
      - Building intensity requirements include density, height, and building's boundary clearances requirements.
   b. architecture of the building
   c. environmental impact control requirements
      - Building Structure and Environmental Management Plan contains the subject matter of the building and environmental program provisions, the general plan and the design guide, investment plan, the provisions of the plan control, and implementation control guidelines.
2. Building reliability requirements, including requirements for safety, health, comfort, and convenience:
   a. safety requirements include the requirements of the building's ability to support the load, and the ability of the building to prevent and counter the danger of fire and lightning; earthquake under Myanmar Building Code, YCDC guideline.
   b. health requirements
      - Building health requirements include ventilation system, lighting, sanitation, and the use of building materials. To meet the requirements of the ventilation system, every building should have natural ventilation and/ or mechanical ventilation made in accordance with its function.

စက်မှုဇုန် စီမံချက်

009731

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
ရန်ကုန်တိုင်းဒေသကြီးအစိုးရ
ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးကော်မတီ
အင်ဂျင်နီယာဌာန(အဆောက်အအုံ)

စာအမှတ်၊ ၂၀၆၄ / ၂၀၆၃ / စည်ပင် - ယာ(အုံ)
ရက်စွဲ ၊ ၂၀၁၇ ခုနှစ် ဇန်နဝါရီ လ၊ ၃၀ ရက်

သို့
ဦးမြတ်စိုး၊ ဦးထွန်းထွန်းဝင်း
အမှတ်(၁၄၈+၁၄၉)၊ မင်္ဂလာရာမင်းသားကြီးမောင်ပိုးလမ်းနှင့်တွင်းသင်းတိုက်ဝန်ဦးထွန်းညိုလမ်းထောင့်
ရွှေလင်ဗန်းစက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ်

ORIGINAL

အကြောင်းအရာ ။ အဆောက်အအုံဆောက်လုပ်ခွင့်ပြုခြင်း

ရည်ညွှန်းချက် ။ အဆောက်အအုံပုံစံများနှင့်အတူ ပူးတွဲတင်သွင်းသော ၄-၁၁-၂၀၁၆ ရက်စွဲပါလျှောက်လွှာ

၁။ ၎င်းလျှောက်လွှာနှင့်တင်သွင်းသော အဆိုပါဆောက်လုပ်ခွင့်အား မိမိပိုင်/မြေနယ်နိမိတ်အတွင်း၌သာ အောက်ဖော်ပြပါ အချက်အလက်များ၊ တဖက်ဖော်ပြပါညွှန်ကြားချက်များအတိုင်းသတိပြုလိုက်နာစေလျက်ဆောက်လုပ်ရန် ခွင့်ပြုပါသည်။

- (က) ပိုင်ရှင်အမည် ဦးမြတ်စိုး၊ ဦးထွန်းထွန်းဝင်း
- (ခ) မြေတိုင်းရပ်ကွက်အမှတ် ၂၅ မြေကွက်အမှတ် ၁၄၈+၁၄၉
- (ဂ) လိပ်စာ အမှတ်(၁၄၈+၁၄၉)၊ မင်္ဂလာရာမင်းသားကြီးမောင်ပိုးလမ်းနှင့်တွင်းသင်းတိုက်ဝန်ဦးထွန်းညိုလမ်းထောင့်၊ ရွှေလင်ဗန်းစက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ်
- (ဃ) အဆောက်အအုံဆိုင်ရာအချက်အလက်များ
  - (၁) အထပ်၊ အမျိုးအစား (၁) ထပ် Steel (၂) လုံး
  - (၂) အကျယ်အဝန်း B.1 ၂၀၀'x၂၄၀'၊ B.2 ၁၀၀'x၂၄၀'
  - (၃) အမြင့် ၂၀'
  - (၄) သီးခြားဖော်ပြချက် B.2 မြေညီထပ် Level-2 (၁၀၀'x၂၀') ဂိုဒေါင်
  - (၅) မြေကျန်များ ရှေ့/နောက် ဘေး(ဝဲ/ယာ) B.1 အရှေ့ ၃၉' ချန်၊ Existing Bldg နှင့် ၁၇' ချန်၊ အနောက် ၁၀' ချန် ဝဲဘက် ၁၈' ချန်၊ ယာဘက် Proposed B.2 နှင့် ၅၀' ချန် B.2 အရှေ့ ၃၉' ချန်၊ Existing Bldg နှင့် ၁၇' ချန်၊ အနောက် ၁၀' ချန် *
- (င) လိုင်စင်ရအင်ဂျင်နီယာ(LS) ဦးဇော်ကိုကိုမောင် (LS - ၃၀၉)
- (စ) လိုင်စင်ရ ကန်ထရိုက်တာ (LC) ....
- (ဆ) လိုင်စင်ရ အဆောက်အအုံအင်ဂျင်နီယာ(SEC/AC) ဦးဇော်ကိုကိုမောင် (SEC - ၈၉)

၂။ ဤဌာန၏ခွင့်ပြုပြီးပုံစံနှင့် တဖက်ဖော်ပြပါညွှန်ကြားချက်များအတိုင်း အတိအကျလိုက်နာ ဆောင်ရွက်ရန်ဖြစ်ပြီး လိုက်နာ ဆောင်ရွက်ခြင်း မရှိပါက ဌာန၏လုပ်ထုံးလုပ်နည်းများနှင့်အညီ အရေးယူခြင်းခံရမည်။

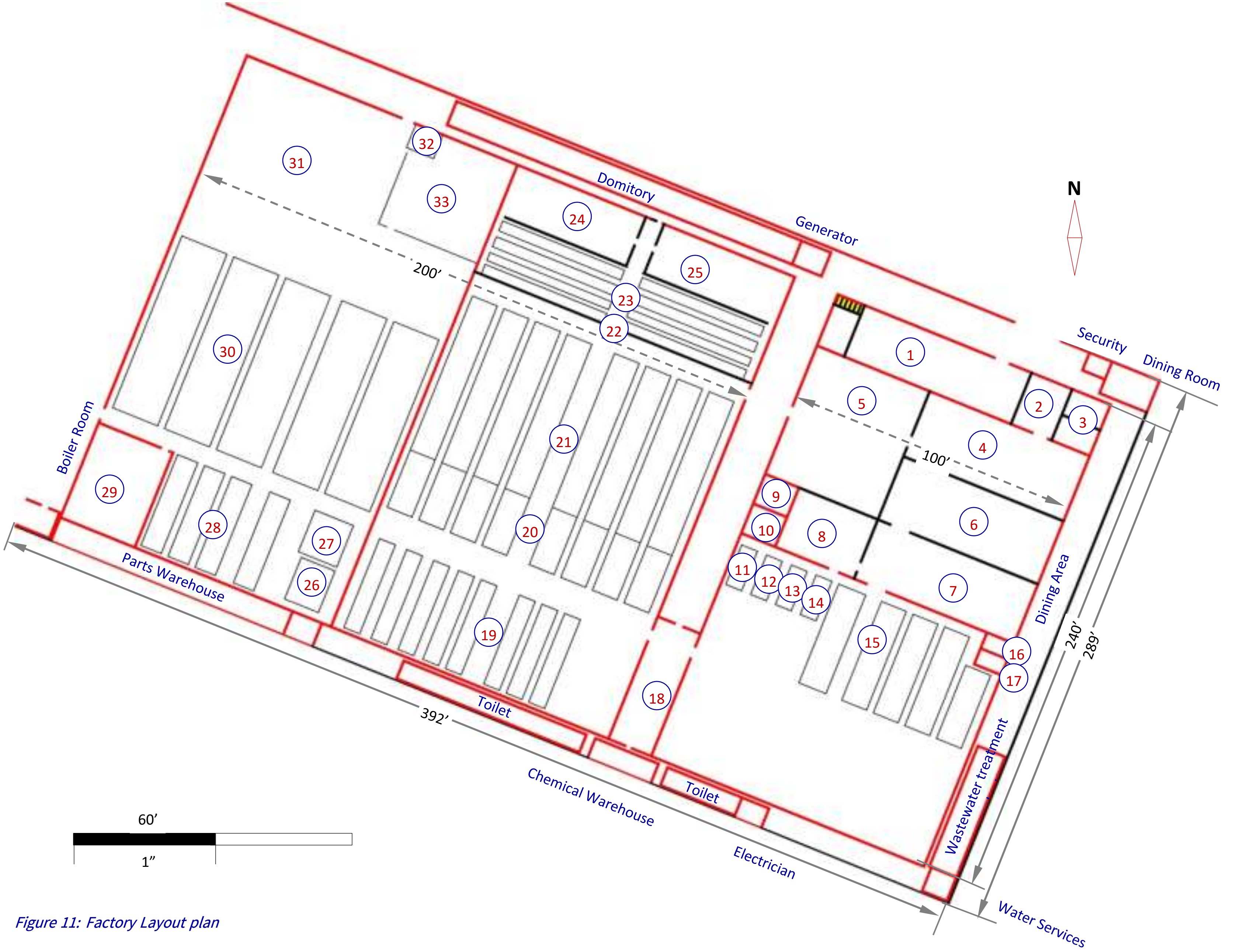
၃။ ပူးတွဲပါများ
- (က) အတည်ပြုပုံစံ (၅) ရွက်
- (ခ) အဆောက်အအုံလုပ်ငန်းစစ်ဆေးချက်မှတ်တမ်းစာအုပ် (၂) အုပ်

* ဝဲဘက် Proposed Bldg.1 နှင့် ၅၀' ချန်၊ ယာဘက် ၂၄' ချန်

ဌာနမှူး
[illegible]

မိတ္တူကို
ဒုတိယဌာနမှူး(စစ်ဆေးရေးဌာနခွဲ)
အုပ်ချုပ်ရေးမှူး(လှိုင်သာယာ)မြို့နယ်

Figure 10: Building construction permit



1. Office
2. Meeting Room
3. Inspection
4. Packaging
5. Product warehouse
6. Needle section
7. Knitting Section
8. Accessories
9. Nursery
10. Clinic
11. Label sewing
12. Color separation
13. Illuminated
14. Repair
15. Finishing inspection
16. အမွေးချွတ်ခန်း
17. ကြေးချွတ်ခန်း
18. Washing
19. QC
20. Hand work
21. Linking
22. Knitting inspection
23. Computer knitting machines
24. Raw material warehouse
25. Wrapping
26. Cutting
27. Ironing machines
28. Cutting & packing
29. Product warehouse
30. Weaving machines
31. Product warehouse
32. Office
33. Raw material warehouse

Figure 11: Factory Layout plan

1.4.4 Source of Energy

Source of Water and Consumption

Groundwater

The Project has a 6" diameter tube well and it has been run in 4" contube pipe to 210 feet bottom, It is for operation and domestic used such as washing clothes, bathrooms and Toilets. The water extraction depth of this tube well range is from 180 ft to 200 ft. This well can produce 30-40 gallons per minutes from 2" diameter contube pipe. Coordinate point for this tube well is 16.913535° N and 96.059581° E. It is about 2 meter away from the main factory.

The quality of ground water from tube well is only used for domestic usage such as toilet, washing hand so the **estimated consumption of water is only 5000 gallons per day**. And has been presently taken sample for laboratory testing and results has been shown in Figure 12;

Drinking Water

Drinking water for employee has been provided by purchasing from nearby Drinking Factory which has been approved by Department of food and Drug Administration, Ministry of Health

ISO TECH LABORATORY

Laboratory Technical Consultant: U Saw Christopher Maung
B.Sc Engg: (Civil), Dip S.E (Delft) Lecturer of YIT (Retd), Consultant (Y.C.D.C), LWSE 001.
Former Member (UNICEF, Water quality monitoring & Surveillance Myanmar)

WTL-RE-001
Issue Date - 01-12-2012
Effective Date - 01-12-2012
Issue No - 1.0/Page 1 of 1

W0618 333

WATER QUALITY TEST RESULTS FORM

Client: Fengyi Knitting
Nature of Water: Tube Well Water
Location: Shwe Lin Ban, Hlaing Thar Yar
Date and Time of collection: 8.12.2018
Date and Time of arrival at Laboratory: 8.12.2018
Date and Time of commencing examination: 12.12.2018
Date and Time of completing: 12.12.2018

Results of Water Analysis — **WHO Drinking Water Guideline (Geneva - 1993)**

pH	5.6		6.5 - 8.5
Colour (True)	Nil	TCU	15 TCU
Turbidity	Nil	NTU	5 NTU
Conductivity	23	micro S/cm	
Total Hardness	6	mg/l as $CaCO_3$	500 mg/l as $CaCO_3$
Calcium Hardness	4	mg/l as $CaCO_3$	
Magnesium Hardness	2	mg/l as $CaCO_3$	
Total Alkalinity	11	mg/l as $CaCO_3$	
Phenolphthalein Alkalinity	Nil	mg/l as $CaCO_3$	
Carbonate ($CaCO_3$)	Nil	mg/l as $CaCO_3$	
Bicarbonate (HCO_3)	11	mg/l as $CaCO_3$	
Iron	0.04	mg/l	0.3 mg/l
Chloride (as CL)	6	mg/l	250 mg/l
Sodium Chloride (as NaCL)	10	mg/l	
Sulphate (as SO_4)	Nil	mg/l	200 mg/l
Total Solids	13	mg/l	1500 mg/l
Suspended Solids	1	mg/l	
Dissolved Solids	12	mg/l	1000 mg/l
Manganese	Nil	mg/l	0.05 mg/l
Phosphate	Nil	mg/l	
Phenolphthalein Acidity	4	mg/l	
Methyl Orange Acidity	Nil	mg/l	
Salinity	0.1	ppt	

Remark: This certificate is issued only for the receipt of the test sample.

Tested by
Signature:
Name: Zaw Hein Oo
B.Sc (Chemistry)
Sr. Chemist
ISO TECH Laboratory

Approved by
Signature:
Name: Soe Thit
B.E (Civil) 1980,
Technical Officer
ISO TECH Laboratory

(a division of WEG Co.,Ltd.)

No.18, Lanthit Road, Nanthargone Quarter, Insein Township, Yangon, Myanmar.
Ph: 01-640955, 09-73225175, 09-73242162, Fax: 01-644506, E-mail: isotechlaboratory@gmail.com, Website: weg-myanmar.com

Figure 12: Result of Tube Well water sample (8.12.2018)

ALARM Ecological Laboratory

Water Testing Result Report

Report Number : EL-WR-22-00056 Date : February 8, 2022

Client Information

Client Name	:	-
Organization	:	Spring River Knitting (Myanmar) Co., Ltd
Client ID	:	-
Registration Date & Time	:	27.1.2022
Contact	:	09-428347078
Testing Purpose	:	-

Sample Information

Sample ID	:	7624
Sample Name	:	Tube Well Water
Sample Type / Source	:	Well
Sampling Date & Time	:	26.1.2022
Sample Location	:	Shwe Lin Ban Industrial Zone, Hlaing Thar Yar
Latitude	:	-
Longitude	:	-

Testing Results

This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service.
This report shall not be reproduced except in full, without written approval of the laboratory

Sr.	Quality Parameters	Results	Units	Drinking Standards	Remarks
1	BOD_5[a]	4	mg/L	-	-
2	COD[a]	< 30	mg/L	-	-
3	Arsenic[a]	0.005	mg/L	≤0.05[c]	Normal
4	Mercury	0	mg/L	≤ 0.001[d]	Normal

"ND" = Not Detected "LOD" = Lower limit of detection " - " = No Reference Standard

Tested by	Checked by	Approved by
Daw May Myat Khine Lab. Technician II Ecological Laboratory ALARM	Daw Lin Myat Myat Aung Lab. Technician I Ecological Laboratory ALARM	Dr. A... Win Laboratory In-Charge Ecological Laboratory (ALARM)

531 (D), MarlarMyaingYeikThar Street, Kamayut Tsp., Yangon, Myanmar Tel: 01-503301, 01-503302, 09-407496078
Email: aelab@alarmmyanmar.org , websites: www.alarmmyanmar.org

Figure 13: Result of Tube Well water sample (8.2.2022)

ISO TECH LABORATORY

Laboratory Technical Consultant: U Saw Christopher Maung
B.Sc Engg: (Civil), Dip S.E(Delft) Lecturer of YIT (Retd), Consultant (Y.C.D.C), LWSE 001
Former Member (UNICEF, Water quality monitoring & Surveillance Myanmar)

W0619 772

WTL-RE-001
Issue Date - 01-12-2012
Effective Date - 01-12-2012
Issue No - 1.0/Page 1 of 1

WATER QUALITY TEST RESULTS FORM

Client: Lavender
Nature of Water: R.O Water
Location: Hlaing Thar Yar Township
Date and Time of collection: 25.6.2019
Date and Time of arrival at Laboratory: 25.6.2019
Date and Time of commencing examination: 26.6.2019
Date and Time of completing: 28.6.2019

Results of Water Analysis — **WHO Drinking Water Guideline (Geneva - 1993)**

pH	6.5		6.5 - 8.5
Colour (True)	Nil	TCU	15 TCU
Turbidity	Nil	NTU	5 NTU
Conductivity	138	micro S/cm	
Total Hardness	4	mg/l as $CaCO_3$	500 mg/l as $CaCO_3$
Calcium Hardness	2	mg/l as $CaCO_3$	
Magnesium Hardness	2	mg/l as $CaCO_3$	
Total Alkalinity	68	mg/l as $CaCO_3$	
Phenolphthalein Alkalinity	Nil	mg/l as $CaCO_3$	
Carbonate ($CaCO_3$)	Nil	mg/l as $CaCO_3$	
Bicarbonate (HCO_3)	68	mg/l as $CaCO_3$	
Iron	0.05	mg/l	0.3 mg/l
Chloride (as CL)	6	mg/l	250 mg/l
Sodium chloride (as NaCL)	10	mg/l	
Sulphate (as SO_4)	Nil	mg/l	500 mg/l
Total Solids	69	mg/l	1500 mg/l
Total Suspended Solids	Nil	mg/l	
Total Dissolved Solids	69	mg/l	1000 mg/l
Manganese	Nil	mg/l	0.05 mg/l
Phosphate	Nil	mg/l	
Phenolphthalein Acidity	3	mg/l	
Methyl Orange Acidity	Nil	mg/l	
Salinity	0.1	ppt	

Remark: This certificate is issued only for the receipt of the test sample.

Tested by
Signature:
Name: Zaw Hein Oo
B.Sc (Chemistry)
Sr. Chemist
ISO TECH Laboratory

Approved by
Signature:
Name: Soe Thit
B.E (Civil) 1980
Technical Officer
ISO TECH Laboratory

(Division of WEG Co.,Ltd.)

8, Lanthit Road, Nanthargone Quarter, Insein Township, Yangon, Myanmar
01-640955, 09-73225175, 09-30339681, 01-644506, E-mail: isotechlaboratory@gmail.com, Website: weg-myanmar.com

Figure 14: Result of Drinking water Quality 25.6.2019

Electricity

It has been built a main transformer station with one line of 11 kVA power Transformer has been installed. For emergency case, one set of diesel generator silent type having capacity of 400/230 volt, 437 kVA is standby with generator house and acceptable stack height. Annual power consumption can be estimated - 400,000 unit/year. Average Electrical usage is 1300 unit / day). All of selected proper cable / wire are to reduce power loss and according to EI guide line. Energy saving type equipment, dry type energy saving transformer are used and proper connect manufacturing garment factory with several breakers.

Electrical Safety Certificate has been issued by EI.

Spring River Knitting (Myanmar) Company Limited assigned Electrician for the responsibilities of overall in charge that has a certified AGTI (Electrical Power Engineering) Diploma.

When YESC electrical break down, as emergency use, there's one silent type generators are standby for this factory.

There is 400 V, 437 kVA, diesel generator JHK-400 GF (UKSTF), engine horse power 338 HP.

Monthly generator running time was estimated 30 - 40 hours and monthly diesel consumption is about 150 - 200 gallons and 2000 gallons annually depends on YESC system failure time. Lubricant consumption for machines is 100 gallons annually.

There's no fuel storage facility at factory. Only stored at General Fuel Tank and capacities of these storages are only 50 gallons gallons.

Star Power

Multi Training Centre

STAR POWER MULTI TRAINING CENTRE

SkillS Proficiency Certificate

is awarded to

Zew Thu Aung

STAR POWER Multi Training Centre

NRC No. : 12 / Za La Na (N) 174821

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Course:

- Estimate on floor area and Power Consumption
- Voltage droop calculation on IEEE regulation
- Conduit pipe and Trucking size calculation
- KWH meter-Single Phase / Three Phase Installation
- Earthing Installation and measurement with Earth Tester

Awarded : 24-2-2017 (0027320)

Principal
U Myint Than
A.G.T.I (EC), B.A(Psycho), HGP

City& STAR POWER Multi Training Centre is an approved training Centre of

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
စက်မှုဝန်ကြီးဌာန
ရန်ကုန်တိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
(လျှပ်စစ်စစ်ဆေးရေး)
အမှတ်-၁၉၂၊ ကမ္ဘာအေးဘုရားလမ်း၊ ဗဟန်းမြို့နယ်၊ ရန်ကုန်မြို့

အကြောင်းအရာ။ **ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် နှစ်ပတ်လည်စစ်ဆေးခြင်း**

၁။ အထက်အကြောင်းအရာပါကိစ္စနှင့်စပ်လျဉ်း၍ အောက်ဖော်ပြပါ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက်ကို (၂၀၁၈)ခုဘဏ္ဍာရေးနှစ်အတွက် ဤတိုင်းလျှပ်စစ်စစ်ဆေးရေးဌာနမှ (၁၇. ၅. ၂၀၁၈)ရက်နေ့တွင် စစ်ဆေးခဲ့ပြီး ဖြစ်သည်။

၂။ လျှပ်ထုတ်စက် စစ်ဆေးခအတွက် ပေးသွင်းလာသော (၂၂. ၅. ၂၀၁၈) ရက်စွဲပါ ချလန်အမှတ် (၈၇) ကိုလည်း လက်ခံရရှိပြီးကြောင်း ပြန်ကြားအပ်ပါသည်။

(က)	လျှပ်ထုတ်စက်ကေဗွီအေ	437 kVA
(ခ)	သတ်မှတ်ဗို့အား	400 V
(ဂ)	လျှပ်ထုတ်စက်အမျိုးအစား	JHK-400GF (UKSTF)
(ဃ)	လျှပ်ထုတ်စက်နံပါတ်	U13G1205/1512001
(င)	လျှပ်ထုတ်စက်တည်နေရာ	အမှတ်(၁၄၈၊ ၁၄၉)၊ မဟ္ဘရာမင်းသားကြီးလမ်း နှင့် ဦးထွန်းညိုလမ်းထောင့်၊ ရွှေလင်ပန်းစက်မှုဇုန်

တိုင်းလျှပ်စစ်စစ်ဆေးရေးမှူး
(ရန်ကုန်တိုင်းဒေသကြီး)

Mr Lu Yuzhong
သိုးမွေးထိုးလုပ်ငန်း
အမှတ်(၁၄၈+၁၄၉)၊ မဟ္ဘရာမင်းသားကြီးလမ်းနှင့်
ဦးထွန်းညိုလမ်းထောင့်၊ ရွှေလင်ပန်းစက်မှုဇုန်၊
လှိုင်သာယာမြို့နယ်

စက်မှုဝန်ကြီးဌာန

ရန်ကုန်တိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့် စစ်ဆေးရေးဦးစီးဌာန

လျှပ်စစ် – စစ်ဆေးရေး

အမှတ်(၁၉၂)၊ ကမ္ဘာအေးဘုရားလမ်း၊ ဗဟန်းမြို့နယ်၊ ရန်ကုန်မြို့

လျှပ်စစ်ဓာတ်အားအသုံးပြုခြင်းဆိုင်ရာ အန္တရာယ်ကင်းရှင်းကြောင်းလက်မှတ်

လက်မှတ်အမှတ်စဉ် EI/YD - 156 /5 -2018

၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေ ပုဒ်မ ၃၂(ဃ) တွင် ပြဋ္ဌာန်းချက်အရ လျှပ်စစ်ဓာတ်အား အသုံးပြုခြင်း လုပ်ငန်းကို စစ်ဆေးရာတွင် လျှပ်စစ်ဥပဒေ ဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများနှင့် ကိုက်ညီကြောင်း စစ်ဆေးတွေ့ရှိရသဖြင့် အောက်ဖော်ပြပါ နေရာဒေသ၌ လျှပ်စစ်ဓာတ်အားအသုံးပြုခြင်း လုပ်ငန်းကို အန္တရာယ်ကင်းရှင်းကြောင်း လက်မှတ် ထုတ်ပေးလိုက်သည်-

၁။ လျှပ်စစ်ဓာတ်အားအသုံးပြုခြင်း

(က) သတ်မှတ်ဗို့အား ၄၀၀/၂၃၀ ဗို

(ခ) လုပ်ငန်းအမျိုးအမည် သိုးမွှေးထိုးလုပ်ငန်း

(ဂ) ခွင့်ပြုဝန်အား 338 HP

၂။ နေရာဒေသ Mr Lu Yuzhong
အမှတ်(၁၄၈+၁၄၉)၊ မကွေးရာမင်းသားကြီးနှင့်တွင်းသင်းတိုက်ဝန်ဦးထွန်းညိုလမ်းထောင့်၊ ရွှေလင်ပန်းစက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ်။

၃။ လက်မှတ်ထုတ်ပေးသည့်ရက် ၂၂ ‧ ၅‧ ၂၀၁၈

၄။ လက်မှတ်ကုန်ဆုံးသည့်ရက် ၂၁ ‧ ၅‧ ၂၀၁၉

(ကျောဘက်တွင် ဖော်ပြထားသော စည်းကမ်းချက်များကို လိုက်နာရပါမည်။)

မှတ်ချက်။ ပြုပြင်ရန်ကိစ္စရပ်များအား လိုက်နာဆောင်ရွက်ရန်

စစ်ဆေးရေးမှူး

ရန်ကုန်တိုင်းဒေသကြီး လျှပ်စစ်စစ်ဆေးရေး

The Ministry of Industry, Yangon Region Industrial Supervision and Inspection Department; Electricity: Inspection has not been able to renew updating above certificates due to insufficient staff at present.

အမှတ်(၁)စက်မှုဝန်ကြီးဌာန
လျှပ်စစ် စစ်ဆေးရေးဌာန

<u>ဗို့အားမြင့် လျှပ်စစ်ဓါတ်အား ဖြန့်ဖြူးခြင်း လုပ်ငန်း ဆိုင်ရာ</u>
<u>အန္တရာယ် ကင်းရှင်းကြောင်း ခွင့်ပြုမိန့် လက်မှတ်</u>

ခွင့်ပြုမိန့် ရက်စွဲ ၊ ၁၂ ၉ - ၂၀၀၅ ခွင့်ပြုမိန့် အမှတ်စဉ် ၊ ၄၉၂/၂၀၀၅

၁၉၈၄ ခုနှစ် လျှပ်စစ် ဥပဒေ ပုဒ်မ ၁၉ (င) တွင် ပြဋ္ဌာန်းထားသည့် အာဏာ အရ လျှပ်စစ် ဓါတ်အား ဖြန့်ဖြူးခြင်း လုပ်ငန်းကို စစ်ဆေးရာ လျှပ်စစ် ဥပဒေ ဆိုင်ရာ လုပ်ထုံးလုပ်နည်း များ နှင့် ကိုက်ညီကြောင်း စစ်ဆေး တွေ့ရှိရသဖြင့် အောက်ဖော်ပြပါ နေရာ ဒေသ တွင် လျှပ်စစ်ဓါတ်အား ဖြန့်ဖြူးခြင်း လုပ်ငန်းကို ခွင့်ပြု လိုက်သည်။

၁။	သတ်မှတ်ဗို့အား	-	၁၁၀၀၀ ဗို့
၂။	ဓါတ်အားလိုင်း အမျိုးအစား နှင့် အရွယ်အစား	-	
၃။	ဓါတ်အားခွဲရုံ	-	၁၁/၀.၄ ကေဗွီ ၃၁၅ ကေဗွီအေ ဓာတ်အား ခွဲရုံ
၄။	နေရာဒေသ	-	ဦးစိန်ဝင်း ၏ သီဟိုဠ်ဇေ့စက်ရုံ ၊ အမှတ် (၁၄၈/၁၄၉) တွင်းသင်းတိုက်ဝန်ဦးထွန်းညို လမ်း နှင့် မဂ္ဂရာမင်းသားကြီး လမ်းထောင့် ၊ ရွှေလင်ပန်း စက်မှုဇုန် ၊ လှိုင်သာယာမြို့နယ်။
၅။	မှတ်ချက်	-	စက်ရုံအတွင်း ဓာတ်အား ဆက်သွယ် အသုံးပြုရန် အတွက် သက်ဆိုင်ရာ တိုင်း လျှပ်စစ် စစ်ဆေးရေး ဌာနနှင့် ဆက်သွယ် ဆောင်ရွက်ရန်။

(သန်းအေး)
ညွှန်ကြားရေးမှူး
လျှပ်စစ်စစ်ဆေးရေး

Figure 15: လျှပ်စစ်ဓာတ်အားအသုံးပြုခြင်းဆိုင်ရာ အန္တရာယ်ကင်းရှင်းကြောင်းလက်မှတ်များ

MINISTRY OF INDUSTRY (1)

ELECTRICAL INSPECTORATE

TEST REPORT OF TRANSFORMER

Date

Project	ဦးစိန်ဝင်း သီဟိုဠ်စေ့စက်ရုံ အမှတ်(၁၄၈/၁၄၉) ရွှေလင်ပန်းစက်မှုဇုန် ၊ လှိုင်သာယာမြို့နယ်		
Sr.No.	200509002	Capacity	315 kVA
Phase	3 Ø	Frequency	50 HZ
Primary Voltage	11000 V	Secondary Voltage	400 V
Primary Current	16.53 A	Secondary Current	454.66 A
% Impendence	3.79 %	Vector Group	Dyn 11
Type	ONAN	Standard & Specification	
Maker	EKARAT		
Primary Winding Resistance		Ohm	
Secondary Winding Resistance		Ohm	
Insulation Resistance	HV to Earth	M.Ohm	2000
Test with 2000 V	LV to Earth	M.Ohm	1500
Insulation Tester	HV to LV	M.Ohm	3000
22 kV 1 min P - (S + E)		Passed Leakage Current	22 mA
2 kV 1 min S - (P + E)		Passed Leakage Current	3 mA
Voltage Ratio Test Input	V	Calculation	- V
		Measurement	- V
Angular Displacement		V-v V-w W-w W-v	
Transformer Oil Test 4 mm Gap 40 KV 1 min			
Earth Resistance Test		Body	3.5 Ohm
		Neutral	2.5 Ohm
		L.A	3.2 Ohm

Testing Engineer

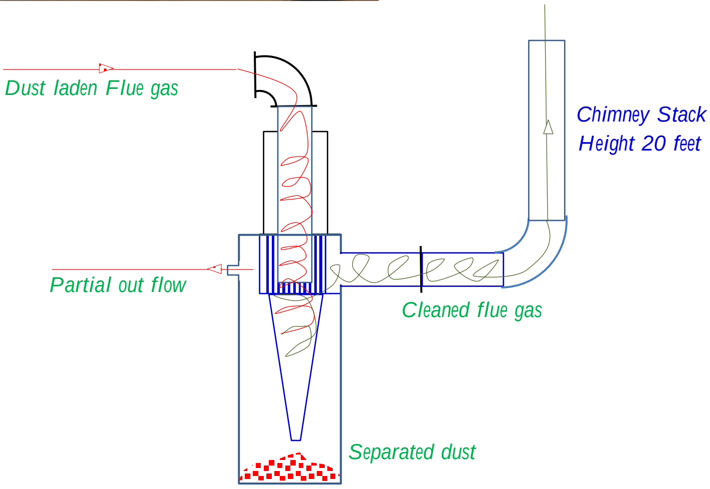
Inspector General
Electrical Inspectorate

Steam System

All Knitting factories had an on-site boiler to centrally generate steam for ironing. In most facilities, the ironing boards are attached to a ventilation system that captures the heat emitted from the iron and exhausts it to the outside environment. The quantity and size of boiler (one ton small boiler) located on-site is proportional to the manufacturing operation.

Boiler	- 1 ton/h (1000 kg/h)
Operating pressure	- 0.9 MPa
Feed water temperature	- 30°C
Actual boiler rate	- 1000 kg/h
Water Capacity	- 1100 gallons (5 m^3)
Exit Steam velocity	- 20 m/s
Stack Height	- 10 m

As to mitigate Air emission, dust collector or gas collector has been installed beroe emit to Boiler Chimney



Water use at Boiler Operation

As discussed factories generate steam by using on-site boiler to supply operations. Drying is the step before factory workers. Ironing is performed continuously during factory operation. Almost dironing tables

are equipped with duct line systems to draw steam through the surface and ventilate it to the outdoor environment; Factories typically have a boiler dedicated to the ironing process and use wood-fired boiler systems. 0.9 Mpa wood fired boiler has been used by this factory operation. The estimated consumption of water is maximum 5 tons/ day with 12 hours per day usage and boiler water tank capacity is 1,100 gallons, diameter of chimney is 800 mm, 10 meter of height.

Source of fire wood use at boiler Operation, and storage of firewood

Firewood is purchased from the local contractor through familiar contractor and, purchased two trucks (15 tonnes each) per one time. Three trucks (about 45 tons) of fire wood can be stored at this factory. The firewood has been transported by contractor with his own transportation since factory operation started. It can be stored separately from dry and flammable materials. It is stored on a concrete floor systematically, and storage is where easily extracted firewood for boiler. The requirement of firewood can be easily ordered and purchased continuously.

The daily consumption of firewood for boiler is 2998.4 kg approximately as depends on CMP order.

For prevention of pollution, although biomass burned boiler is planned to be imported, currently it is not available to perform import program because of the current country condition.

Figure 16: Firewood Storage at Factory

ရန်ကုန်တိုင်းဒေသကြီး စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေး ဦးစီးဌာန
စာအမှတ်..........
ရက်စွဲ..........

ဘွိုင်လာယာယီအသုံးပြုခွင့်လက်မှတ်

{ လုပ်ထုံးလုပ်နည်း အပိုဒ် ၆ အပိုဒ်ခွဲ (ဆ) }

စာအမှတ်......

......Mr. Yao ......, Spring River Knitting......

....

....

..........အား..........

..........ကုမ္ပဏီ၊.......... နိုင်ငံမှ

ထုတ်လုပ်သည့်ဘွိုင်လာအမှတ်..........ပါသော

သို့မဟုတ်ဘွိုင်လာမှတ်ပုံတင်အမှတ် မ.စ......ဖြစ်သော......ဘွိုင်လာကို

ခွင့်ပြုဖိအား......ဖြင့်လက်မှတ်ထုတ်ပေးသည့်နေ့မှ (၆)လ အသုံးပြုခွင့်ရှိသည်။

ယင်းကာလအပိုင်းအခြားကျော်လွန်သည့်အခါ ထုတ်ပေးထားသည့် ဤယာယီအသုံးပြုခွင့်လက်မှတ်

ပျက်ပြယ်စေရမည်။

ဘွိုင်လာစစ်ဆေးရေးမှူး
လက်ထောက်ညွှန်ကြားရေးမှူး
(ဘွိုင်လာစစ်ဆေးရေး)
ရန်ကုန်တိုင်းဒေသကြီး

ဒုတိယညွှန်ကြားရေးမှူး
(ဘွိုင်လာစစ်ဆေးရေး)
ရန်ကုန်တိုင်းဒေသကြီး

ရက်စွဲ။ ...၂၈.၂.၂၀၂၂...............

မှတ်ချက်။ ။ ဘွိုင်လာဥပဒေပုဒ်မ ၁၅ပါ ပြဋ္ဌာန်းထားသည့် သက်ဆိုင်ရာအစိုးရဌာနအဖွဲ့အစည်းက လိုအပ်၍ တောင်းဆိုသည့်အခါ ဤလက်မှတ်ကို တင်ပြရမည်။

Figure 17: Boiler Licence (Temporary)

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ
စက်မှုဝန်ကြီးဌာန
စက်မှုကြီးကြပ်ရေးနှင့် စစ်ဆေးရေးဦးစီးဌာန
ဘွိုင်လာကိုင်တွယ်သူများသင်တန်း
အောင်လက်မှတ်

----ရန်ကုန်----ပြည်နယ်/တိုင်းဒေသကြီး----ရွှေပြည်သာ----မြို့နယ်မှ
ဦး----လှမြင့်----၏ သား/သမီး----ဦးထက်အောင်----
နိုင်ငံသားစိစစ်ရေးကတ်ပြားအမှတ်----၁၂/လသယ(နိုင်)၀၅၉၅၀၀----သည်
ဘွိုင်လာစစ်ဆေးရေးမှ ဦးစီးကျင်းပခဲ့သည့် ဘွိုင်လာကိုင်တွယ်သူများသင်တန်း အမှတ်စဉ် (၁/၂၀၁၆) ကို ၂၀၁၆ ခုနှစ်၊ ဇန်နဝါရီလ (၅) ရက်နေ့မှ ဖေဖော်ဝါရီလ (၁၁) ရက်နေ့အထိ တက်ရောက်သင်ကြားအောင်မြင်ခဲ့သဖြင့် ဤလက်မှတ်ကို ချီးမြှင့်လိုက်သည်။

GOVERNMENT OF THE REPUBLIC OF THE UNION OF MYANMAR
MINISTRY OF INDUSTRY
DIRECTORATE OF INDUSTRIAL SUPERVISION AND INSPECTION
BOILER OPERATOR'S COMPETENCY CERTIFICATE (BOCC)

This certificate is awarded to ......U Htet Aung......, son / daughter of U......Hla Myint......, holder of N.R.C. No......12/La Tha Ya(N)059500...... residing at ......Shwepyithar...... Township ......Yangon...... State / Region, who has satisfactorily completed the Boiler Operator Training Course No.1/2016 held at the Boiler Inspection Department from 5 January to 11 February 2016.

(ဘွိုင်လာစစ်ဆေးရေး)
Director (Boiler Inspection)

Director General

1.4.5 Project Design Formulation and Supporting Operations

In the proposed Garment Factory, environmental mitigation measures are integrated in the design of machine itself. This will enhance the mitigation measures in terms of specific mitigation measure, safety measures relating to mechanism. The factory manufacturer's specification identified the environmental assessment pertaining step by step and mentions the site specific mitigation measures to perform, the material to be used, waste disposal area as well other environmental requirement.

Civil design

Factory and warehouse for machinery, raw material ware house, office building, dining room and toilets, transformer station, ground tank with water pump, fuel storage and generator house are placed in one compound.

Ventilation and lighting, building height are under building code of Myanmar, all of construction material is fire resistant. Width of the access road in factory is acceptable for traffic.

Production space

The catwalk space can be seen to display their products and exhibition space in this industry. Lobby and private cabins for the customer service

It should be summarized by the followings:

The garment factory uses glass in façade of the building and front office which gives better lighting. Although many buildings are commonly seen in the garment factory, all of the zones .In the production floor of their industry, there is enough circulation space and employees can work comfortably according to their machine layout as shown in Figure

Figure 18: Proposed Production Space for Operational Departments

Electrical Design

It will build a main transformer station with one line of 11 KV high voltage power supply. For emergency case, one set of diesel generator silent type having capacity of 400/ 230 V, 437 kVA, JHK-400 GF (UKSTF), 338 HP is standby with generator house and acceptable stack height. Distribution panel and transformer are attached. Annual power consumption is estimated (675170) unit. All of selected proper cable / wire are to reduce power loss and according to EI guide line. Energy saving type equipment, energy saving transformer is used and proper connect to manufacturing plant with several breakers.

Lighting and Natural light

Every space intended for human occupancy shall be provided with natural light by means of exterior glazed openings or artificial light. Exterior glazed openings shall open directly onto a public way or onto a yard or court .The minimum net glazed area shall not be less than 10 per cent of the floor area of the room. Most garment factories have a combination of natural and artificial lighting. However, little attention appears to be paid on the nature of the work, it is as though all work in the factory requires the same degree of lighting. From the workers‟ perspective, poor lighting at work can lead to eye strain, fatigue, headaches, stress and accidents.

On the other hand, too much light can also cause health and safety problems such as headaches and stress. Both can lead to mistakes at work, poor quality and low productivity. Various studies suggest that good lighting at the workplace pays dividends in terms of improved productivity and a reduction in errors. Improvements in lighting do not necessarily mean that industry needs more lights and therefore use more

electricity – it is often a case of making better use of existing lights; making sure that all lights are clean and in good condition; and that lights are positioned correctly for each task. It is also a case of making the best use of natural light.

There is also a need to make sure that all windows, skylights, are clean and in the best position to allow the maximum amount of natural light into the workplace. Garment industries can always use appropriate shading methods for reducing the temperature and should not rely on the windows being dirty. Skylights and windows high up the factory walls let in much more light (and air) than low windows, which often get blocked with stock, raw materials and so on.

It is also essential that lights are positioned in the correct place so that workers do not have to adopt poor working postures to see the task in hand. It is also important to have adequate lighting near any potential hazards such as steps, ramps, etc. and outside the factory for security at night.

Water Supply and Drainage Design

Water Supply for this factory has been contacted by water pipe line with storage capacity of two ground water tanks and one overhead tank. Total 63.08 m^3 (13875 imperial gallons) of water can be stored and water is being extracted from 2 x 4" tube well (depth is over 180 feet) by one number of pressurized pump. There's rain water, sewage water are in separation, such as toilet and septic tank.

Daily requirement of water is 20 m^3 (5000) gallons. Water drainage is along building and discharged to public drain.

Ground Tank 4.91 x 2.8 x 0.98 m

Ground tank 2.7 x 2.1 x 3.1 m

Overhead tank 4.91 x 2.8 x 2.33 m

Figure 19: Water storage tanks at Spring River Knitting Factory

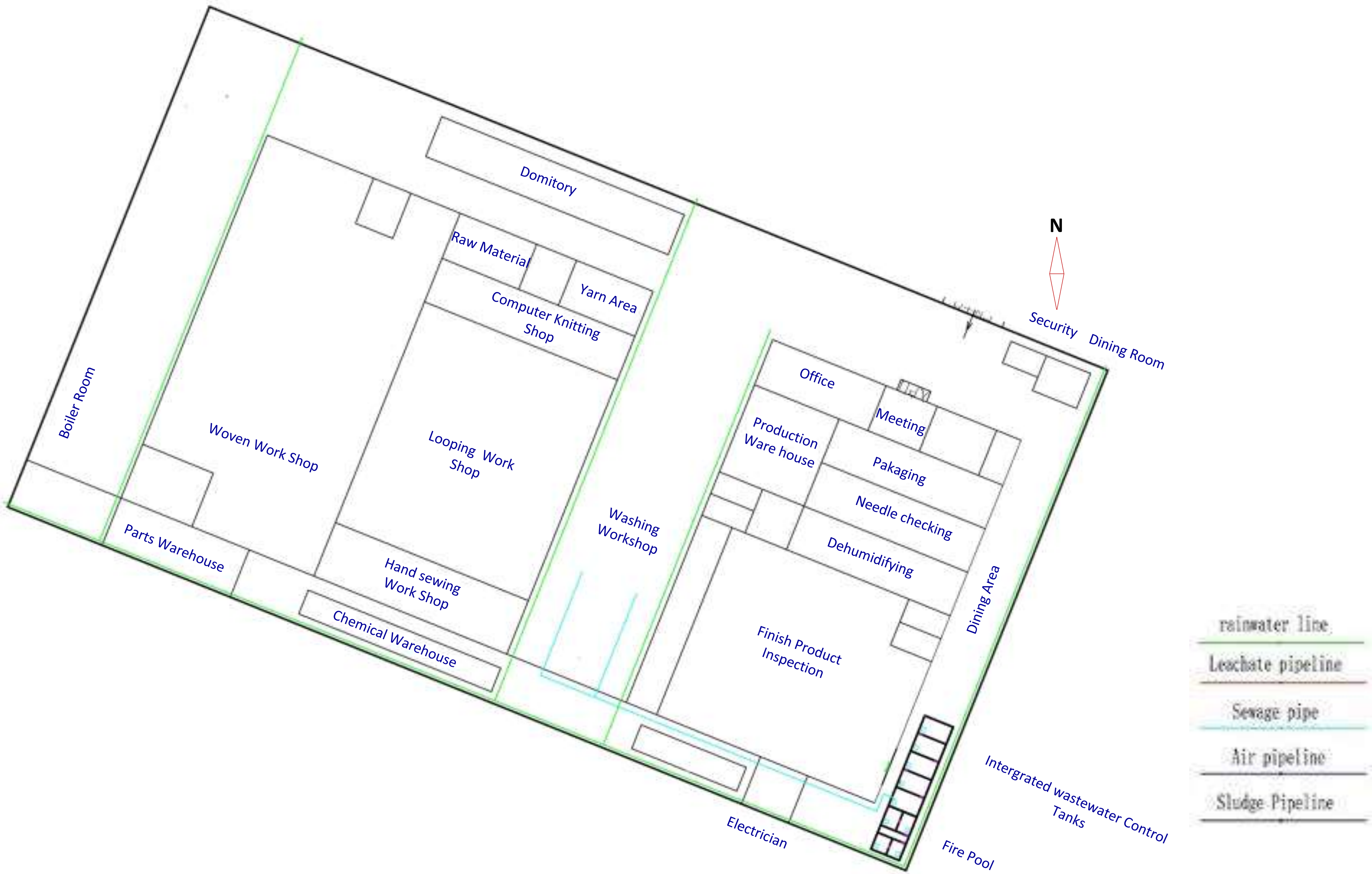


Figure 20: Drainage Drain and water line layout at Factory

Ventilation Design

Natural ventilation is by using of wall windows, main door and roof windows. It will use fans / blowers mounted on the wall and at maintenance workshop, production area. It mounts air conditioner and fans at storage area, office, and control room.

All habitable inner spaces shall be provided with natural ventilation, or mechanical ventilation

Ceiling ventilation

The space between the ceiling and the roof shall be provided with openings for ventilation which shall be protected from intrusion of birds, insects and other animals.

Natural ventilation

Natural ventilation of an occupied space shall be through windows, doors, louvers or other openings to the outdoors. The operating mechanism for such openings shall be provided with ready access so that the openings

Ventilation area required

All habitable spaces which are meant for human occupation of more than 8 hours daily shall be provided with openings of minimum 10 per cent to the floor area for natural ventilation.

Exception: Exterior openings required for ventilation in stairwell, corridors, etc. shall be in accordance

One of the most universally popular types of ventilation is the fan and shutter system. The principle is that the structure or controlled environment area is designed so that a shutter or series of shutters open on one side or end of a structure and on opposite side or end, the exhaust fan or fans come on to pull fresh outside air into the structure and exhaust the high humid, warm or stale air is exhausted through the fan. The object of course, is to reduce the temperature and ventilate the structure evenly and completely with as little turbulence as possible to lower the internal temperature to outside temperature and in the case of plants and other humid environments to reduce humidity. The larger the structure, the more fans and shutters required. There are many air conditions for working areas in the shining access garment factory.

Air and Dust collecting Design

The design is to put machine guard for dust, heat stress along production process line. The dust in operating site is lower than 4 rag / m^3. Air quality is complying with the guide line world bank in factory area.

Environmental Protection, safety and Fire control Design

Dust and waste gas, Heat control with machine, guard, noise control, are placed in manufacturing factory. Safety and Industrial hygiene for factory is normal standard with easy control and cleaning to molding and screwing area. Oil spill from cleaning, electrical safety to injection and molding section are with automatic break.

Zoning Classification

In garment industries, there can be classified as four main zones to run their functions. There are Administration zone for controlling their commercial facilities, Operation zone for their products, recreation zone for public facilities and others for M and E rooms, store rooms and so on.

Design Development (idea of spaces & Zoning)

Sensible Consideration in choosing construction materials and orientation of the form, not only the usage of such building materials which contribute to green living but also the adaptation of such construction technique which has a minimal effect on the environment.

Storage

- Yarn Storage
- Finished products Storage

Hand Washing

- Washing (5 washing Basins)
- Ironing

Production floors

- Office, Meeting Room
- Inspection Room
- Product warehouse
- Needle and knitting section
- Accessories store
- Finishing Inspection
- Label sewing, Colour separation, illuminated, repairing section
- Finishing inspection
- Toilets (10 for male and 31 for female)
- Wash basins 2 for male and 10 for female)
- Washing Section
- QC, hand work section, linking section and knitting inspection
- Computer knitting machines sections,
- Raw Material warehouse,
- Wrapping
- Ironing, cutting & packing,
- Product warehouses
- Weaving Machines section, Production office, Raw materials warehouse

Dining Space (indoor)

- Enough for all employees

Nursery Day care (20 children ages 0 – 4) if next 4 or 5 years

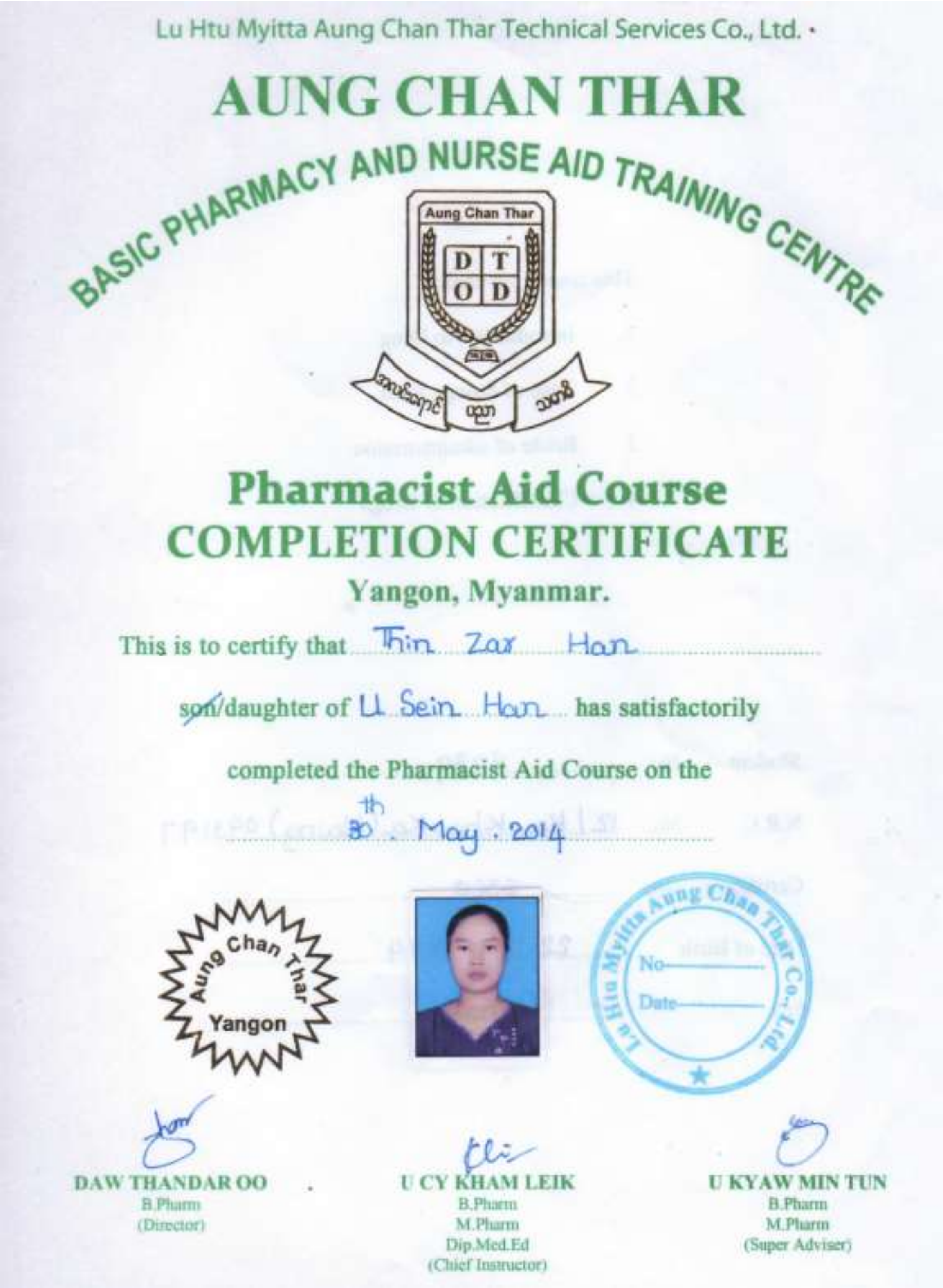
- Sleeping area
- Toilet (including bathing and changing)
- Playing (indoor)

Administration

- MD office
- Secretaries
- admin officer room
- officer (accounts)
- manager room
- Common toilet
- Kitchenette
- Copying and filling room
- Office assistant + store

Mini Clinic

- Nurse room
- Waiting area
- Assistants desk + store
- First Aid Boxes: for every 150 workers, already have a person trained in first aid and medic. Kept certain quantity of medicine of different types in a first aid box in each floor for employees to use as first aid
- Appointed one certified a nurse for initial Health care services


Lu Htu Myitta Aung Chan Thar Technical Services Co., Ltd.

AUNG CHAN THAR

BASIC PHARMACY AND NURSE AID TRAINING CENTRE

Aung Chan Thar

D T O D

Pharmacist Aid Course

COMPLETION CERTIFICATE

Yangon, Myanmar.

This is to certify that Thin Zar Han

son/daughter of U Sein Han has satisfactorily

completed the Pharmacist Aid Course on the

30th . May . 2014

Aung Chan Thar Yangon

Lu Htu Myitta Aung Chan Thar Co., Ltd. No— Date—

DAW THANDAR OO
B.Pharm
(Director)

U CY KHAM LEIK
B.Pharm
M.Pharm
Dip.Med.Ed
(Chief Instructor)

U KYAW MIN TUN
B.Pharm
M.Pharm
(Super Adviser)

Services

- Generator room
- Boiler
- Security Hut
- Wastewater treatment Plant

Parking

- 2 types of parking has been prepared. One is for 4 trucks used for loading and unloading. The other is parking for 5 cars for the admin section and visitors.

Product Range : knitted wares, such as hats & berets, gloves & mittens, shawls & capes, neck tubes, scarves and head bands

Production capacity : 60,000 pcs per month

Special features: vacuum ironing table, feed of the arm, placket fusing machine, collar forming machine, cuff forming machine, Kansai special, fabric inspection machine maximum sewing machines are auto trimming and vertical trimmer.

Chemical Usage

According to this factory's operation process, there's some chemical raw materials required as necessary to perform washing process and wastewater treatment process.

In washing process, environmentally fridendly oyster sauce (Detergent Agents) is being used forFibers and Sweaters washing, Leavening agent, and Silicone oil are used as softener in washing process.

In wastewater treatment process Sodium hydroxide, Polyacrylamide, and Polyaluminium Chloride are being used. **All of the chemical material are supplied from Huaxin Chemicals (China)**.

The chemical inventory and MSDS are shown in this report.

Energy Efficiency in Garment Industry

Energy efficiency can be considered as the main energy saving opportunity for the manufacturing industry. The two factors should drive industry towards achieving it. The first is considering about natural ventilation for the garment and knitting industry and the second is natural lighting for very high temperature in garment industries. If energy constitutes a substantial input to industrial processes then this should be a straightforward incentive to improve energy efficiency.

High internal gains from artificial lighting and equipment produce an intolerably hot work environment, which exacerbates the already uncomfortable climate. Extensive usage of artificial lighting in sewing and steam irons in the ironing space is the major cause of high internal temperatures. Most of the garment industries are criticized for their overheated working conditions, causing a health hazard for the workers. The high density of people, equipment and artificial lighting are the reasons for high internal temperatures.

Table 3: Usage of Electricity Units in SPRING RIVER KNITTING (MYANMAR) Factory

Sr.	Location	Description	Electricity Units for Artificial Lighting
	Office and General	Air con	10 x 1.5 HP
	Sewing Line	Florescent lamp	36 nos per line x 12 x 20 Amp
	Cutting Line	Florescent lamp	2 x 2.5 HP
	Ironing Line	Florescent lamp	2 x 0.75 HP
	Other necessary place	Florescent lamp	652
	Panel Board	Change over	1 x 62.5 KVA,1 x 300 KVA

Table 3 shows usage of electricity units in lighting of selected local garment industries, the cost for those units is 3 to 10 %of total expenditures of garment industries. Up to 3 to 10 %of total costs for electricity in industries shall reduce if natural lighting can be given sufficiently. According to their roof type, inclined lantern light can give as natural lighting. In this industry, employees cannot suffer from heat because of high ceiling. And they keep separate ironing room so that it can reduce employees' heating condition.

According to their roof type, ridge lights can enter as natural lighting. The ceiling can be seen for reducing heat but there is a little sky light for natural lighting. There are the roofs of corridor; therefore, there is enough natural lighting.

1.4.6 Factory Organization

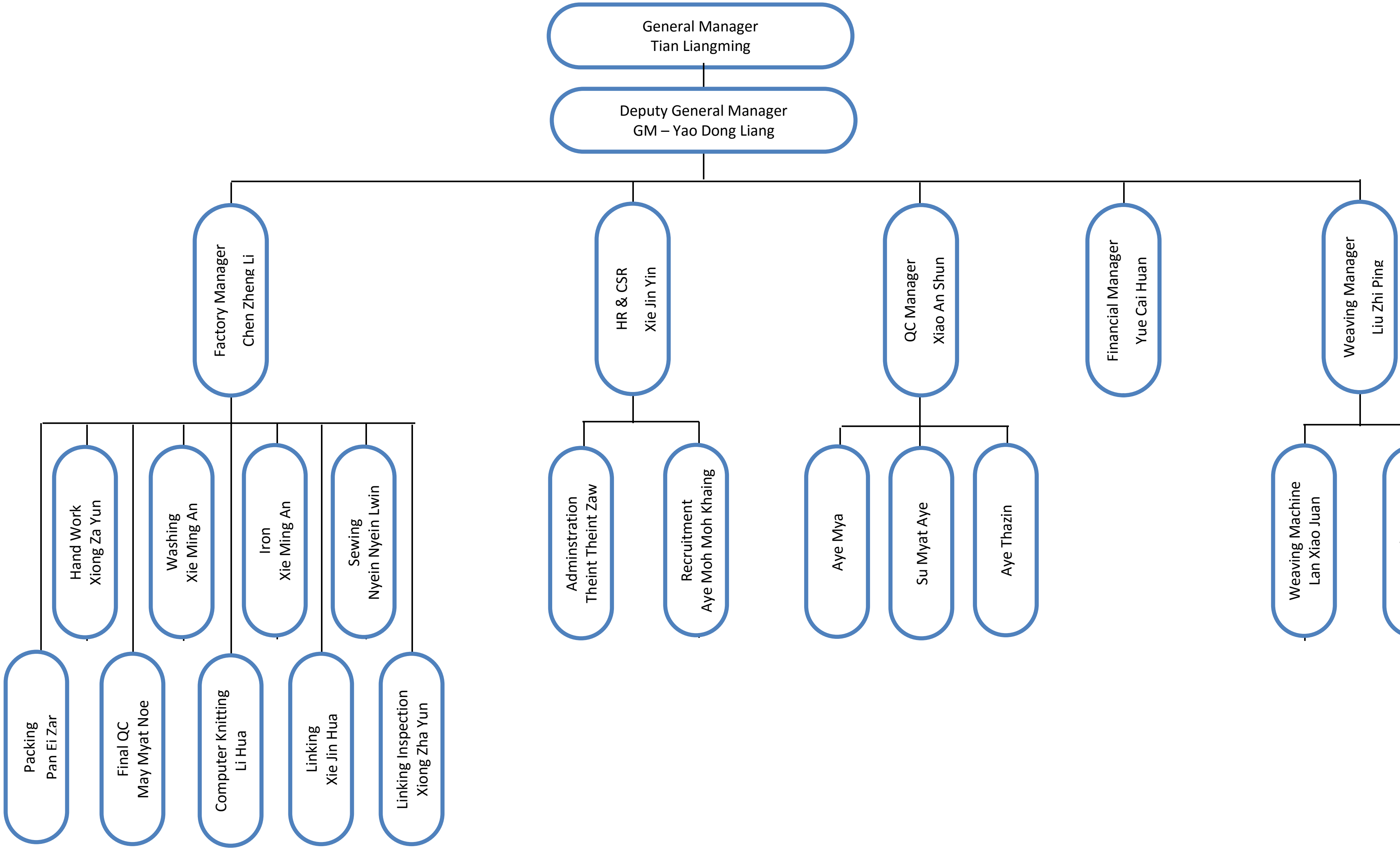


Figure 21: Factory Organization Chart

1.4.7 Tables of Financial Statistics

Investment Value

USD 1.6420 Million for Manufacturing of various designs of knitted wear on CMP Basis

Sr.No	Particulars	US$
1	Machinery & Equipment (Imported)	1.3924
2	Machinery & Equipment (Local Purchase)	0.0880
3	Furniture & Fixture (Local Purchase)	0.0116
4	Cash	0.1500
	TOTAL CAPITAL	**1.6420**

According to Myanmar Investment Commission's meeting 14/2019 held on 30th Aug, 2019, approved of foreign capital amount for manufacturing of knitting products on CMP basis be increased from USD 1.642 million to USD 2.605 million.

Sr.No.	Particular	ထပ်မံထည့်ဝင်မည့် အဆိုပြုတန်ဖိုး
1	2	3
		US$
1	In Cash	50,000.00
2	In Building Cost (Renovation)	100,000.00
3	In Machinery & Equipments (Import)	813,311.50
	TOTAL	963,311.50

Machinery List

Sr	No. Particular	A/U	Qty	Unit Price (US)	Amount (US$
1.	Standard Light Box	No	2	1,600	3,200
2.	Flat Knitting Machine	No	100	400	40,000
3.	Glove Knitting Machine	No	80	435	34,800
4.	Binding-off Machine	No	100	35	3,500
5.	Tear-off Machine	No	5	30	150
6.	Winding Machine (Big)	No	10	310	3,100.00
7.	Winding Machine (Small)	No	10	55	550
8.	Steam Ironing Machine	No	50	15	750
9.	Needle Inspection Machine	No	4	240	960.
10.	Dehumidifier	No	12	1,000	12,000
11.	Computer Jacquard Machine	No	50	4,000	200,000
12	Rapier Loom	No	100	2,550	255,000.00
13	Jacquard Rapier Loom	No	100	4,500	450,000.00
14	Sectional Warping Machine	No	12	3,850	46,200.00
15	Raising Machine	No	4	16,000	64,000.00
16	Twisting Machine	No	20	600	12,000.00
17	Pressing Machine	No	2	3,200	6,400.00
18	Cylinder Circular Jacquard Machine	No	10	6,000	60,000.00
19	Cylinder Circular Knitting Machine	No	20	2,000	40,000.00
20	Forklift (3Ton)	No	1	8,000	8,000.00
21	Air Compressor (10HP)	Set	2	2,000	4,000.00
22	Storage Tank	Set	2	400	800.00
23	(Boiler 1 Ton)	Set	2	7,500	15,000.00
24	3 Broth 4 Layer Tendering Cycle Drier	No	2	35,000	70,000.00

25	Woolen Rope Washing Machine	No	2	7,000	14,000.00
26	High Efficiency Woolen Steamer	No	2	20,000	40,000.00
27	Fringing Machine	No	2	2,000	4,000.00
28	Woolen Shrinking Machine	No	2	2,000	4,000.00
	Total		708		1,392,410.00

Table 4: Extension of Machinery List

SR. No.	Particular	A/U	QTY	Price in (USD)	Value in (USD)
1.	Cone Winding Machine	SET	1	13,432.00	13,432.00
2.	Computer Knitting Machine (12G)	SET	32	12,187.50	390,000.00
3.	Ironing Table (Suction Function) 2 m x 1 m	SET	50	546.88	27,344.00
4.	Iron	SET	200	31.25	6,250.00
5.	Dryer (100KG) HBG - 100	SET	6	4,375.00	26,250.00
6.	Spin-Drier(100KG) TS - 1000	SET	4	2,812.50	11,250.00
7.	Washing Machine (100KG) XGB + 100	SET	4	3,906.25	15,625.00
8.	Stainless Steel Wire (Shelf For Ironing)	SET	300	3.36	1,008.00
9.	Spare Parts For Computer Knitting Machine	SET	1	5,000.00	5,000.00
10.	Linking Machine	SET	750	257.81	193,357.50
11.	Biomass Fuel Steam Generator	SET	2	25,000.00	50,000.00
12.	Every Reason	SET	2	132.83	265.66
13.	Waste Water Lift Pump	SET	2	915.06	1,830.12
14.	Liquid Level Controller	SET	2	221.39	442.78
15.	Floculation Reaction Mixer	SET	2	1,254.52	2,509.04
16.	The Medicine Tank	SET	3	737.95	2,213.85
17.	Flocculating Drug Mixer	SET	3	708.43	2,125.29
18.	Metered Plus Pump	SET	3	856.03	2,568.09
19.	PH Automatic Controller	SET	2	1,697.29	3,394.5
20.	Biological Packing	SET	6	1,328.32	7,969.92
21.	Packing Support	SET	3	664.16	1,992.48
22.	Air Release Device	SET	90	103.31	9,297.90
23.	Roots Blower	SET	2	4,722.90	9,445.80
24.	Suldge Reflux Pump	SET	2	885.54	1,771.08
25.	Filrer Press	SET	1	9,593.39	9,593.39
26.	Pneumatic Diaphragm Pump	SET	2	1,106.93	2,213.86
27.	Air Compressor	SET	1	2,140.06	2,140.06
28.	Gas Tank	SET	1	737.95	737.95
29.	The Power Distribution Cabinet	SET	1	4,722.90	4,722.90
30.	Turbo Butterfly Valve	SET	1	4,200.00	4,200.00
31.	Gate Valve	SET	1	2,550.00	2,550.00
32.	Welding Flange	SET	1	980.00	980.00
33.	Welding Bend	SET	1	830.25	830.25
	TOTAL				813,311.50

Table 5: Local Purchase Machine List

Sr.	Particular	A/U	Qty	Unit Price (US$)	Amount (US$)
1.	Sewing Machine	No	70	40.0	2,800.0
2.	Over lock Sewing Machine	No	30	40.0	1,200.0
3.	Diesel Generator (400 KVA)	Set	2	12,000.0	24,000.0
4.	Generator 350 KVA	Set	1	60,000.0	60,000.0
	Total		103		88,000.0

Remarks

For the Extension of Machinery List, mentioned in Table 4, although these machines have been intended to import, almost these machineries have not been imported yet due Pandemic COVID 19 period and other conditions.

Employment for Factory

Table 6: List of proposed Local Employee (Year 1 to Year 2)

Sr.No.	Designation	Labour as Proposal	Increased Labour	TOTAL Labour
		Number of Person	Number of Person	Number of Person
1.	General Manager	1	-	1
2.	Admin Manager	1	-	1
3.	Finance Manager	1	-	1
4.	HR Manager	-	1	1
5.	Marketing Manager	-	-	
6.	Factory Manager	2	-	2
7.	Office Staff	4	-	4
8.	Production Supervisor	15	5	20
9.	Machine & Electric	7	3	10
10.	Leader	12	-	12
11.	Quality Control	8	10	18
12.	Production Quality Control	10	-	10
13.	Skilled Workers	450	75	525
14.	Un - Skilled Workers	150	85	235
15.	Driver	2	-	2
16.	Security Staff & Cleaner	8	-	8
	TOTAL	**668**	**160**	**846**

Table 7: List of proposed Foreign Employee

Sr.No.	Designation	Labour as Proposal	Increased Labour	TOTAL Labour
1	Technician	27	5	32
2	Manager	1	-	1
3	Supervisor	7	-	7
	TOTAL	**35**	**5**	**40**

Table 8: Current Employee List as at 25.2.2022

Sr.	Department	Category	Gender	
			Female	Male
1.	Computer Knitting		9	4
2.	Linking	Line A	28	
		Line B	-	
		Line C	-	
		Line D	-	
	Linking	Leader	2	
	Linking	QC	1	
		Supervisor	1	
3.	Hand Work	Leader	2	
		Hand work worker	8	
4.	Half Inspection	Lighting checker	-	
		Checker	-	
		Maintence Labor	5	
5.	Sewing	Leader	2	
		Maintence Technician	1	
		Labor	4	
6.	Ironing	Leader	2	
		Washing	1	
		Labor	7	
7.	Final QC	Leader	2	
		Checker	6	
		Maintenance	6	
		Lighting Checker	1	
8.	Packing		3	
9.	Boiler		-	1
10.	Electrical Power		-	1
11.	Office		6	
12.	Store		1	
13.	Cook		1	
14.	Cleaner		2	
15.	Translator		3	
16.	Technician		-	2
			104	8

Employment Contract

Employment and Skills Development Act, 2013, workers in the employment agreement are set to begin work on a responsible contract within 30 days.

During the period of apprenticeship, EC.Contrtact has to be contracted between Employer and Employee.

Previously Spring River had contracted EC to about only 320 local employees as well as only 35 foreign employees in 2019.

While Spring River Knitting (Myanmar) was in the implementation stage, in 2019, factory operation was terminated temporarily due to Global Pandemic Disease (COVID 19) period and other our country's condition. Termination period is from 1.4.2021 to 7.1.2022.

The factory was reoperationed on 7.1.2022. Employee recruitment has been performed. Currently Spring River is being in the implementation stage, current employee list is 104 female local workers, 8 male local workers, 2 male foreign technicians and 1 female foreign technician. Depends on the buyers purchasing order condition it may be made recruitment in future to full strength as proposed.

စက်မှုဇုန်ကြီးကြပ်မှုကော်မတီ၊ ရွှေလင်ပန်းစက်မှုဇုန်

လှိုင်သာယာ(အရှေ့ပိုင်း)မြို့နယ်

ဖုန်း - ဝ၁-၆၁၃၆၁၇/ ဝ၁-၆၁၃၆၁၇

Shwelinpanzonecommittee2021@gmail.com

စာအမှတ်၊ စမက(ရလပ)/ လမဖ / လသယ (၁၄၂)

ရက် စွဲ၊ ၂ဝ၂၁ - ခု နှစ်၊ ဧပြီ လ(၂၆) ရက်

သို့

သက်ဆိုင်ရာ

အကြောင်းအရာ။ ။ ထောက်ခံချက်ပေးပို့ခြင်း။

ရွှေလင်ပန်းစက်မှုဇုန်၊ မဂ္ဂရာမင်းသားကြီးလမ်း၊ မြေကွက် အမှတ် (၁၄၈/၁၄၉) ၊Spring River Knitting (Myanmar) Co.,Ltd စက်ရုံ၊ သိုးမွှေးအထည်ချုပ်လုပ်ငန်းသည် (1.4.2021)မှ စ၍ ယာယီအကန့်အသတ်မရှိ ပိတ်သိမ်းထားသည်မှာ မှန်ကန်ကြောင်း ထောက်ခံအပ်ပါသည်။

26.4.2021

ဦးအောင်ငွေ

စီမံခန့်ခွဲမှုကော်မတီ

ရွှေလင်ပန်းစက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ်

မိတ္တူကို-

- ရုံးလက်ခံ/မျှောစာတွဲ။

လုပ်ငန်းပိုင်ရှင်က ပေးပို့ရန်နို့တစ်စာ

(၁၉၅၁ - ခုနှစ် အလုပ်ရုံများ အက်ဥပဒေပုဒ်မ ၈ အရ)

၁။ အလုပ်ရုံအမည်နှင့် တည်ရာအရပ်	Spring River Knitting (Myanmar) Co. Ltd
၂။ အလုပ်ရုံနှင့် စပ်လျဉ်းသည့် အကြောင်းကြားစာ ပေးပို့မည့် နေရပ်လိပ်စာ အပြည့်အစုံ၊ ဆက်သွယ်ရန် လိပ်စာ၊ ဖုန်းနံပါတ်၊ ဖက်စ်နံပါတ်၊ အီးမေးလ်လိပ်စာ	သိုးမွှေး ယက်ထည်ထုတ်လုပ် အမှတ်(၁၄၈+၁၄၉)၊ မကွေ့ရာမင်းသားကြီးလမ်း၊ ရွှေလင်ဗန်း စက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ်၊ ဖုန်း - ၀၉-၄၆၈၃၄၇၀၇၈
၃။ ပြုလုပ်မည့် လုပ်ငန်းစဉ် အမျိုးအစားအားလုံးနှင့် စပ်လျဉ်း၍ နောင်လာမည့်ဆယ့်နှစ်လအတွင်း လုပ်မည့် ပြုလုပ်မှုလုပ်ငန်းစဉ်	သိုးမွှေး အထည်ချုပ်
၄။ လုပ်ငန်းအမျိုးအစား၊ အသုံးပြုရမည့် လျှပ်စစ်ဝန်အား နှင့် စက်စွမ်းအား (အောက်ပါဇယားကွက်တွင် စက်ကိရိယာ အသီးသီးတို့ အောက်၌ မြင်းကောင်ရေအားကို ဖော်ပြရန်)	—

ရေနွေးငွေ့ဖြင့်လည်သောစက်	ဓါတ်ငွေ့၊ ဓါတ်ဆီ သို့မဟုတ် ရေနံဖြင့်လည်သောစက်	လျှပ်စစ်မီုတာစက်	ရေအားဖြင့်လည်သောစက်
-	-	400 - kVA	-

၅။ အလုပ်ရုံမစွည်းထွက် လုပ်ကိုင်နိုင်သောအင်အား - 10,000

၆။ လျှပ်စစ်ဓါတ်အားကို မည်သို့ရရှိသည်။ - EPC

၇။ အလုပ်ရုံတွင် နောင်လာမည့် ၁၂လ အတွင်း ခိုင်းစေဖွယ်ရာစ ရှိသည့် အလုပ်သမား

	လူကြီး		လူရွယ် ၁၆နှစ်၊ ၁၈ နှစ်		ကလေး ၁၄နှစ်၊ ၁၆နှစ်	
	ကျား	မ	ကျား	မ	ကျား	မ
လခစား	-	-				
နေ့စား (လမှန်း)	၅၀	၁၀၀	-	-	-	-
ပုတ်ပြတ်	-	-				
စုစုပေါင်း	၅၀	၁၀၀				

၈။ အလုပ်ရုံစ၍ လုပ်ကိုင်သောနေ့စွဲ	7.1.2022
၉။ ဤအက်ဥပဒေအလို့ငှာ အလုပ်ရုံ မန်နေဂျာဖြစ်သူ၏ အမည်	ဒေါ်ဖွေးရည်သိမ့် ([illegible])
၁၀။ လုပ်ငန်းပိုင်ရှင်အမည်၊ မှတ်ပုံတင်အမှတ်နှင့် နေရပ်လိပ်စာအပြည့်အစုံ ၁၁။ ဖုန်းနံပါတ်၊ ဖက်စ်နံပါတ်၊ အီးမေးလိပ်စာ	Mr. Yao Dong Liang ၊ ၁၁၅၁/၂၀၁၆ ၊ အမှတ်(၁၄၈+၁၄၉)မကွေ့ရာမင်းသားကြီးလမ်း၊ ရွှေလင်ဗန်း စက်မှုဇုန်၊ လှိုင်သာယာ - ၀၉-၄၉၈၃၄၇၀၇၈ (E 38610963).

YAO DONG LIANG
လုပ်ငန်းပိုင်ရှင်လက်မှတ်
Mr. Yao Dong Liang
Managing Director
Spring River Knitting (Myanmar) Co., Ltd.

နေ့စွဲ 24.1.2022 လက်ထောက်ညွှန်ကြားရေးမှူး
အလုပ်ရုံနှင့်အလုပ်သမားဥပဒေစစ်ဆေးရေးဦးစီးဌာန
လှိုင်သာယာမြို့နယ်ရုံး

ဤနို့တစ်စာပုံစံကို လုပ်ငန်းပိုင်ရှင်က ဖြည့်သွင်း၍ အလုပ်ရုံနှင့်အလုပ်သမားဥပဒေစစ်ဆေးရေးဦးစီးဌာန ညွှန်ကြားရေးမှူးချုပ်ထံသို့ ပေးပို့ရမည်

1.4.8 Type of Raw Materials, Finished Product and Production Rate

All Kinds of Knitted wears (Scarves, neck tubes, hats & berets, gloves & mittens, head bands, shawl & capes – CMP Basic) estimated total production is 6,613,000 pcs per year-1 on export sale (100%) and **daily production is approximately 20,000 pcs** which are manufactured by raw 645,800 lbs per year -1 ***(Yarn (52% Cotton & 48% Acrylic, 100% Acrylic, 100% Wool, 30% Wool & Acrylic 70…etc. (OR) Knitted Panels (52% Cotton & 48% Acrylic, 100% Acrylic, 100% Wool, Wool 30% & Acrylic 70% -etc***.. ***The production of finished products and raw requirement for raw material to import has been shown in tables below;***

(Scarves, neck tubes, shawl & capes's, hats & barrets, gloves & Mittens, Head bands) manufacturing process are computerized knitting operation and not necessary to assemble and sewing piece by piece)

Figure 22: Sample of Finished Products

Raw Material Import Plan

SPRING RIVER KNITTING (MYANMAR) COMPANY LIMITED
EXTENSION PROJECT
Annual Raw Materials Requirement (To Be Imported)

SR.NO.	PARTICULARS	UNIT	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6 ~ 30
	Raw - Material							
1	Yarn (52% Cotton & 48 % Acrylic, 100 % Acrylic, 100 % Wool , Wool 30 % & Acrylic 70 % , Etc...)	Lb	645,800	710,380	781,418	859,560	945,516	1,040,067
	(OR)		-	-	-	-	-	-
	Knitted Panels (52% Cotton & 48 % Acrylic, 100 % Acrylic, 100 % Wool , Wool 30 % & Acrylic 70 % , Etc...)	Lb	645,800	710,380	781,418	859,560	945,516	1,040,067
	Accessories		-	-	-	-	-	-
1	Mini Label	PCS	663,000	729,300	802,230	882,453	970,698	1,067,768
2	Care Label	PCS	663,000	729,300	802,230	882,453	970,698	1,067,768
3	Size label	PCS	663,000	729,300	802,230	882,453	970,698	1,067,768
4	Price Ticket	PCS	663,000	729,300	802,230	882,453	970,698	1,067,768
5	Hang Tag	PCS	663,000	729,300	802,230	882,453	970,698	1,067,768
6	Sewing Thread	Mtrs	14,500,000	15,950,000	17,545,000	19,299,500	21,229,450	23,352,395
7	Softerner	gram	995	1,094	1,203	1,324	1,456	1,602
8	Detergent	gram	995	1,094	1,203	1,324	1,456	1,602
9	Wash Agent	gram	995	1,094	1,203	1,324	1,456	1,602
10	Hanger	PCS	663,000	729,300	802,230	882,453	970,698	1,067,768
11	Tag Pin	Kg	550	605	666	732	806	886
12	POLYBAG	PCS	663,000	729,300	802,230	882,453	970,698	1,067,768
13	TISSUE PAPER	PCS	663,000	729,300	802,230	882,453	970,698	1,067,768
14	Button	PCS	663,000	729,300	802,230	882,453	970,698	1,067,768
15	Tape 2 " (Roll)	PCS	8,288	9,116	10,028	11,031	12,134	13,347
16	Sticker	PCS	663,000	729,300	802,230	882,453	970,698	1,067,768
17	Binding Strap	Kg	1,658	1,823	2,006	2,206	2,427	2,669
18	Zipper	PCS	1,658	1,823	2,006	2,206	2,427	2,669
19	Packing Materials	PCS	663,000	729,300	802,230	882,453	970,698	1,067,768

မှတ်ချက်။ ။ အသုံးပြုမည့် ကုန်ကြမ်းပစ္စည်းများကို China မှတင်သွင်းမည်ဖြစ်ပါသည်။

TIAN LIANG MING
MR. TIAN, LIANGMING
DIRECTOR
SPRING RIVER KNITTING (MYANMAR) CO.,LTD.

Estimated Production up to 30 years

SPRING RIVER KNITTING (MYANMAR) COMPANY LIMITED

EXTENSION PROJECT

ထုတ်လုပ်မှုနှိုင်းယှဉ်ဇယား

Sr. No.	Particular	Year - 1			Year - 2			Year - 3		
		မူလ	တိုး မြှင့်	စုစုပေါင်း	မူလ	တိုး မြှင့်	စုစုပေါင်း	မူလ	တိုး မြှင့်	စုစုပေါင်း
		PCS	PCS	PCS	PCS	PCS	PCS	PCS	PCS	PCS
1	Scarves	950,000	-	950,000	950,000	-	950,000	1,000,000	-	1,000,000
2	Neck Tubes	950,000	-	950,000	950,000	-	950,000	1,000,000	-	1,000,000
3	Heads & Berets	1,000,000	-	1,000,000	1,000,000	-	1,000,000	1,050,000	-	1,050,000
4	Gloves & Mittens	1,100,000	-	1,100,000	1,100,000	-	1,100,000	1,150,000	-	1,150,000
5	Headbands	900,000	-	900,000	900,000	-	900,000	950,000	-	950,000
6	Shawls & Capes	1,050,000	-	1,050,000	1,050,000	-	1,050,000	1,100,000	-	1,100,000
7	Sweater (Kids, Men , Women)	-	70,000	70,000	-	77,000	77,000	-	84,700	84,700
8	Sweater - Cut Pieces (Kids, Men , Women)	-	78,000	78,000	-	85,800	85,800	-	94,380	94,380
9	Dress	-	100,000	100,000	-	110,000	110,000	-	121,000	121,000
10	Tank Top	-	150,000	150,000	-	165,000	165,000	-	181,500	181,500
11	Short - Sleeved Sweater	-	150,000	150,000	-	165,000	165,000	-	181,500	181,500
12	Long - Sleeved Sweater	-	100,000	100,000	-	110,000	110,000	-	121,000	121,000
13	Pants	-	15,000	15,000	-	16,500	16,500	-	18,150	18,150
	TOTAL	**5,950,000**	**663,000**	**6,613,000**	**5,950,000**	**729,300**	**6,679,300**	**6,250,000**	**802,230**	**7,052,230**

မှတ်ချက်။ ။ အထက်ဖော်ပြပါကုန်ချောပစ္စည်းများအားပြည်ပသို့တင်ပို့ရာတွင် Europe (Germany , Switzerland , Spain), USA , Sweden ,United Kingdom , Japan, China နိုင်ငံတို့ကို တင်ပို့မည်ဖြစ်ပါသည်။

TIAN LIANG MING

MR. TIAN, LIANGMING
DIRECTOR
SPRING RIVER KNITTING (MYANMAR) CO.,LTD.

SPRING RIVER KNITTING (MYANMAR) COMPANY LIMITED

EXTENSION PROJECT

ထုတ်လုပ်မှုနှိုင်းယှဉ်ဇယား

Sr. No.	Particular	Year - 4			Year - 5			Year 6 ~ 30		
		မူလ	တိုးမြှင့်	စုစုပေါင်း	မူလ	တိုးမြှင့်	စုစုပေါင်း	မူလ	တိုးမြှင့်	စုစုပေါင်း
		PCS	PCS	PCS	PCS	PCS	PCS	PCS	PCS	PCS
1	Scarves	1,000,000	-	1,000,000	1,050,000	-	1,050,000	1,050,000	-	1,050,000
2	Neck Tubes	1,000,000	-	1,000,000	1,050,000	-	1,050,000	1,050,000	-	1,050,000
3	Heads & Berets	1,050,000	-	1,050,000	1,100,000	-	1,100,000	1,100,000	-	1,100,000
4	Gloves & Mittens	1,150,000	-	1,150,000	1,180,000	-	1,180,000	1,180,000	-	1,180,000
5	Headbands	950,000	-	950,000	1,000,000	-	1,000,000	1,000,000	-	1,000,000
6	Shawls & Capes	1,100,000	-	1,100,000	1,150,000	-	1,150,000	1,150,000	-	1,150,000
7	Sweater (Kids, Men , Women)	-	93,170	93,170	-	102,487	102,487	-	112,735.70	112,736
8	Sweater - Cut Pieces (Kids, Men , Women)	-	103,818	103,818	-	114,200	114,200	-	125,619.78	125,620
9	Dress	-	133,100	133,100	-	146,410	146,410	-	161,051.00	161,051
10	Tank Top	-	199,650	199,650	-	219,615	219,615	-	241,576.50	241,577
11	Short - Sleeved Sweater	-	199,650	199,650	-	219,615	219,615	-	241,576.50	241,577
12	Long - Sleeved Sweater	-	133,100	133,100	-	146,410	146,410	-	161,051.00	161,051
13	Pants	-	19,965	19,965	-	21,962	21,962	-	24,157.65	24,158
	TOTAL	**6,250,000**	**882,453**	**7,132,453**	**6,530,000**	**970,698**	**7,500,698**	**6,530,000**	**1,067,768**	**7,597,768**

မှတ်ချက်။ ။ အထက်ဖော်ပြပါကုန်ချောပစ္စည်းများအားပြည်ပသို့တင်ပို့ရာတွင် Europe (Germany , Switzerland , Spain), USA , Sweden ,United Kingdom , Japan, China နိုင်ငံတို့ကို တင်ပို့မည်ဖြစ်ပါသည်။

TIAN LIANG MING
MR. TIAN, LIANGMING
DIRECTOR
SPRING RIVER KNITTING (MYANMAR) CO.,LTD.

စာအမှတ် ၊ မရက-၉/ ၃ - ၀၁၁ / ၂၀၁၉ (၅၇၇၄.၀၁)
ရက်စွဲ ၊ ၂၀၁၉ ခုနှစ် ဇက်တင်ဘာလ ၅ ရက်

NOM for one piece

SR, NO.	PARTICULARS	UNIT	Sweater (Kids, Men, Women)	Sweater - Cut Pieces (Kids, Men , Women)	Dress	Tank Top	Short - Sleeved Sweater	Long - Sleeved Sweater	Pants
			1	2	3	4	5	6	7
			PCS	PCS	PCS	PCS	PCS	PCS	PCS
	Raw - Material								
1	Yarn (52% Cotton & 48% Acrylic, 100% Acrylic, 100% Wool, 30% Wool & Acrylic 70…etc.	Lb	0.85	0.85	1.25	0.65	1.10	1.25	0.50
	(OR)								
	Knitted Panels (52% Cotton & 48% Acrylic, 100% Acrylic, 100% Wool, Wool 30% & Acrylic 70% - etc	Lb	0.85	0.85	1.25	0.65	1.10	1.25	0.50
	Accessories								
1	Mini Label	PCS	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2	Care Label	PCS	1.0	1.0	1.0	1.0	1.0	1.0	1.0
3	Size label	PCS	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4	Price Ticket	PCS	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5	Hang Tag	PCS	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6	Sewing Thread	Mtrs	25.00	25.00	25.00	20.00	20.00	20.00	20.00
7	Softemer	gram	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
8	Detergent	gram	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
9	Wash Agent	gram	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
10	Hanger	PCS	1.0	1.0	1.0	1.0	1.0	1.0	1.0
11	Tag Pin	Kg	0.00083	0.00083	0.00083	0.00083	0.00083	0.00083	0.00083
12	POLYBAG	PCS	1.00	1.00	1.00	1.00	1.00	1.00	1.00
13	TISSUE PAPER	PCS	1.00	1.00	1.00	1.00	1.00	1.00	1.00
14	Button	PCS	1.00	1.00	1.00	1.00	1.00	1.00	1.00
15	Tape 2 " (Roll)	PCS	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
16	Sticker	PCS	1.0	1.0	1.0	1.0	1.0	1.0	1.00
17	Binding Strap	Kg	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
18	Zipper	PCS	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
19	Packing Materials	PCS	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Management of Raw Material Warehouse maintenance rules at Spring River (Myanmar)

Raw Material Procedures

1. Items entered into the store must be registered according to the invoice.
2. Listed items must be categorized.
3. The items in the store must be aligned and matched with the inventory card.
4. Store staff inspect the store daily for cleanliness, safety, security, and fire safety. Defective situation must be reported immediately.
5. Make sure you keep track of the miles you have and if and when they expire.
6. All items must be delivered in order and extraction records must be kept.
7. The person in charge of the store shall inspect the items in the store from time to time.
8. The purchasing department should check the stock of the store and purchase only the quantity required for production. Keep inventory in the store to a minimum.

Ways to follow when maintaining inventory

1. When loading items into the store, the store manager must deliver the item with the invoice and quality inspection invoice and the returned item must be included in the inventory list.
2. The person in charge of the store shall not register the product if the quality, quality and documentation are not complete.
3. If the item is returned due to quality, only after completing the return record should it be added to the store?

Procurement rules

1. In the case of raw material and semi-finished garments, the quantity to be supplied must be limited and the goods arrived first. Only the staff authorized by the head of the department and the head of the department is allowed to take out the goods.

Statistics and other rules

1. The person in charge of the store must make sure that the monthly inventory is consistent with the inventory issued by the relevant department.
2. Receipt, withdrawal list, non-withdrawal list for more than three months and inventory receipt list must be sent to the relevant department.
3. Defective situation in the inspection of the goods must be resolved by the relevant method. If the material is needed or damaged, it should not be done without the permission of the head of the department.

Figure 23: Raw Material Warehouse

Procedures of the Finishing Product Warehouse Management

1. Basic evidence of packet closure
2. Properly packaged samples
3. Accessories card
4. packing list
5. Packaging information and packaging information
6. Packaging conditions and requirements

Branded on the shiftment and complete accessories (hangers and stickers)

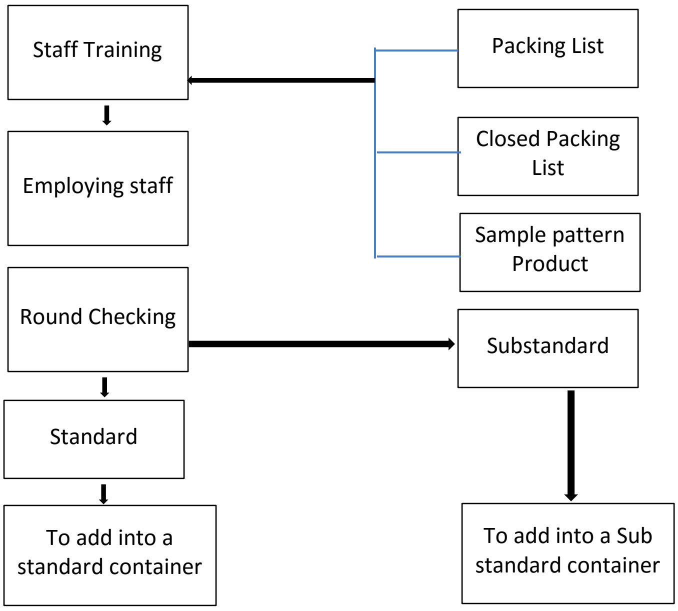
1. Packing must be closed only after the product has passed the inspection of the finished product.
2. Packing must be made in strict accordance with the list of packing lots and the list of packing lots.
3. Hang up Accessories such as stickers must be on the card.
4. All products must pass the inspection.

Results after packing

1. After the packing is closed, it must be inspected by the QC department.
2. If the QC department finds an error (label or handset error), return the product must be repaired.

Figure 24: Finishing Product Warehouse

<u>A step-by-step guide to finished products packing</u>



<u>Distribution methods and transportation arrangements</u>

Normally, the buyer is responsible for the delivery of the goods to the factory by container truck with the buyer's agent for the distribution program, and the buyer is responsible for the shipment. The following is a list of the most recent shipping documents for Goods Shipment. Most of the finished products are exported to Honkong and Europe etc.

Allowed shipment notification (Inward processing)

1 / 4

Representative HS	Type of export	Selectivity	Necessity of original document	Declaration No.
6203	INP - - T1 - 2	2	R	200068663220

Customs station A1 - HEAD QUARTER Section 04
Declaration date 2021/07/16 12:17
Mode of transport 1 Declaration condition F Formal *

Exporter C100670402-000 SPRING RIVER KNITTING (MYANMAR) COMPANY LIMITED.

Address PLOT NO.148+149, MYAY TAING BLOCK NO. 25,MATKHYAR MIN THAR GYI ROAD, SHWE LIN BAN INDRISTRIAL ZONE, HLAING THAR YAR TOWNSHIP, ,YANGON REGION, MYANMAR

Postcode Telephone 09263663410

Consignee - FORTUNE GLOBAL (HK) LTD

Address UNIT 13F, 11/F., PENINSULA SQUARE, 18 SUNG ON STREET, KOWLOON, HONG KONG

Postcode Country HK
Agency 101Z2 MYANMAR ESSEN AGENCY

Customs broker code 555501

Export control No. 430056462220
AWB No. -
Loading location MMRGN- YANGON
Via location -
Final destination SEGOT - GOTHENBURG
Voyage No. 229S
Loading planned IMO No./Vessel 9181742
Conveyance name MV.CTP MAKASSAR
Estimated departure 2021/07/25

Packages 422 CT
Warehouse A1Y002 - AWPT
Gross 4,208.940 KGM
Net 4,057.000 KGM
Total containers 1 Container cargo C

Marks and Nos. 21EXSPR002 (20')

Export license/approval
(01)
(02)
(03)
(04)
(05)
(06)
(07)
(08)
(09)
(10)
(11)
(12)

Invoice A - 21EXSPR002
Electronic No.
Invoice price A - FOB - USD - 175,145.00
FOB price
(MMK) 282,442,329.9
Total customs value 282,442,329.9
(USD) 175,145
Total item value 175,145.0000 -
Physical examination completion

Taxes and fees

Code	Name	Total amount	Number
CD	IMPORT/EXPORT CUSTOMS DUTY	0	0
AT	ADVANCED INCOME TAX	0	*
SF	SECURITY FEE	20,000	*
MF	MACCS SERVICE FEE	30,000	*

Total
Exemption/Reduction 5,648,846
Taxes and fees 50,000
Exchange Rate (1) USD - 1,612.62
(2) -
Deposit C
Total pages 4
Total items 6

Vanning place A1VVVV SPRING RIVER
Address

Allowed shipment notification (Inward processing)

2 / 4

Representative HS	Type of export	Selectivity	Necessity of original document	Declaration No.
6203	INP - - T1 - 2	2	R	200068663220

Customs station A1 - HEAD QUARTER Section 04

Declaration date 2021/07/16 12:17

Notes1 1007040 ITEM-1,USE INVOICE ITEM-1 / 100169036660 ITEM-1,USE INVOICE ITEM- 2 TO 5 / 100169070410 ITEM-1,USE INVOIC E ITEM-6

Notes2

Serial No. for users 01989 Declarant reference No.

Advanced Income Tax

Value/Amount	Rate	Exemption/Reduction Code	Reference	Amount
282,442,329.9	2%			
0			ERMA RAW MATERIALS FOR CMP	5,648,846

Other taxes/fees

	Type	Amount	Exemption/Reduction Code	Reference	Amount
(1)	MF	30,000			
(2)	SF	20,000			
(3)					

SF Declaration No. Preference claimed Y For goods to be received from

Type of Payment T/T No. 0031670821539 Date 2019/10/04 Bank Name MCB

Direct shipment

Domestic transport

Barge Port of loading Stowage status

Reason

User Type A Code 101Z2

Company MYANMAR ESSEN AGENCY

Name DAW NYEIN SU MON

Type of ID NRC ID No. 14/MA AH NA (N)187397 Issuing country MM

I hereby certify that this declaration is true and complete. Authentication AGREE

The reference of customs decision

INSTRUCTION OF CUSTOMS DEPARTMENT - 36/2012

Customs chief officer name or station name DIRECTOR OF IMPORT AND EXPORT CONTROL DIVISION

Allowed shipment 2021/07/16 Examination completion 2021/07/16

Date of bonded transportation 2021/07/16 - 2021/07/17

No. 001 HS 6203.39.00 00 - 3 Reconfirmation the amount

Item name MENS 100% BCI COTTON KNITTED SWEATER STYLE# 3028687 PO# 011313286

Country of origin MM Quantity (1) 1,000 U

Quantity (2)

Item value 15,700.00 CMP charges 4,650.00

FOB unit price (USD) 15.70 / U

Basic price Customs value 25,318,134

(USD) 15,700

Customs quantity for specific duty

Customs duty rate FREE

Customs duty Amount 0

(Exemption/Reduction)

	Code	Value/Amount	Rate/Reference
Specific goods tax		25,318,134	0%
		0	
(Exemption/Reduction)			
Commercial tax		25,318,134	0%
		0	
(Exemption/Reduction)			

Allowed shipment notification (Inward processing)

3 / 4

Representative HS	Type of export	Selectivity	Necessity of original document	Declaration No.
6203	INP - - T1 - 2	2	R	200068663220
Customs station	A1 - HEAD QUARTER		Section 04	
Declaration date	2021/07/16 12:17			

No. 002 HS 6203.39.00 00 - 3 Reconfirmation the amount
Item name MENS 100% MERINO WOOL KNITTED SWEATER STYLE# 3028682 PO# 011310283

Country of origin	MM		Quantity (1)	2,200 U
			Quantity (2)	
Item value		31,680.00	CMP charges	9,240.00
FOB unit price	(USD)	14.40 / U		
Basic price			Customs value	51,087,801.6
			(USD)	31,680

Customs quantity for specific duty
Customs duty rate FREE
Customs duty Amount 0
(Exemption/Reduction)

	Code	Value/Amount	Rate/Reference
Specific goods tax		51,087,801.6	0%
		0	
(Exemption/Reduction)			
Commercial tax		51,087,801.6	0%
		0	
(Exemption/Reduction)			

No. 003 HS 6203.39.00 00 - 3 Reconfirmation the amount
Item name MENS 100% MERINO WOOL KNITTED SWEATER STYLE# 3028685 PO# 011310286

Country of origin	MM		Quantity (1)	1,300 U
			Quantity (2)	
Item value		19,500.00	CMP charges	6,175.00
FOB unit price	(USD)	15.00 / U		
Basic price			Customs value	31,446,090
			(USD)	19,500

Customs quantity for specific duty
Customs duty rate FREE
Customs duty Amount 0
(Exemption/Reduction)

	Code	Value/Amount	Rate/Reference
Specific goods tax		31,446,090	0%
		0	
(Exemption/Reduction)			
Commercial tax		31,446,090	0%
		0	
(Exemption/Reduction)			

No. 004 HS 6203.39.00 00 - 3 Reconfirmation the amount
Item name MENS 100% MERINO WOOL KNITTED SWEATER STYLE# 3028686 PO# 011310284

Country of origin	MM		Quantity (1)	4,900 U
			Quantity (2)	
Item value		65,170.00	CMP charges	20,335.00
FOB unit price	(USD)	13.30 / U		
Basic price			Customs value	105,094,445.4
			(USD)	65,170

Customs quantity for specific duty
Customs duty rate FREE
Customs duty Amount 0
(Exemption/Reduction)

	Code	Value/Amount	Rate/Reference
Specific goods tax		105,094,445.4	0%
		0	
(Exemption/Reduction)			
Commercial tax		105,094,445.4	0%
		0	
(Exemption/Reduction)			

Allowed shipment notification (Inward processing)

4 / 4

Representative HS	Type of export	Selectivity	Necessity of original document	Declaration No.
6203	INP - - T1 - 2	2	R	200068663220

Customs station A1 - HEAD QUARTER Section 04

Declaration date 2021/07/16 12:17

No. 005 HS 6203.39.00 00 - 3 Reconfirmation the amount

Item name MENS 100% MERINO WOOL KNITTED SWEATER STYLE# 3028716 PO# 011310285

Country of origin	MM	Quantity (1)	2,100 U
		Quantity (2)	
Item value	30,450.00	CMP charges	9,975.00
FOB unit price (USD)	14.50 / U		
Basic price		Customs value	49,104,279
		(USD)	30,450

Customs quantity for specific duty

Customs duty rate FREE

Customs duty Amount 0

(Exemption/Reduction)

	Code	Value/Amount	Rate/Reference
Specific goods tax		49,104,279	0%
		0	
(Exemption/Reduction)			
Commercial tax		49,104,279	0%
		0	
(Exemption/Reduction)			

No. 006 HS 6203.39.00 00 - 3 Reconfirmation the amount

Item name MENS 80% LAMBSWOOL 20% NYLON KNITTED CARDIGAN STYLE# 3028698 PO# 011310156

Country of origin	MM	Quantity (1)	900 U
		Quantity (2)	
Item value	12,645.00	CMP charges	4,500.00
FOB unit price (USD)	14.05 / U		
Basic price		Customs value	20,391,579.9
		(USD)	12,645

Customs quantity for specific duty

Customs duty rate FREE

Customs duty Amount 0

(Exemption/Reduction)

	Code	Value/Amount	Rate/Reference
Specific goods tax		20,391,579.9	0%
		0	
(Exemption/Reduction)			
Commercial tax		20,391,579.9	0%
		0	
(Exemption/Reduction)			

Allowed shipment notification (Inward processing)

1 / 3

Representative HS	Type of export	Selectivity	Necessity of original document	Declaration No.
6203	INP - - T1 - 2	2	R	200069014360

Customs station A1 - HEAD QUARTER   Section 04

Declaration date 2021/08/03 11:01

Mode of transport 1 Declaration condition F   Formal *

Exporter C100670402-000 SPRING RIVER KNITTING (MYANMAR) COMPANY LIMITED.

Address PLOT NO.148+149, MYAY TAING BLOCK NO. 25,MATKHYAR MIN THAR GYI ROAD, SHWE LIN BAN INDRISTRIAL ZONE, HLAING THAR YAR TOWNSHIP, ,YANGON REGION, MYANMAR

Postcode   Telephone 09263663410

Consignee - FORTUNE GLOBAL (HK) LTD

Address UNIT 13F, 11/F., PENINSULA SQUARE, 18 SUNG ON STREET, KOWLOON, HONG KONG

Postcode   Country HK

Agency 101Z2 MYANMAR ESSEN AGENCY

Customs broker code 555501

Export control No. 430056514460
AWB No. -
Loading location MMRGN YANGON
Via location -
Final destination SEGOT - GOTHENBURG
Voyage No. 0152E
Loading planned IMO No./Vessel 9153070
Conveyance name MV.ALS SUMIRE
Estimated departure 2021/08/05

Packages 195 CT
Warehouse A1Y005 - MIP
Gross 1,957.400 KGM
Net 1,840.000 KGM
Total containers 1 Container cargo C

Marks and Nos. N/M

Export license/approval
(01)
(02)
(03)
(04)
(05)
(06)
(07)
(08)
(09)
(10)
(11)
(12)

Invoice A - 21EXSPR003
Electronic No.
Invoice price A - FOB - USD - 59,562.50
FOB price
(MMK) 97,570,522.5
Total customs value 97,570,522.5
(USD) 59,562.5
Total item value 59,562.5000 -
Physical examination completion

Taxes and fees

Code	Name	Total amount	Number
CD	IMPORT/EXPORT CUSTOMS DUTY	0	0
AT	ADVANCED INCOME TAX	0	*
SF	SECURITY FEE	20,000	*
MF	MACCS SERVICE FEE	30,000	*

Total Exemption/Reduction 1,951,410
Taxes and fees 50,000
Exchange Rate (1) USD - 1,638.12
(2) -
Deposit C
Total pages 3
Total items 2

Vanning place A1VVVV SPRING RIVER
Address

Allowed shipment notification (Inward processing)

Representative HS 6203 | Type of export INP - - T1 - 2 | Selectivity 2 | Necessity of original document R | Declaration No. 200069014360

Customs station A1 - HEAD QUARTER | Section 04

Declaration date 2021/08/03 11:01

Notes1 100169070410 ITEM-1,USE INVOICE ITEM, 1007040 ITEM-1,USE INVOICE-2

Notes2 PART OF SHIPMENT

Serial No. for users 02142 | Declarant reference No.

Advanced Income Tax

Value/Amount	Rate	Exemption/Reduction Code	Reference	Amount
97,570,522.5	2%			
0			ERMA RAW MATERIALS FOR CMP	1,951,410

Other taxes/fees

	Type	Amount	Exemption/Reduction Code	Reference	Amount
(1)	MF	30,000			
(2)	SF	20,000			
(3)					

SF Declaration No. | Preference claimed Y | For goods to be received from

Type of Payment T/T No. 0031670821539 Date 2019/10/04 Bank Name MCB

Direct shipment
Domestic transport
Barge | Port of loading | Stowage status
Reason

User Type A Code 101Z2
Company MYANMAR ESSEN AGENCY
Name DAW NYEIN SU MON
Type of ID NRC ID No. 14/MA AH NA (N)187397 | Issuing country MM

I hereby certify that this declaration is true and complete. | Authentication AGREE

The reference of customs decision
INSTRUCTION OF CUSTOMS DEPARTMENT - 36/2012

Customs chief officer name or station name | DIRECTOR OF IMPORT AND EXPORT CONTROL DIVISION
Allowed shipment 2021/08/03 | Examination completion 2021/08/03
Date of bonded transportation 2021/08/03 - 2021/08/04

No. 001 HS 6203.39.00 00 - 3 | Reconfirmation the amount
Item name MENS 80% LAMBSWOOL 20% NYLON KNITTED PULLOVER STYLE# 3028700 PO# 011310167

Country of origin MM | Quantity (1) 2,750 U
| Quantity (2)
Item value 43,862.50 | CMP charges 10,587.50
FOB unit price (USD) 15.95 / U
Basic price | Customs value 71,852,038.5
| (USD) 43,862.5

Customs quantity for specific duty
Customs duty rate FREE
Customs duty Amount 0
(Exemption/Reduction)

	Code	Value/Amount	Rate/Reference
Specific goods tax		71,852,038.5	0%
		0	
(Exemption/Reduction)			
Commercial tax		71,852,038.5	0%
		0	
(Exemption/Reduction)			

Allowed shipment notification (Inward processing) 3 / 3

Representative HS	Type of export	Selectivity	Necessity of original document	Declaration No.
6203	INP - - T1 - 2	2	R	200069014360
Customs station	A1 - HEAD QUARTER		Section 04	
Declaration date	2021/08/03 11:01			

No. 002 HS 6203.39.00 00 - 3 Reconfirmation the amount
Item name MENS 100% BCI COTTON KNITTED SWEATER STYLE# 3028687 PO# 011313286

Country of origin	MM			Quantity (1)	1,000 U
				Quantity (2)	
Item value			15,700.00	CMP charges	4,650.00
FOB unit price	(USD)		15.70 / U		
Basic price				Customs value	25,718,484
				(USD)	15,700
Customs quantity for specific duty					
Customs duty rate	FREE				
Customs duty	Amount		0		
(Exemption/Reduction)					
	Code	Value/Amount	Rate/Reference		
Specific goods tax		25,718,484	0%		
		0			
(Exemption/Reduction)					
Commercial tax		25,718,484	0%		
		0			
(Exemption/Reduction)					

1.4.9 Chemical Inventory for this factory

Besides using of lubricant and fuel for generator, for washing process and wastewater treatment plant, some chemical are used in this factory. Leavening agent, smoothing agent, Silicone oil, environmentally fridendly oyster sauce (Detergent Agents), are used for sweater washing process. And Sodium hydroxide, Polyacrylamide, Polyaluminium Chloride are used for wastewater (especially washing water) treatment system. These chemical has been approved RSL Compliance by SGS.

Restricted Substance List (RSL)

This Restricted Substance List (RSL) is intended to provide apparel and footwear companies with information related to regulations and laws that restrict or ban certain chemicals and substances in finished home textile, apparel, and footwear products around the world.

The RSL was developed by a special working group of the American Apparel & Footwear Association’s (AAFA’s) Environmental Task Force. It serves as a practical tool to help individuals in textile, apparel and footwear companies, and their suppliers - responsible for environmental compliance throughout the supply chain - to become more aware of various national and international regulations governing the amount of substances that are permitted in finished home textile, apparel, and footwear products.

The RSL will be updated on a regular basis and will be supplemented with additional resources to help officials in these companies undertake responsible chemical management practices in the aforementioned finished products.

It is not available to submit in this report because Mother Company of Spring River Company had taken a certificate stating that it was not included in the Restrict Substance List recognized by SGS. However, according to the figures mentioned in the 2.3.3 List of Restricted Chemicals in this report, ensured the chemicals which are used in this factory are not on the Restrict Substance List.

Table 9: Chemical Inventory List

No.	Chemical Supplier	Chemical Comercial name	Function	Safety Data Sheet (SDS) available?	Ingredients displayed in SDS (chemical substance name)	Hazard Identification			Monthly Consumption	Unit	Stock	Storage Condition	Storage place	RSL compliance	
						Phy	Health	Environ							
1	Local purchase	Lubricant Oil	Cleaning / Maintenance	Yes			√	√		L	15	Room temp. & cool,dry,ventilation	Chemical Ware house	No	
2	Local purchase	Engine Oil	Cleaning / Maintenance	Yes			√	√		L	100			No	
3	Local purchase	Diesel	Producing Electricity	Yes			√	√		L	400			No	
4	Huaxin (China)	Leavening agent	Softener	Yes	Stearic acid, AEEA, Water	√	√	√		kg	250			Yes	SGS
5		Smoothing agent	FINISHING	Yes	Poly(dimethylsiloxane) Isomeric alcohol ethoxylates	√	√	√		kg	250			Yes	SGS
6		Silicone oil	Softeners	Yes	Poly(dimethylsiloxane) Isomeric alcohol ethoxylates	√	√	√		kg	250			Yes	SGS
7		Environmentally fridendly oyster sauce (Detergent Agents)	Fibers and Sweaters washing	Yes	Isomeric alcohol ethoxylates	√	√	√		kg	125			Yes	SGS
8		Sodium hydrixide	Sewage treatment	Yes	Sodium hydrixide					kg	125			Yes	SGS
9		Polyacrylamide	Sewage treatment	Yes	Polyacrylamide					kg	250			Yes	SGS
10		Polyaluminium Chloride	Sewage treatment	Yes	Polyaluminium Chloride					kg	50			Yes	SGS

Chemical Warehouse Management

- ✓ Chemical supervisor is familiar with chemicals management guideline and regulations from clients like H&M Best Chemical Management Practice Guideline, RSL, MRSL, and he will be sure that all chemicals purchased from our suppliers complies with all requirements;
- ✓ It has been maintained the conditions of chemical warehouse to guarantee chemicals are stored in the proper environment
- ✓ It has been created and updated the Chemical Inventory List on a monthly basis to monitor the incoming and outgoing of chemicals;
- ✓ It has been organized training for occupations which have potential risks of chemical hazards for general knowledge and PPE usage guideline.

Waste Management

- ✓ It has been created and maintained a Waste List for all wastes from different streams, in the list, clarify their hazards, data accumulated, and proper disposal method;
- ✓ It has been developed procedures to segregate hazardous and non-hazardous waste and arrange training for relevant departments;
- ✓ It is going to be found ways to set targets to reduce the quantity of waste at least on an annual basis.

Emission to Air & GHG Control

- ✓ It is being created and maintained an Emission to Air Inventory List which clarifies the names of emission, sources, legal limits etc.
- ✓ It is being arranged annual test for emission to air to monitor it regularly;
- ✓ Monitoring is being performed the usage of energy consumption; (Fuel)
- ✓ It is going to be found ways to set targets to improve the efficiency of energy use and decrease the emission to air on an annually basis.

Effluent/Wastewater

- ✓ Effluent Treatment Plant(ETP) supervisor has been monitored the quality and quantity of wastewater before it's being discharged on a daily basis;
- ✓ It is being arranged the waste water test on a biannual basis;
- ✓ It is going to be found ways to set targets to improve the quality of effluent on an annually basis..

Figure 25: Chemical Warehouse

Figure 26: Leaving agent, smoothing agent, silicone oil

Figure 27: Sodium hydroxide, Polyacrylamide, and Polaluminium Chloride

1.4.10 Employee Facilities

Both the quantity and the quality of the product depend not only on the sequence precision, and efficiency of the factories, tools and machines but on the proficiency, pride, and fitness both mental and physical of the personnel. The development of factory design in recent year has become more and more concerned with creature comforts for the employees.

Working Days

According to Factory Act (1951) Section 67, the daily working hour for employees is (08:00 AM – 16:45 PM) * Lunch time 11:45 AM – 12:30 AM total 8 working hours for Monday to Friday generally and (08:00 AM – 11:45 AM) for Saturday**. Total (44 hours / week) and estimated 21 – 23 days / month and 312 days annually**. Average 2 hours as over times for this factory and overtime charge has been added in Monthly payment for employees. Monthly salary has been provided regularly before 5th days of the new months.

Holiday

Normally half of Saturday and Sunday are holiday. Approximately 53 Sundays, 26 Saturdays and 29 – 30 gazetted holidays such as International new years day, Independence day, Union day, Full Moon days of Myanmar Month, Peasant day, Armed Forces Day, Thingyan holidays, Myamar New year holidays,

Labour day, Martyrs days, Eid ui-Adha Day, Thadingyut holiday, Deepavali, Tazungdaing Holiday, National Day, Christmas day, and New Year's Eve.

Working Position and facilities

The facilities should be near the work space, so that no time is lost getting back and forth but they should be sufficiently insulated from the sights and sounds of the work area it so that a real change of scene is provided. If a pleasant outside view is available, it should obviously be used. A clear distinction should be made between quiet lounging places and recreation and cafeteria areas.

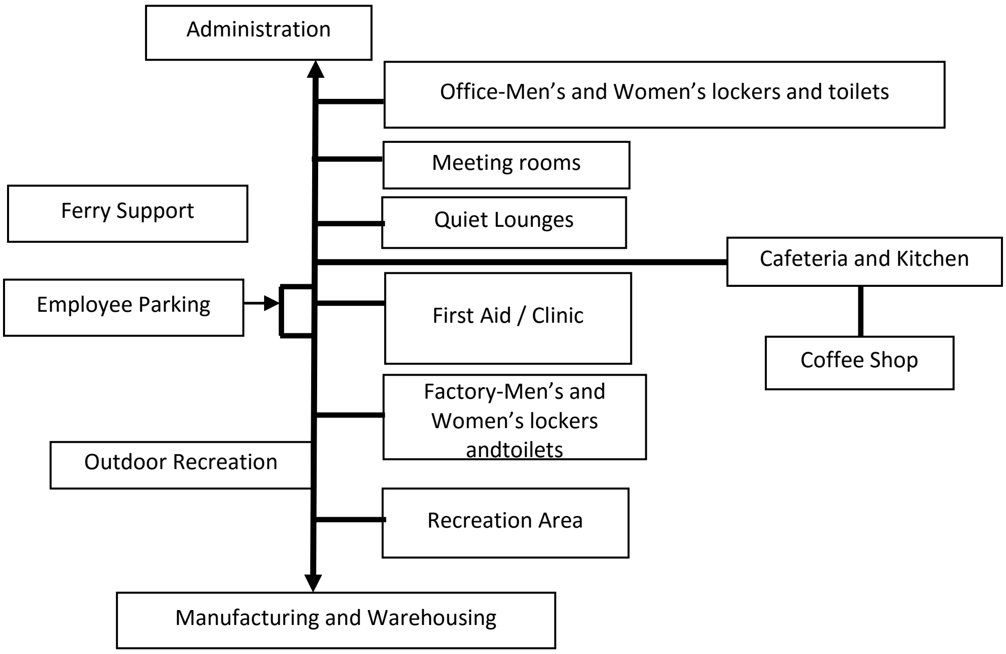


Figure 28: Employee Facilities Flow

They provide the rest room for the employee to rest comfortably. There is Mini Clinic for employees and toilets are clean and enough for all of the employees. According to floor plan of the Spring River Knitting (Myanmar) Company Limited, there are sufficient facilities for the employee by giving dining room, and Rest room for necessary requirements.

Dining Room Canteen

Dining areas are clean, protected from the weather, and have enough seating for all the workers who may be on break at any one time. Factory does not support for Lunch, Use cleaning rags, not paper towels.

Toilets

Toilet facilities has been provided with running water, and stocked with toilet paper (where culturally appropriate) and anti-bacterial soap or instant hand sanitizer at all times. Factories should be equipped with enough toilet facilities to serve the worker population. For example, if a factory employs many more female workers than males, it should provide more female toilet facilities than male toilet facilities. The factory must provide toilets that are clean and in good working condition for workers' use. There's 10 toilet for men use and 31 for female.

Drinking water

Spring River Knitting (Myanmar)has been purchased drinking water since project started and it has been provided to employee as safe drinking water quality. (Shown at figure)

Good Housekeeping

Good housekeeping practices are designed to maintain a neat, clean, and orderly factory. These are primarily measures to eliminate or reduce exposure of waste materials to precipitation runoff prior to disposal. These practices, when implemented on a routine basis during the course of work activities, minimize storm water contact with potentially polluting materials. Good housekeeping practices at the factory should include the following:

Regular sweeping of the potential contact zone areas (e.g., trash dumpsters, materials storage and handling areas, loading docks and outdoor processing areas) Regular removal of garbage, trash, unusable equipment, and waste material from the factory grounds Storing materials away from direct traffic routes and in a manner that provides space for vehicles to maneuver Controlling material inventories to reduce quantities of materials stored and handled Routine inspection of potential contact zone areas for leaks or conditions that could lead to discharges of chemicals or fluids .Taking immediate action in the event a significant spill or release is detected, in accordance with established procedures Properly labeling material packages and containers to show the type and name of material or substance Staging, storing, or handling materials in areas that discharge to the wastewater treatment factory and not to the storm water drainage system Maintaining closed lids on dumpsters, other waste containers, and chemical storage containers, whenever practicable Maintaining dumpsters and other waste containers in good condition.

Fire Extinguishers: and Fire Safety

Fire extinguishers with a minimum rating of 2-A:20-B:C are located in accessible areas no further than 23

meters (75 feet) from pumps and dispensers. All extinguishers have been serviced within the last 12 months (verifiable via service tag).

Factories has been kept records of emergency evacuation drills. These records should include details about the drill (e.g., the time the last person exited the building, an accounting of all workers, any issues noticed during evacuation, plans to correct such issues). Records should also be kept on the maintenance and testing of emergency equipment (such as fire extinguishers, lighting, alarms, etc.).In the places where necessary in the factory "Danger," "Warning," and "No Smoking" signs were been postioned with Myanmar language.

Fire Safety

Proposed Factory is inclusion in Factory Industrial F-1 Moderate- Hazard Group classified by fire service department.

Table 10: General requirements for fire safety

Description	Spring River Knitting (Myanmar) Company Limited Industry Company
Exit Discharge	All exit discharge directly into a safe exterior space
Exit Sign	All signage showing the emergency exit route can be visible.
Exit door opening	Always open
Water Tank for Fire	Yes
Fire Extinguishers	30 (2Kg), Small
Fire wire	Old (should be change News)

Table 11: Installation of Firefighting Equipment in Selected Industries

Fire Safety	SPRING RIVER KNITTING (MYANMAR) Company Limited
Hose reel	Yes
Emergency generator	Yes
Emergency lighting	Yes
Exit signs	Yes
Firefighting & rescue stairways	No
Gas detection system	Yes
Underground static water storage tank	No
Terrace static water storage tank	Yes

1.5 Knitted Wears Manufacturing Process

1.5.1 Overview of Knitting and Manufacturing Operations

Knitting is a method in which thread or yarn loops, called stitches are interlocked to form fabric.
Different types of yarns (fibre type, texture, and twist), needle sizes, and stitch types may be used to achieve knitted fabrics/garments with diverse properties (colour, texture, weight, heat retention, water resistance, and/or integrity).

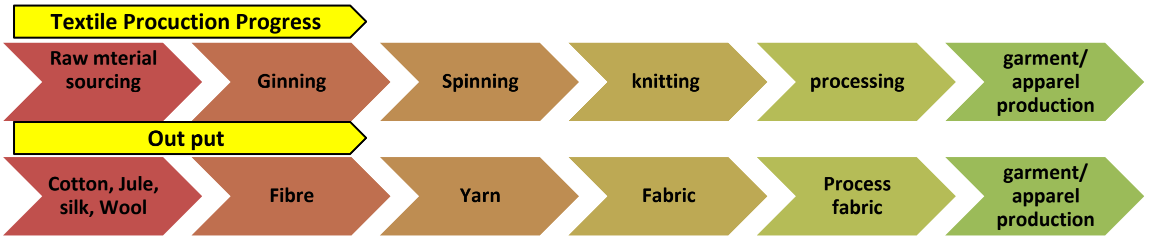
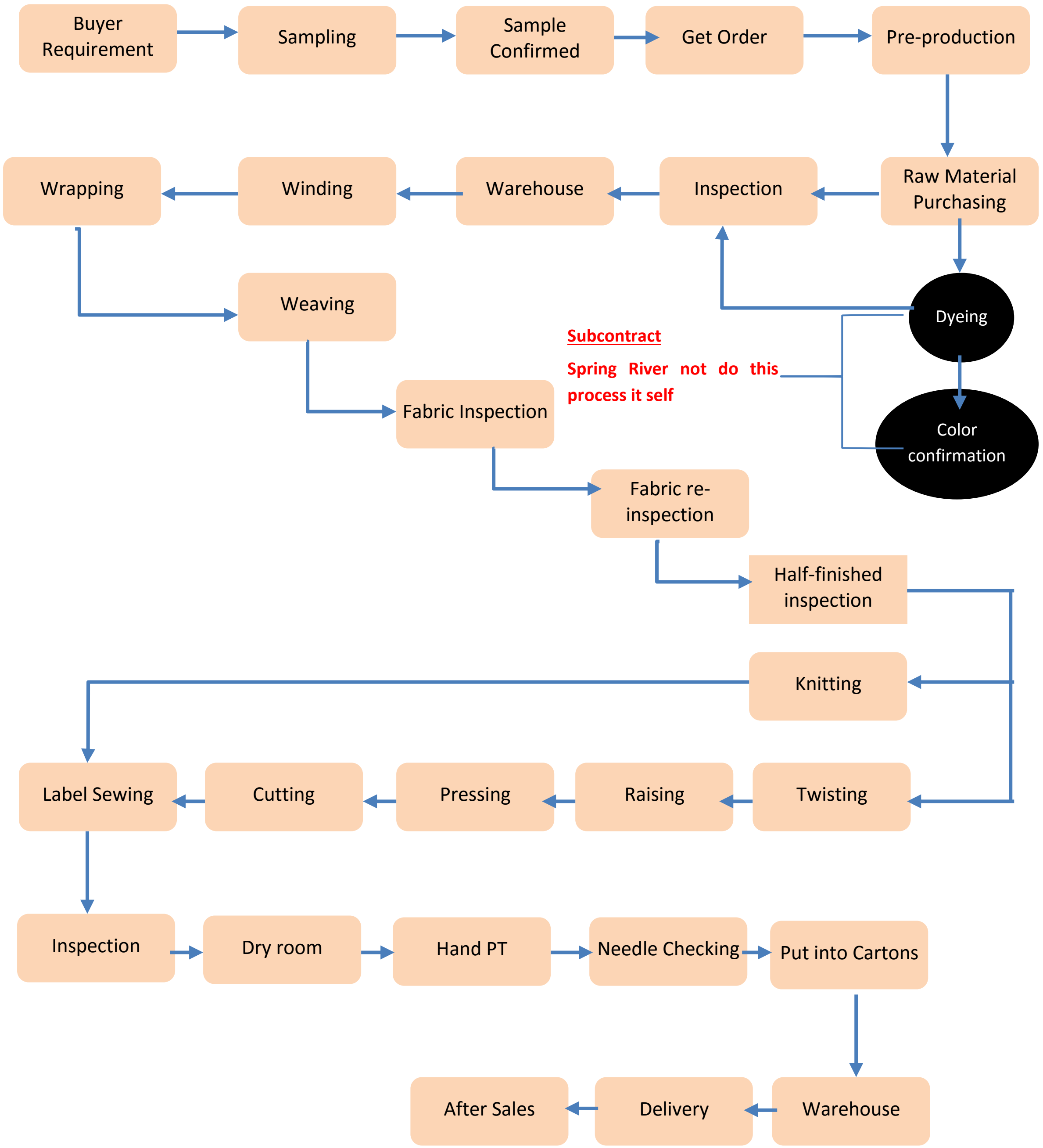


Figure 29: Production flow

Process of fabric production through knitting

Step	Description
Yarn in cone Form	
Feeding the yarn	Yarn in packaged form is placed in creel to feed the knitting zone. Feeding the yarn in the feeder via trip tase positive arrangement and tension device.
Machine setting for required design	Once, the specific yarn is set as per the fabric requirement, machine is set as per specific design and Gram per square meter (GSM) – weight of fabric in gram per one square meter
Knitting of the Fabric	Processing of yarn into loops culminating into production of fabric
Quality control	Detection of faults during production of knitted fabric with circular knitting machine is crucial for improved quality and productivity. Any variation to the knitting process needs to be investigated and corrected, restricting productivity loss. Shrinkage test , Fastness, Spirally test .
Withdraw the rolled fabric and weighting	The fabric is wound into rolls as per the specific order
Inspection	Other faults such as fabric spirally and colour mismatching, which can only be detected after fabric relaxing or finishing are inspected
Numbering	Fabric roll is then labeled with specifications and numbered for easy identification

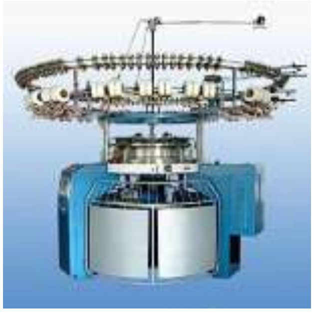
Production Flow Chart for Spring River



flat-knitting-machine

glove knitting machine

circular knitting machine


-Rib-Circular-Knitting-Machine

binding off machine

electronic-jacquard-rapier-loom

laundry-utility-press-machine

fringing machine

knitting-fabric-raising-machine

sectional warping machine

yarn-twisting-machine

dehumidifie

Production Step for this knitting factory

Yarn in package form

↓

Place the yarn package in the creel

↓

Set the m/c as per design & GSM

↓

Circular knitting

↓

Withdraw the roll fabric and weighting

↓

Roll marking

↓

Inspection

↓

Dispatching

Flat bed knitting

↓

Design & Size analysis

↓

Machine Setting for the Required Design

↓

Knitting of the collar/Cuff

↓

Confirm Required Quality

↓

Withdraw the Collar/Cuff and Weighting

↓

Inspection of the Collar/Cuff Weighting

↓

Dispatching

Glove knitting

↓

Withdraw the roll fabric and weighting

↓

Roll marking

↓

Inspection

↓

Dispatching

1.5.2 Knitted Wears Manufacturing Process

Step-1

Buyer may provide Yarn in package form as per color wise consumption from yarn mill/supplier. We have to be careful regarding yarn count, approved shade and color wise quantity (including wastage) at the time. We have to store the yarn systematically in yarn store.

Yarn Store

Colour Inspection

Step-2

Winding Yarn: In this stage we have to wind the yarn in winding section by coning machine before knitting. Sometime yarn may be required to be twisted.

Step-3

Yarn distribution: After winding process, the yarn goes to distribution section and distributors distribute the yarn to the knitting floor as per design and to select machine as flat bed knitting, circular knitting machine, or glove / mitten knitting machine etc.

Wraping

Weaving

Twisting

Step-4

Knitting and Weaving: In knitting section knitting operators knit the different type of the sweater.

Step-5

Knitting Inspection: QC team inspect different knitted parts of the sweater in this section and send to linking section for linking.

Step-6

Cutting and Sewing;

Half Inspection and Final Inspection

Cutting Process

Step-7

Mending: In this section sweaters are mended by mending operators.

Step-8

Light check: In this section light checking process is done thoroughly and carefully to detect/find any defect. If there is any defect found and if the defect is possible to overcome, then the garment is sent to the

respective person for correction.

Step-9

After a garment is fully assembled, it is transferred to the ironing section of the facility for final pressing. Each ironing station consists of an iron and an ironing platform. The irons are similar looking to residential models, but have steam supplied by an on-site boiler. Workers control the steam with foot pedals and the steam is delivered via overhead hoses directly to the iron. In most facilities, the ironing platforms are equipped with a ventilation system that draws steam through the ironing table and exhausts it outside the factory.

Step-10

Iron inspection: QC team inspects the sweaters in this section to ensure iron quality.

Step-11

Label attachment: Labels are attached in the garments by sewing machine in this section.

Step-12

Final Quality: QC team checks final quality in this section to detect any defective garments before packing.

Step-13

Packing: After final check/inspection, the final products are packed in poly or/and blister and finally in carton attaching hang tag, price tag etc. in this stage as per buyers' packing instruction for inspection by buyer's representatives/inspectors.

In the last steps of making a product retail-ready, garments are folded, tagged, sized, and packaged according to customer specifications. Also, garments may be placed in protective plastic bags, either manually or using an automated system, to ensure that the material stays clean and pressed during shipping. Lastly, garments are placed in cardboard boxes and shipped to client distribution centers to eventually be sold in retail stores.

Step-14

Delivery: After inspection by buyer's representatives/inspectors the cartons containing manufactured knitting wares are delivered for shipment.

Washing process on knit garments

There are different types of wash, applied on the knit garments are pointed in the below:

13. Enzyme Wash,
14. Stone Enzyme Wash or Heavy Enzyme wash,
15. Rubber Ball Wash,
16. Hot Wash,
17. Softener Silicon Wash,
18. Acid Wash,
19. P.P Spray,
20. Garment Dye,
21. Cold Dye,
22. Pigment Dye,
23. Tie Dye,
24. Deep Dye

Between them, Enzyme Wash, Rubber Ball Wash, Hot Wash, Softener Silicone Wash, has been used by Spring River Knitting (Myanmar) **on concept of washing process.**

Enzyme Wash: The wash in which enzyme is used called enzyme wash. This enzyme may be neutral or acid depends on the requirement of shed. In this wash, enzyme is used for producing different types of abrasion for the garments. As a result, the garments are looking very nice to see. The main target of enzyme wash is to change the outlook of any knit garments.

Rubber Ball Wash: Rubber ball wash is nothing but a garments and softener wash. In this process, garments will more soft and at a time seam abrasion will come. When any knit garments needed more hand-fell with seam abrasion that time we will use this process.

Hot Wash: Normally in knit fabrics, hot wash is used to prevent the shrinkage problem after completing different treatment of that garments. Hot wash should be done before making any garments. It's should be noted that, When a garment have any treatment such as- Garment dye, Cold dye, P.P spray etc. then it's a mandatory process to complete fabrics hot wash before making of that garment. Otherwise, it will create problems during measurement.

Softener Silicon Wash: When any knit garments needed more hand-fell and softness in the same occasion, in that case, this wash will be used. For this wash, softener and silicon both will be used together where silicon will be used for softening the cellulose and silicon for surface slipper. The softener nay be cationic or nonionic.

1.6 Supporting Operations

As is the case with many industries, knitting requires multiple support operations to enable production in the facility. Many of these support operations are common to any manufacturing industry, such as administrative functions, facility and equipment maintenance, and boiler and backup power generator operation. The garment factories also commonly operate and maintaining on-site employee dormitories. Often the scale of the support operations is proportional to the production of the facility.

Administrative Offices

The administrative offices associated with a knittingfacility are typically proportional to the size of the manufacturing operation (i.e. larger factories require more administrative support). Administrative staff manages corporate functions such as human resources, finance and accounting, billing, health and safety, and environmental compliance. Offices are equipped with basic technologies and amenities, such as computers, facsimile machines, printers, filing equipment, desk space, and meeting rooms. In some instances, retail customers may also maintain on-site administrative space for quality assurance personnel.

Steam Generation

Although most of all garment factories had used an on-site boiler to centrally generate steam for ironing process. Also in Spring River Knitting Factory, there is one ton small boiler for using steam iron (Vacuum Ironing Tables). The specification of boiler has been mentioned in Steam System of 1.4.4 Source of Energy in this report.

Power Generation

Spring River Knitting (Myanmar) Co., Ltd's Factory also maintains and operates on-site diesel-fueled generators as a source of backup power. The generators are primarily used when (1) is land demand for Common wealth Utility Corporation (CUC) electricity service exceeds capacity or (2) a typhoon temporarily causes a power outage. Reference: Electricity of 1.4.4 Source of Energy in this Report.

1.6.1 Waste Generation at Factory during Operation Phase

Solid Waste Generation

Such as plastic garbage cans, soft drink bottles, which comes from people's daily lives and municipal waste from industry(workshops, clinics, etc.) has to be disposed under the direction of systematic or otherwise, Garbage Collection systems as necessary, and in conjunction with waste disposal is to be carried out properly.

Commercial waste materials such as waste yarn, cutting piece, and the solid waste which are recorded within 2019 as follows;

Table 12: Solid Waste Categories

2019 SOLID WASTE													
Solid Waste Type	Jan	Feb	Mar	April	May	June	July	August	Sept	Oct	Nov	Dec	Total ton
Domestic Waste	16 kg	18 kg	20 kg	6 kg	18 kg	18 kg	17.5 kg	18 kg	19 kg	12 kg	18 kg	22 kg	0.18
Waste from Employees	0.75	0.60	0.70	0.52	0.73	0.70	0.69	0.72	0.65	0.92	0.66	0.50	8.14
Industrial Waste													
Cardboard (ton)	1.8	2.3	2.4	1.4	1.9	2.7	3.3	3.7	2.3	2	1.5	1	26.3
Cutting piece and Yarn piece (ton)	11	13	12	6	16	17	21	24	25	17	15	0.3	177.3

Solid Waste management for this factory has been designated at 5.2.4 Solid Waste Management

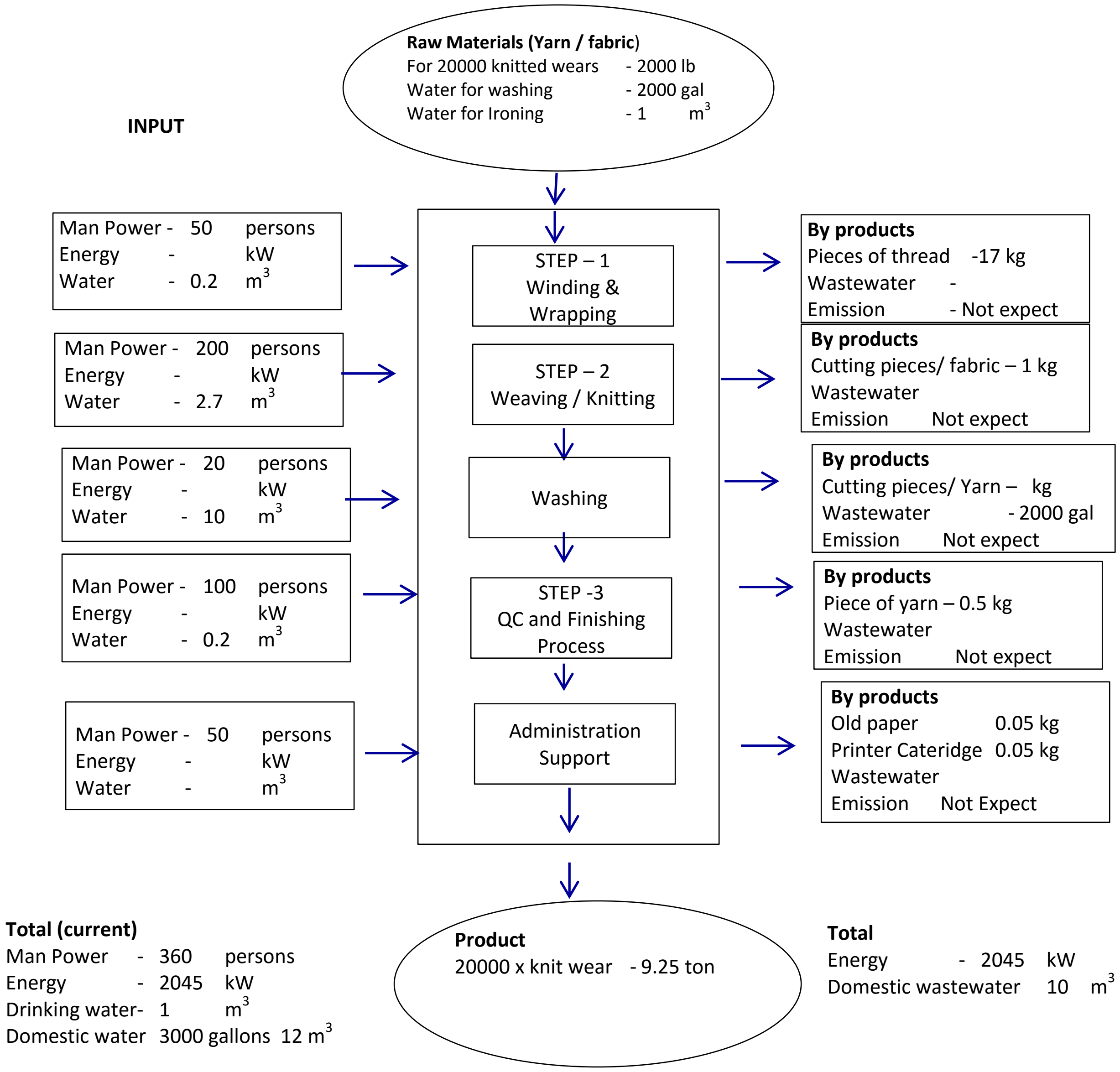
Liquid waste Generation

- Liquid waste is mainly sewage, wastewater generated from washing process, and domestic waste water including both dissolved and suspended matter and very small amount, as there is boiler use in this factory but almost very low discharged from Boiler.
- **Some Hazardous chemicals has been used by this factory as there's washing operation, and wastewater treatment plant, etc. related with using the operational scope in this factory**
- The discharge effluent from sewage is disposed under guide line and arranged comply with YCDC.
- Monitoring of effluent level for liquid waste is arranged at government's laboratory quarterly or NEQEG.
- Process of Wastewater treatment plant in this factory has been mention in 5.2.6Wastewater Treatment System at Spring River Knitting (Myanmar) Factory of this report

Hazardous Waste Generation

- There's some chemical use in this factory operation that's why hazardous waste generation such as empty chemical containers, used chemical bags in this Spring River Knitting Factory
- Waste for this hazardous materials are only very less amount of containers as using very less amount of chemical additives in washing operation.
- The generation of used oil from changing lubricant from generator engines (one time per 6 months) has been planned and sold to reused contractor and not too much amount

1.6.2 Flow Chart of the Complete Production Process



SURROUNDING ENVIRONMENTAL CONDITION

AMK has followed the standard ESIA methodology and technique during the entire study and whenever necessary it has used its own judgment based on its own experience and knowledge. During the entire study, appropriate quality checks have been taken into consideration and best management practices have been followed for a quality output. Discussions have also been made with state level government agencies during survey of the area. Environment monitoring and site surveys have been conducted within the Project in December 2019 and January 2020. The environmental monitoring was carried out for ambient air quality, water quality, soil and sediments quality, noise levels, traffic density and meteorology. Detailed surveys have been carried out for assessment of ecological status, socio-economic profile etc., in addition to collection of details available from authentic secondary sources. Interpretation of Satellite imagery has been made for assessment of land use pattern; drainage pattern etc. and findings are verified with the help of ground verification and details available with authentic secondary sources. Impacts are identified based on the actual and foreseeable events, including operational events of the proposed project activities. Processes that may create risks to the natural environment and socio-economic environment are considered in terms of key potential environmental impacts. Mitigation measures to be adopted under SEMP for all specified significant social and environmental impacts likely to result out during the proposed project activities are also a part of the EMP report.

1.7 Survey area

The surveys were conducted inside the Hlaing Thar Yar Township, established at Plot No. 148+149, Corner of Mat Kha Yar Min Thar Gyi Road and Twin Thin Tike Wun U Tun Nyo Street, Shwe Lin Ban Industrial Zone, and Hlaing Tharyar Township, in Yangon Region, 2.6 Acre and in factory compound area.

The area had only flat plain in relatively good condition. The flora biodiversity is relatively very low with small trees and bushes.

Information relating to the physical, technical and environmental parameters was collected from client and other agencies such as regional general administration department; head of the Company's management, meteorological department, internet and development directorates, and set up study limit is 1 kilo meter radius of the surrounding proposed factory area etc., employee were interviewed in detail to understand the socio economic, culture and customs of the area.

a. Data Analysis

The collected data were analyzed in the frame work of Myanmar Environmental Conservation law (2012), the private Industrial Enterprises law (1990 and ISO 14001 / system and Existing labor laws (Employment, payment, workers compensation act .etc.)

b. Environmental Management Plan

Environmental Management Plan has to be carried out for Construction and operation period which measured in topography and physiographic, ambient air quality, noise, raw material, land use, terrestrial and Socio-economic

1.7.1 Meteorological Condition & Meteorological Data

Generation of Base line environment data was carried out during the period from (2019) December to January 2020. Data has been generated by the approved lab in Myanmar. Study area of 2 km radius distance around the site has been considered for the EMP study.

General

- Rainfall in Yangon is the average annual precipitation ranges from 227 mm falls during the rainy season, including 75-80% in the rainy season
- Sunshine duration recorded in Yangon is minimum 25% and maximum 90%
- Relative humidity recorded in Yangon is minimum 54% (November to April) and 95.6% (November to April)
- Ambient temperature recorded in Yangon is minimum 22°C and maximum 32.8° C
- Win speed recorded in Yangon is average 5.9 km/h and maximum 36.7 km /h
- The yearly average relative humidity is 75.7%

Mean annual rainfall is 2909.3 mm, mean temperature is 27.05°C and mean annual evaporation is 347 mm. Climate is tropical with average minimum and maximum temperature. February to May is hottest time.

Ground water and Hydrogeology

Hydrological characteristic of this area is based on underlying sediments and surrounding drainage system. Most of underlying sediments are alluvium units and Valley-fill deposit. Water bearing horizon is nearly 300 ft in this Hlaing Thar Yar (Shwe Lin Ban Industrial Zone) is 2400 gph for 8 inches diameter tube well.

Humidity and Evaporation

Relative humidity is high throughout the year with monthly average raining between 54-95%. The monthly average is always above 75.7%

Wind

The prevailing winds are from the south and south east, from April to December then north and west during the summer monsoonal period, wind strength is generally greater in the afternoons.

The north = easterlies (monsoons) generally between December and mid-April and the south easterly trade winds which prevail between June and mid-October .The trade winds are stronger usually 5.9 km /h and the max wind speed is 14.6 km / h during 2016 to 2018.

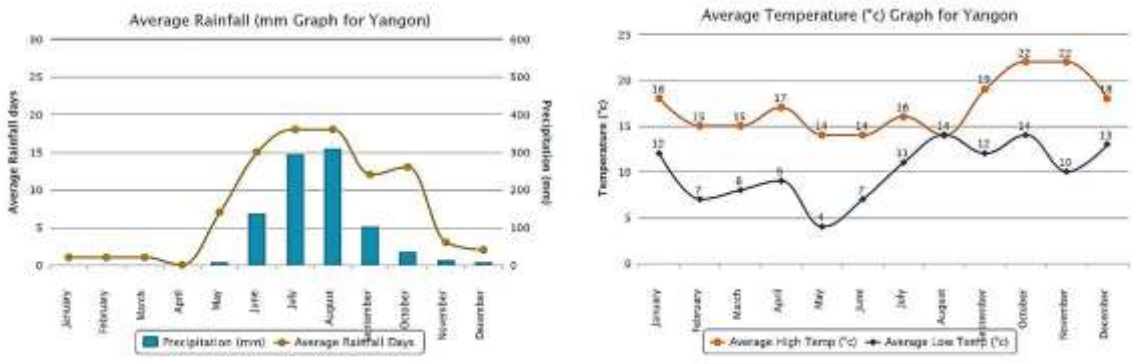


Figure 30: Annual Average Rainfall and Temperature in Yangon (2016 – 2018)

1.7.2 Existing Topography

According to topographic map of Yangon Region, this area is flat plain area and it is implemented by DEHSD for industrial Zone since 2000. Myanmar (Burma), Lng: 96.06, Lat: 16.91, Elevation: 16 feet.

Below map shown topography, water bodies and drainage for the surrounding of this factory project;

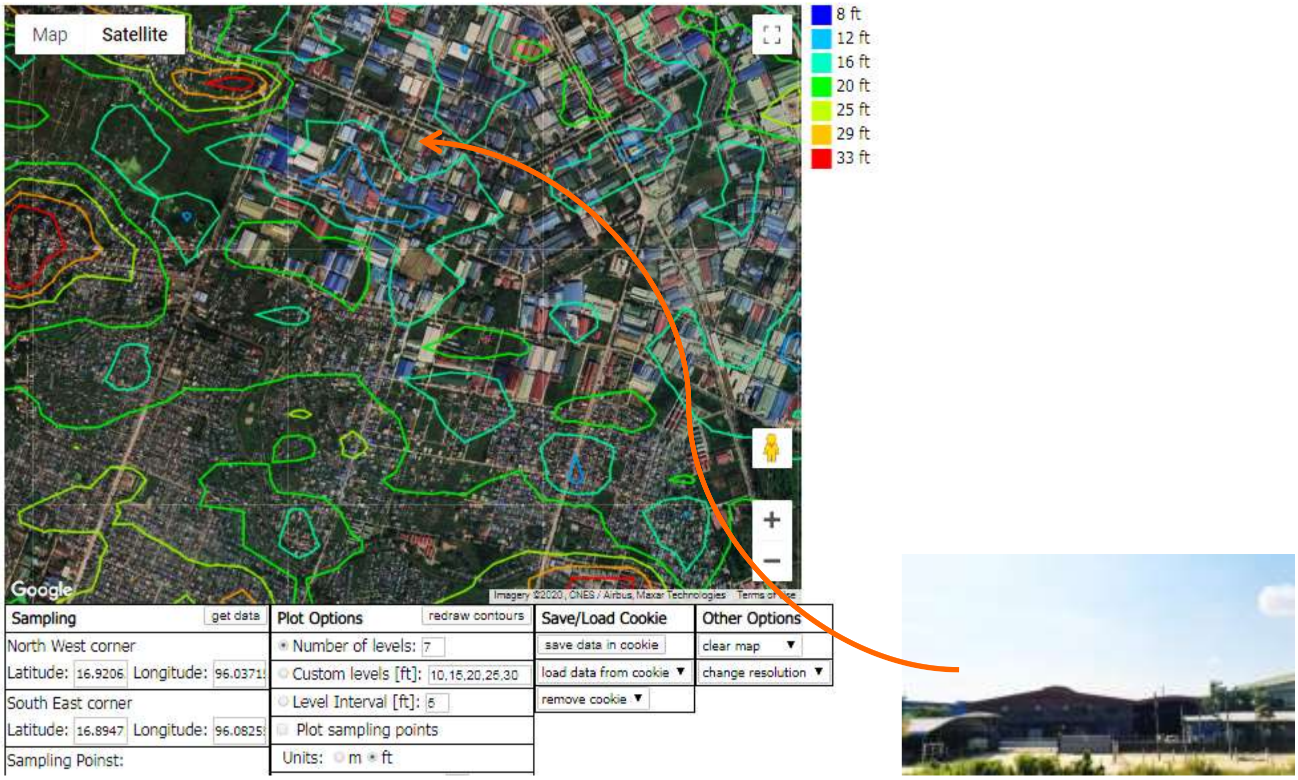


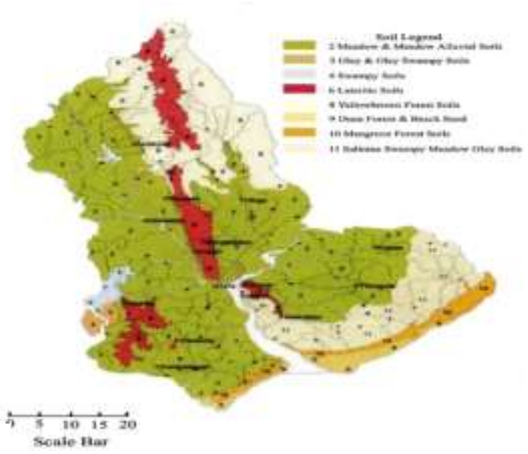
Figure 31: Contour map at surrounding area of Spring River Knitting (Myanmar) Factory

Regional Geology of Yangon

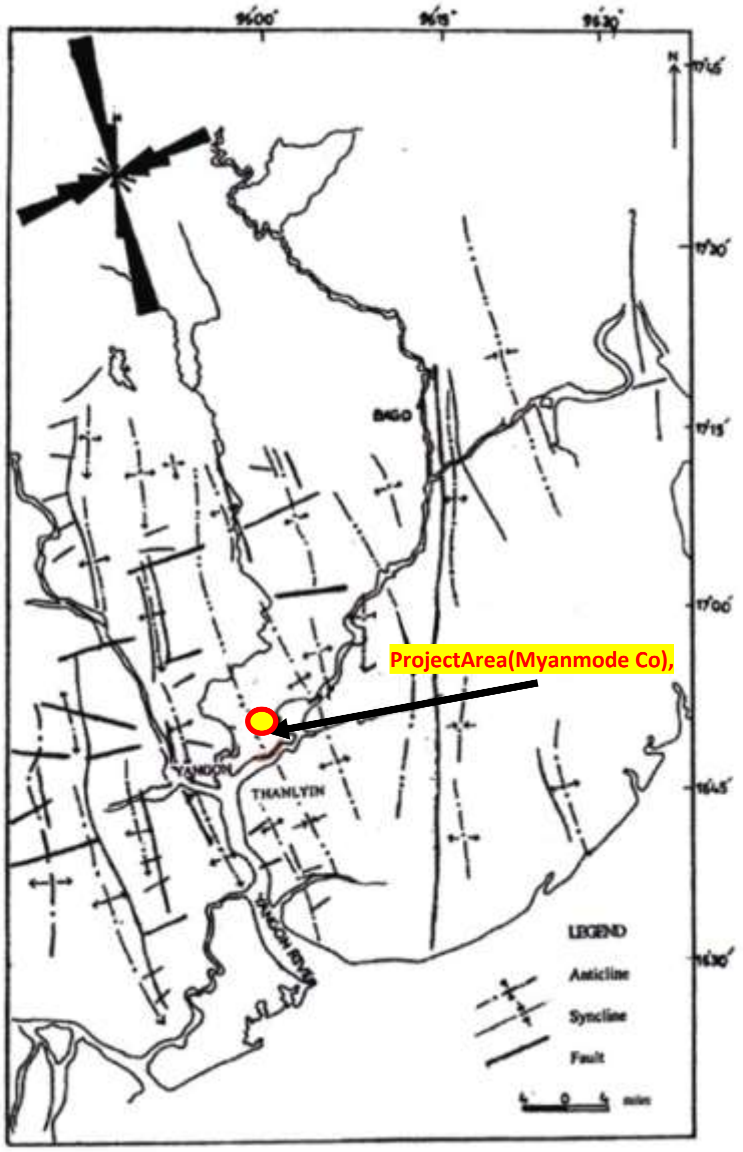
Being largely a flat alluvium-covered terrain with no notable economic mineral potential, Yangon Region has not attracted much of the attention of the geologists from the mineral prospect point of view. The Yangon area, however, was investigated in 1932 for groundwater resources by Leicester. In 1977, the Coco islands were surveyed by the Myanmar geologists.

Soil

Alluvial soils (fluvic Gleysols) can be found in the flood plains. They have the texture of silty clay loam and they have the neutral soil reaction and are rich in available plant nutrients. Medadow gley soils (Gleysol) and Meadow swampy (Histic Gleysol) occur in the regions of lower depressions where the lands are inundated for more than 6 months in a year. The texture of this soil is clayey to clay and usually having very strong acid reaction and contain large amount of iron.



Geotechnical Hazard



At the north of Yangon, the possible seismic source area is in the Thayarwady area although regional tectonic framework has not been well established. The probable mode of faulting is in the sense of faulting is in the sense of reverse owing to the fact that the mega-sausage structure and associated characteristics of progressive deforming pattern in the western part of the Bago anticlinorium's.

To the south, the earthquakes frequently happen in the south of the Mottama Gulf and the Andaman sea where the extensional horsetail structure of the southern termination of the Sagaing Fault (Earn, 2003) is well dominated, It cannot be defines as a single seismic source, but the source area, likewise in the earthquakes is and thus, the whole area, in general, should be the seismic source areas.

The Bago earthquake in 5 May 1930 is associated with the right lateral strike slip movement along the west segment is long enough to generate large magnitude earthquakes in this region the location of this event was reported in NEIC Catalogue as 17 N and 96.5 E and the magnitude is 7.3. The records on damage and causality in this region such as Bago and Yangon suggested that the size of the earthquake was not less than 7.3 Richter Magnitude, Regarding ancient records of the Shwedagon Pagoda in Yangon and the Shwemawdaw Pagoda in Bago areas, there were at least (30) times since 197 BC (Win Swe, person, comm..). However in present study, the earthquake data are used from

NEIC and other sources for the period from 1930 to 2004 with regardless of the large earthquakes on the historic record.

The highest intensity zone designated for Myanmar is the Destructive Zone (with porbable maximum range of ground acceleration 0.4 -0.5 g), which is equivalent to modified Mercalli (MM) class IX. There are four areas in that vulnerable zone; namely, Bago, Phyu, Mandalay-Sagaing-Tagaung, Putao Tanaing, and Kale Myo – Homalin areas. Although the latter two have major earthquake hazards, they may be less vulnerable as are major earthquake hazards, they may be less vulnerable as are sparsely populated,. Important cities and towns that lie in Zone IV (Severe Zone, with probable maximum range of t ground acceleration 0.3 – 0.4 g) are Taungoo, Taungwingyi, Bagan-

Nyaung U, Kyaukse, Pyin Oo Lwin, Shwebo Wuntho, Hkamti, Haka, Myitkyina, Taunggyi and Kaunglone, Yangon straddles the

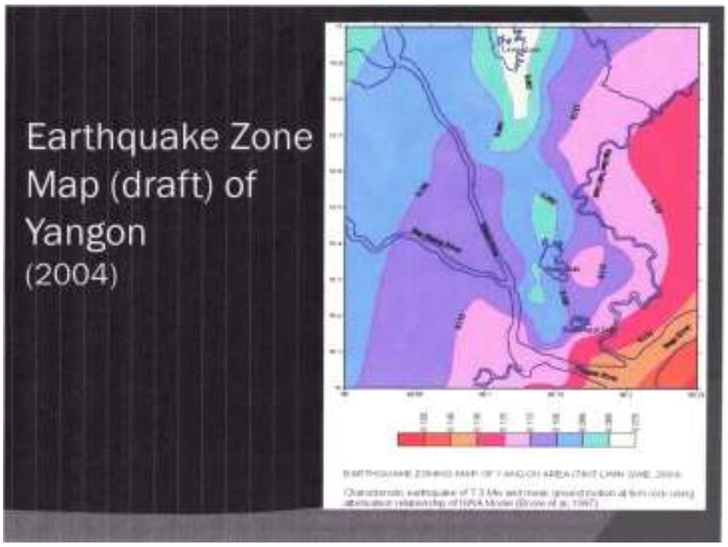
boundary between Zone II and Zone III with the old and satellite towns in the eastern part in Zone III , and the original city in Zone II>

Major Earthquake Intensities around Yangon Area

According to the records of Meteorology & Hydrology Department (Yangon)

Table 13: The major Earthquake intensities around Yangon area

AREA	DATE	NEAREST MODIFIED MERCALLI (MM)
Yangon	November 1620	6.0-6.5
Yangon	26 Dec3mber 1644	5.5
Yangon	6 may 1652	5.0-5.5
Yangon	December 1664	5.5
Yangon	13 June 1768	5.0-5.5
Yangon	23 August 1864	4.5
Yangon	23 July 1884	4.5-5.0
Yangon	10 October 1888	5.5
Yangon	13 December 1894	5.0
Yangon	19-August-1919	5.0
Yangon	10-September-1927	4.0
Yangon	5-May-1930	7.0-7.5
Yangon	9-February-1951	4.0-4.5
Yangon	17-August-1964	4.0
Yangon	9-February-1969	5.0
Yangon	9-September-1970	6.0-6.5
Yangon	1970-1980	4.0-6.5
Yangon	1980-1990	3.5-5.5
Yangon	1990-2000	4.0-5.5
Yangon	2000-2003	4.0-6.0
Yangon	Dec-04	5.5
Yangon	2005-2012	<5.0



1.7.3 Hydrology and Drainage

Rivers

The Project site is located about two kilometer west of the Hlaing River. The Hlaing River is a marine estuary that runs through Yangon before discharging into the Gulf of Martaban of the Andaman Sea. The river is used by ocean-going vessels to reach the Yangon Port, and is a source of irrigation water for paddy cultivation in the Ayeryawaddy Delta via the Twante Canal.

Local Drainage

A perimeter drain surrounds the Project site. The drain is small and was most probably designed for an average rainfall interval occurrence of less than five years. The perimeter drain has appeared too been connected to any main drainage network. Surface runoff is expected to flow naturally along the gradient towards Hlaing River. A storm water drain will therefore be constructed from the development with its discharged point one kilometer away. No flood occurrence has however been reported at the Project site and its immediate surrounding area.

Figure 32: Public Drain beside the factory

1.7.4 Land Use

The Project site is situated within Shwe Lin Ban Industrial zone, a completely built-up area. The land use around the Project site was described along a 200m radius of the Project boundary.

Project Site

The land use within the Project site is vacant land. It is believed the vacant land was previously used as a dumpsite as considerable amounts of solid waste was found during excavation work.

Determination of the Area is to be impacted by the project. (Base line – information of land) Around project site has been determined with interaction of the project with economic, social, biological and physical environment.

There are no land use for forest, agriculture, and farming purposes and so the proposed project will also have no impact on land utilization pattern and land use plan.

There is no further additional land use for that project. In Hlaing Thar Yar Township, currently there are no land use for forest, agriculture, and farming purposes and so the proposed project will also have no impact on land utilization pattern and land use plan. The land use area of the proposed project is

- Ware House
- Electrical Room
- Main Office
- Canteen (Dining Room)
- Production by each section (Design, Cutting, Sewing, Ironing, Quality Control, finish products)

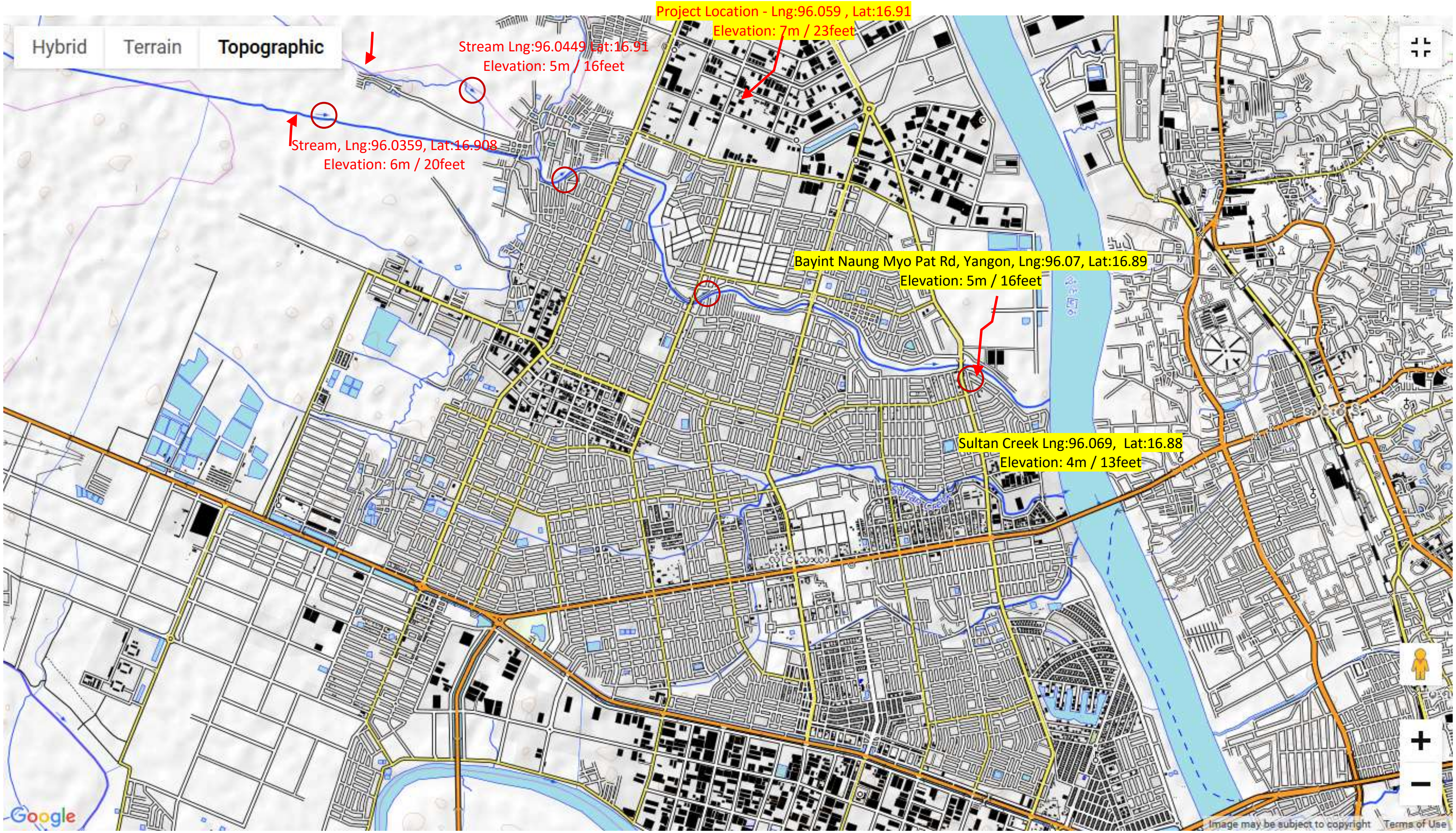


Figure 33: Local Drainage around Shwe Lin Ban Industria Zone

Figure 34: Some buildings surrounding project site

Figure 35: 500 m Radius surounding area of Project

Surrounding Land Use

The survey of the surrounding land use was focused on a radius of 1 km from the Project boundary. The area is almost completely built-up comprising of institutional, commercial, and very less residential buildings. There are some factories and companies around this Spring River Knitting (Myanmar) Factory, Yi Xuan (Waterproof Fabric Manufacturer) is at the front, Yuan Xin Guang Co., Ltd is at right side and Red Dragon Food Industry is at the back. At left side, there's Twin Thin Tike Wun U Tun Nyo Street

1.7.5 Traffic

There is one main road named Mat Kha Yar Min Thar Gyi Road is at the front of Factory. This Road is right side of Than Chet Wun Main Road of the Shwe Lin Ban Industrial Zone and connect with Kha Yay Bin Main Road which has Shwe Pyi Thar River Bridge.

1.8 Physical environment parameters: Air, Noise and Water

In respect to ambient air quality, there is no available air quality standard established in Myanmar for its own use before. Therefore, relevant international guidelines and standards were used to compare the findings. Air quality monitoring was conducted in January 2008 by National Commission for Environmental Affairs (NCEA) at three selected sites in Mandalay commercial, residential, and near to industrial zone areas. These air quality monitoring activities were the first initiative conducted in Myanmar. The 24 hours average concentrations of NO_2 and SO_2 levels in three selected sites are well below the WHO Guideline. The TSPM and the PM_{10} at the three sites are higher than the WHO Guidelines. Nowadays there is air quality guideline has been designated on 2015 which is from MONREC's National Environmental Quality (Effluent) Guideline and area wise air quality can be comparison with.

More generally, air quality is still all most good in this Area. Suspended matter is sometimes high, but it is just the consequence of the prevailing dry climate conditions combined with a multitude of areas with bare ground.

1.8.1 Air Quality

General Guideline for Air Pollution has been shown in Table 21: Air Pollution Guide Line (General Guide Line)

Parameter	Averaging Period	Guideline Value µg/m^3
Nitrogen dioxide	1-year 1-hour	40 200
Ozone	8-hour daily maximum	100
Particulate matter PM10[a]	1-year 24-houg/m3	20 50
Particulate matter PM25[b]	1-year 24-hour	10 25
Sulfur dioxide	24-hour 10-minute	20 500

Table 14: (NEQEG)'s Air Emission Levels for Textiles Manufacturing (2.3.2.1)

Parameter	Unit	Guide Line Value
Ammonia	mg/Nm^{3a}	30
Carbon disulfide	mg/Nm^3	150
Chlorine	mg/Nm^3	5
Formaldehyde	mg/Nm^3	20
Hydrogen sulfide	mg/Nm^3	5
Particulates	mg/Nm^3	50
Volatile organic compounds	mg/Nm^3	2/20/50/75/100/10 c.d

a Milligrams per normal cubic meter specified temperature and pressure

b As the 30 – minute mean for stack emissions

c Calculated as total carbon

d As the 30- minute mean for stack emissions; 2 mg/Nm^3 for volatile organic compounds classified as carcinogenic or mutagenic with mass flow greater than or equal to 10 g/hour: 20 mg/ Nm^3 for discharges of halogenated volatile organic compounds with mass flow equal or greater than 100 g/ hour. 50 mg/Nm^3 for waste gases from drying of large installations (solvent consumption > 15 tons / year); 75 mg/Nm3 for coating application processes for large installations (solvent consumption> 15 tons / year); 100 mg/Nm^3 for small installation (solvent consumption< 15 tons / year); if solvent is recovered from emissions and reused, the guideline value is 150 mg/Nm^3

Duration for Air Quality Survey and Methodology

1st Monitoring (15.12.2018)

Samplings and analysis of ambient air quality were conducted by referring to the recommendation of the United States Environmental Protection Agency (U.S. EPA). The Haz-Scanner Environmental Perimeter Air Station (EPAS) was used to collect ambient air survey data. Sampling rate or air quality data were measured automatically every one minute and directly read and recorded onsite for measured parameters (SO_2, NO_2, CO_2, CO, H_2S, O_3, CH_4, PM_{10}, $PM_{2.5}$), as shown in Table. Sampling pump was operated at 2 L/min. Different analysis methods are integrated in the instrument, such as Particulates 90° Infrared Light Scattering for particulate matters (PM_{10}, $PM_{2.5}$), electrochemical sensors for toxic gases (SO_2, NO_2, CO, H_2S), NDIR (optional sensor) for (CO_2, CH_4) and Gas Sensing Semiconductor- GSS technology (optional sensor) for O_3.

Sampling and Analysis Method for Air Quality

No.	Parameter	Analysis Method
1	Sulfur dioxide (SO_2)	On site reading
2	Nitrogen dioxide (NO_2)	On site reading
3	Carbon Dioxide (CO_2)	On site reading
4	Carbon monoxide (CO)	On site reading
5	Hydrogen Sulfide (H_2S)	On site reading
6	Particulate matter 2.5 ($PM_{2.5}$)	On site reading
7	Particulate matter 10 (PM_{10})	On site reading
8	Methane (CH_4)	On site reading
9	Hydrogen Sulfide (H_2S)	On site reading
10	Solar Radiation	On site reading
11	Wind Direction	On site reading
12	Wind Speed	On site reading
13	Temperature	On site reading
14	Relative Humidity	On site reading

Survey Result (1st Monitoring)

The air quality survey results obtained every minute at each survey site were combined to make daily average values (24 hours or 8 hours or 1 hour or 10 minutes) for further evaluation and comparison with corresponding standard values.

Figure 36: Location of Air Sample (AS) of the Spring River (Former) Fengyi's knitting factory Project

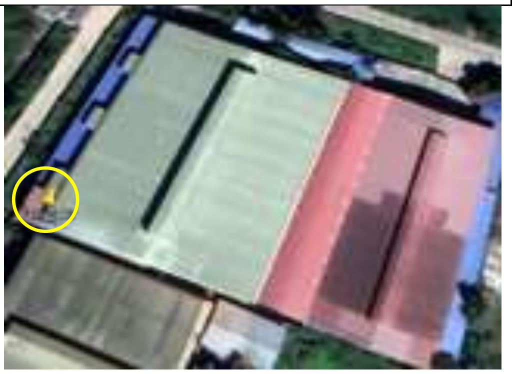
Sr.	Sample	Coordinates		Location	Record Photos
		Latitude (N)	Longitude (E)		
1	AS-1	16°54'50.11"N	96° 3'31.06"E	Near Boiler Section	

Figure 37: Location of Air Sample (AS) of the Spring River (Former) Fengyi's knitting factory Project

Occupational and Environmental Health Laboratory

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Tel: +9567-431139, 431138, +951-221387, 210844,
Fax: +9567-431139, +951-223824

Sample Name: Air	**Received Date:**	15.12.2018
	Reported Date:	18.12.2018
	Reg.No:	
Address:	Fengyi Knitting Co., Ltd, Hlaing Thar Yar Township, Yangon	
Location:	Near Boiler, 16°54'50.11"N, 96° 3'31.06"E	

Time and Date to start	PM_{10} (24 Hr) µg/m³	$PM_{2.5}$ (24 Hr) µg/m³	NO_2 (1 Hr) µg/m³	SO_2 (24 Hr) µg/m³	O_3(8 Hr) µg/m³
(14.12.2018): 11:00 am	26	12	71	150	45.1

Instruments : **Hazscanner**

Reference : **WHO Air Quality Guideline**

PM10 (24 Hr)	50	µg/m³
PM2.5 (24 Hr)	25	µg/m³
NO2 (1 Hr)	200	µg/m³
SO2 (24 Hr)	20	µg/m³
O_3 (8Hr)	100	µg/m³

Signed by

Khaing

Dr. Khaing Khaing Soe
Deputy Director
Occupational and Environmental Health Division

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Fax: +9567-431139, +951-223824

Sample Name:	**Air**	**Received Date:**	15.12.2018
		Reported Date:	18.12.2018
		Reg.No:	811-18
Address:	Fengyi Knitting Co., Ltd, Hlaing Thar Yar Township, Yangon		
Location:	Near Boiler, 16°54'50.11"N, 96° 3'31.06"E		

Time and Date to start	CO (8 Hr) ppb	VOCS(1 Hr) ppb	HC ppm	CH_4 ppm
	71.6	8	0	6132

Instruments : Hazscanner

Reference : CO (8Hr) 9000ppb - US. EPA (Environmental Protection Agency) Guideline
: VOCS (1Hr) 44ppb - California EPA (Environmental Protection Agency) Guideline

Signed by

Dr. Khaing Khaing Soe
Deputy Director
Occupational and Environmental Health
Division

Figure 38: Result of Air Quality Survey (15.12.2018)

According to the above result, Air quality near small boiler (16°54'50.11"N, 96° 3'31.06"E) is within the guide line value. So, it could be noted there could be no impact from the project on the background carbon dioxide level of local community.

2nd Monitoring (18.1.2020)

As formed factory management committee on 2019 as Spring River Knitting (Myanmar) (Former Fengyi), new measuring for the EMP Report, sampling and analysis of ambient air quality were collected within about 8 hours for the projects during the operation and construction of the Project on 18.1.20 by Occupational and Environmental Health Laboratory from Ministry of Health and Sports.

Survey Result (2nd Monitoring)

According to result of Air quality measuring result Figure 39, average ambient air quality could be noted at the vicinity of the project is within the global carbon dioxide level, so the project is not a polluting industry which emits pollutant into the atmosphere, there could be no impact from the project on the background Air quality level of local community.

Table 15: Location of Air Sample (AS) of the Spring River Knitting (Myanmar) actory Project

Sr.	Sample	Coordinates		Location
		Latitude (N)	Longitude (E)	
1	AS-1	16°54'51.52"N	96° 3'34.29"E	Near Generator

Haz-Scanner

Kane 905

Aeroqual Series

Occupational and Environmental Health Laboratory

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Tel: +9567-431139, 431138, +951-221387, 210844,
Fax: +9567-431139, +951-223824

Sample Name: Air	**Received Date:**	18.1.2020
	Reported Date:	20.1.2020
	Reg.No:	012 - 20
Address: Spring River Knitting (Myanmar), Shwe Lin Ban Industrial Zone, Hlaing Thar Yar		
Location: Near Generator 16°54'51.52"N, 96° 3'34.29"E		

Time and Date to start	PM_{10} (24 Hr) µg/m³	$PM_{2.5}$ (24 Hr) µg/m³	NO_2 (1 Hr) µg/m³	SO_2 (24 Hr) µg/m³	O_3 (8 Hr) µg/m³
(18.1.2020 11:30 AM) To (19.1.2020 11:30 AM)	22	12	65.8	12.7	65.8

Instruments : Hazscanner

Reference : WHO Air Quality Guideline

PM10 (24 Hr)	50	µg/m³
PM2.5 (24 Hr)	25	µg/m³
NO2 (1 Hr)	200	µg/m³
SO2 (24 Hr)	20	µg/m³
O_3 (8Hr)	100	µg/m³

Signed by

Khaing.

Dr. Khaing Khaing Soe
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Tel: +9567-431139, 431138, +951-221387, 210844,
Fax: +9567-431139, +951-223824

Sample Name: **Air**	**Received Date:**	18.8.2018
	Reported Date:	20.8.2018
	Reg.No:	812-18
Address: Spring River Knitting (Myanmar), Shwe Lin Ban Industrial Zone, Hlaing Thar Yar		
Location: Near Generator 16°54'51.52"N, 96° 3'34.29"E		

Time and Date to start	CO (8 Hr) ppb	VOCS(1 Hr) ppb	HC ppm	CH_4 ppm
(18.8.18) 12:31pm To (19.8.18) 12:31pm	241.3	7	0	6493

Instruments : Hazscanner

Reference : CO (8Hr) 9000ppb - US. EPA (Environmental Protection Agency) Guideline
: VOCS (1Hr) 44ppb - California EPA (Environmental Protection Agency) Guideline

Signed by

Dr. Khaing Khaing Soe
Deputy Director
Occupational and Environmental Health Division

Figure 39: Result of Air Quality Survey

According to the above table, Air quality near Generator (**16°54'54.52"N, 96° 3'34.29"E**) - **only where potential pollutant** be performed in this factory is within the guide line value. So, it could be noted there could be no impact from the project on the background Air Quality level of local community.

Table 16: Comparison with NEQEG (General Guide line) and International Guidelines for Air Quality

	Date	Parameters						
		NO_2	O_3	PM $_{10}$	PM $_{2.5}$	SO_2	CO (US.EPA)	CO_2 (ACGIIT
NEQEG		200 µg/m^3	100 µg/m^3	50 µg/m^3	25 µg/m^3	20 µg/m^3 24 Hr 500 µg/m^3 10 min	9000 ppb	5000 ppm
16°54’50.11"Nand 96°3'31.06"E	2.10.2017	71	45.1	26	12	150	71.6	-
16°54'54.52"N, 96° 3'34.29"E	18.1.2020	65.8	65.8	22	12	12.7	241.3	-
16°54'51.56"N, 96° 3'34.684"E	**4.2.2022**	**41.16**		**15.51**	**4.22**	**184.80**	**53.49**	**213.29**

ပတ်ဝန်းကျင်ရေးရာဓာတ်ခွဲခန်း
Ecological Laboratory
စိမ်းလန်းအမိမြေပြန့်ဖြိုးတက်ရေးအသင်း (Advancing Life and Regenerating Motherland, ALARM)

Reference Number/ စာအမှတ်: EL-R /378

Date / နေ့စွဲ: 4 February, 2022

Air Analysis Report (လေတိုင်းတာ စစ်ဆေးမှု အစီအရင်ခံစာ)

Air Analysis Info / လေတိုင်းတာမှု အချက်အလက်

လေတိုင်းသည့်နေရာ Sample site:	Spring River Knitting Factory	လေနမူနာအမှတ်စဉ်Sample I.D.	383	
နေရာ (မြို့နယ်) Location (township)	No.148/149, Makhyar MinThar Gyi Street, Shwe Lin Pan Industrial Zone, Hlaing Thar Yar Township	လတ္တီတွဒ် Latitude	N 16˚54' 51.56"	
		လောင်ဂျီတွဒ် Longitude	E 096˚3' 34.68"	
နေရာ (တိုင်း/ပြည်နယ်) Location (Region / state)	Yangon Region	နည်းစဉ် Method	Haz-Scanner (EPAS)	
		စက်တည်အမြင့်(မြေပြင်မှ) Station height (above ground)	Ground (Outdoor Air Quality Testing)	
တိုင်းတာလိုသူ အမည် Name of customer:	SPRING RIVER KNITTING HTSU	စတင်တိုင်းတာသည့်ချိန် (နေ့အချိန်) Log on time (Date,Time)	26.01.2022	9:16 AM
တိုင်းတာသည့်နေ့စွဲ Air Sampling Testing Date	26.01.2022	တိုင်းတာပြီးသည့်အချိန်(နေ့အချိန်) Log off time (Date,Time)	26.01.2022	5:16 PM
ဆက်သွယ်ရန် လိပ်စာ/ဖုန်း Contact Address/phone	-	တိုင်းတာမှု ကြာချိန် Logging Duration (hours)	8 hours	

Air testing result / လေထုတိုင်းတာစမ်းသပ်ချက်အဖြေ

စဉ် No.	အရည်အသွေး Parameter	ရလဒ် Results	ယူနစ် Unit	ပျမ်းမျှကာလ Avg. Period		ထုတ်လွှတ်မှုစံနှုန်း Guideline Value	ပျမ်းမျှကာလ Avg. Period
၁	နိုက်ထရိုဂျင်ဒိုင်အောက်ဆိုဒ် Nitrogen dioxide	41.16	µg/m³ µg/m³	1	year hour	*40 µg/m³ * 200 µg/m³	1-year 1-hour
၂	Particulate matter PM_{10}	15.51	µg/m³ µg/m³	8	year hours	*20 µg/m³ * 50 µg/m³	1-year 24-hour
၃	Particulate matter $PM_{2.5}$	4.22	µg/m³ µg/m³	8	year hours	* 10 µg/m³ * 25 µg/m³	1-year 24 hour
၄	ဆာလဖာဒိုင်အောက်ဆိုဒ် Sulfur Dioxide	184.80	µg/m³ µg/m³	10	hours min	* 20 µg/m³ * 500 µg/m³	24-hour 10 minute
၅	အိုဇုန်း Ozone	46.59	µg/m³ µg/m³	8	year hours	* 100 µg/m³	8 Hour Daily Maximum
၆	ကာဗွန်ဒိုင်အောက်ဆိုဒ် Carbon dioxide	213.29	ppm ppm	8	year hours	NG	-
၇	ကာဗွန်မိုနောက်ဆိုဒ် Carbon monoxide	53.49	ppb ppb	8	year hours	NG	-

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စဉ် No.	အရည်အသွေး Parameter	ရလဒ် Results	ယူနစ် Unit	ပျမ်းမျှကာလ Avg. Period		ထုတ်လွှတ်မှုစံနှုန်း Guideline Value	ပျမ်းမျှကာလ Avg. Period
၈	ဟိုက်ဒရိုကာဗွန် Hydrocarbon		ppm		hour		
		24.96	ppm	8	hours	NG	-
၉	မီသိန်း Methane		ppm		hour		
		32.46	ppm	8	hours	NG	-
၁၀	ရေဒီယိုသတ္တိကြွ Atomic Radiation		CPM		hour		
		13.53	CPM	8	hours	NG	-
၁၁	အပူချိန် Temperature		°C		hour		
		34.38	°C	8	hours	NG	-
၁၂	Volatile Organic Compound (VOC)		ppb		hour		
		3.01	ppb	8	hours	NG	-
၁၃	လေတိုက်နှုန်း Wind Speed		Kph		hour		
		1.62	Kph	8	hours	NG	-
၁၄	လေတိုက်ရာအရပ် Wind Direction		Deg		hour		
		213.67	Deg	8	hours	NG	-
၁၅	စိုထိုင်းဆ Relative Humidity		RH%		hour		
		64.57	RH%	8	hours	NG	-

*** Myanmar Environmental Quality Emission Guideline 2015**

NG= No Guideline

မှတ်ချက်။ [illegible]

တိုင်းတာတွက်ချက်သူ

Analyzed by

Kyaw Thu Sein
Assistant Technician
Ecological Laboratory
ALARM

စစ်ဆေးသူ

Checked by

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Figure 40: Result of out door Air Quality Survey – (26.1.2022)

Conclusion and Recommendation

Results of ambient air quality measured are mentioned in above results. Collected data are less than the WHO Guidelines, and NEQEG value. All these data are no significant effect on the environment.

This project has been operated with some Chemical Process as washing operation. Raw has been imported as coloured yarn and the knitting factory's operations are only winding, knitting, sewing, labeling and packaging.

Figure 41: Air and Water Quality Monitoring Locations

1.8.2 Noise level

Noise monitoring was carried out at site and around the area on 15.12.2018. The noise level at day and night time was recorded, the level is within 65 dB and 58 dB, and the access roads were found to exceed the noise standard due to heavy traffic, bus line at day time.

In order to assess the noise levels within the study area, noise monitoring was carried out at five (05) locations once within the study area. At each noise monitoring station, noise level as *Leq* was recorded on an hourly basis for 24 hours continuously using digital noise meter (Lutron SL-4001, Serial Number I 95341). The summarized results of noise levels as *Leq day* (Ld) and *Leq night* (Ln) are given in ***below*** and are compared with World Bank Standards as given in ***below table*** ascertain the status of existing noise levels.

Table 17: World Bank Standards for Noise

Receptor	Leq (dBA)	
	Day time (0700 – 2200 hrs)	Night Time 2200 – 0700 hrs)
Residential; institutional; educational	55	45
Industrial; commercial	70	70

Table 18: Noise Level in Proposed Factory (15.1.2020)

Sr. No.	Sampling Location	Co-ordinate points		Noise Level Ld dB	World Bank Standards (City) dB(A)	
		Latitude	Longitude	Day Time	Day Time	Night Time
1	200 m from the Knitting area (cumulative with Transportation Co., Ltd) (Near Generator)	16°54'51.62"N	96° 3'38.68"E	65	55	45
2	Main Gate	16°54'51.68"N	96° 3'34.99"E	65.7	55	45
3	Boiler Area	16°54'50.11"N	96° 3'31.06"E	62	55	45
4	In front of the Factory	16°54'51.82"N	96° 3'33.54"E	52	55	45
5	Knitting Machine (Production Area)	16°54'50.80"N	96° 3'31.74"E	66		

Based on above details, following observations are made:

- Monitored noise levels in project areas reveal that the daytime equivalent noise level (Leqday) varied between 52 and 66 dB at Project Compound and production area. 62 dB at Boiler area when operation. 65 dB at 200 m from the knitting where Transportation Company is currently settle as cumulative noise pollution for the engines of motor vehicles.

Figure 42: Noise sampling project area

Working Environment measurement (WEM) as Ventilation, lighting, noise and heat has been checked by Factories and general laws inspection Department on 8.11.2019 and result has been shown in below figure;

Ministry of Labour, Immigration and Population

Factories and General Labour Laws Inspection Department

Working Environment Measurement (WEM)

Date: 8.11.2019

Factory Name : Spring River Knitting (Myanmar)
No.(148+149), Makhayar Minthargyi Street, Shwe Lin Pan Industrial Zone, Hlaing Thar Yar.

Tested Equipment : Sound Level Meter (TES 1350A)
Digital Lux Meter (TES 1330A)
Anemometer (UT 363)
Temperture Humidity Meter (UT 333)

Type of Test : Personal Sampling

No.	Test Area	Ventilation (m/s)	Lighting (Lux)	Noise (dBA)	Heat (·c)	Recommendation
1.	Auto Knitting M/C DN50006	0.1	514	63.1	27	Acceptable Condition
2.	Auto Knitting M/C DN50010	0.1	513	60.5	27	Acceptable Condition
3.	Weaving Line A	0.1	1114	58.0	28	Acceptable Condition
4.	Hand Weaving Line B	0.1	955	55.5	27.6	Acceptable Condition
5.	Weaving Line B, 108	0.2	1017	60.5	26	Acceptable Condition
6.	QC	0.1	1069	57.0	26	Acceptable Condition
7.	Weaving M/C No.31	0.2	313	68.0	26.9	Need to use earing protection
8.	Cutting Line	0.1	423	59.0	27	Acceptable Condition

Witnessed By; Hew Soe Gatt

Tested By; 8/11/2019

Figure 43: Working Environment Measurement (WEM)

Remarks

During YESB shut down time, generator has been run short time 15 min – 45 min with idle speed for continuous working position. During the noise survery period, the full running speed of generator, the noise level indicated 70 dBA, the maximum acceptable level of World Bank Standards (Insustrial, Commercial).

1.8.3 Water Quality

Existing water supply facilities

Drinking water quality for this proposed factory has been shown in Figure 14 from Source of Water and Consumption and Tube well water quality for domestic use has been shown in Figure 14: Result of Drinking water

Domestic Wastewater

This project has been operated with some Chemical Process since Project Started in washing and wastewater treatment plant operation. No dyeing process in this factory and water is only used for spraying on ironing process, and domestic use. Wastewater Treatment plant has been constructed in this factory and wastewater has been treated before disposed. Laboratory testing has been performed and results have been mentioned below;

This guideline applies to textile manufacturing using natural fibers, synthetic fibers (made entirely from chemicals) *2.3.2.1 Textiles Manufacturing 36*, and regenerated fibers (made from natural materials by processing these materials to form a fiber structure). It does not include polymer synthesis and natural raw material production. **Technical Plan for treatment of washing Wastewater** has been mentioned in 5.2.6 Wastewater Treatment System at Spring River Knitting (Myanmar) Factory of this report.

Remarks: water samples are collected by comply with the haphazard collecting method referred to Department of Environmental Science, Central University of Rajasthan, singhpraveenkumar@live.com

Haphazard sampling is a sampling location or sampling time is chosen arbitrarily. This type of sampling is reasonable for a homogeneous system. Since most environmental systems have significant spatial or temporal variability, haphazard sampling often leads to biased results. However, this approach may be used as a preliminary screening technique to identify a possible problem before a full scale sampling is done.

Table 19: Comparison with Effluent Levels for 2.3.2.1 Textiles Manufacturing, and treated waste water quality from out let

Parameter	Unit	Guide Line Value	Result	
5 – days Biochemical oxygen demand	mg/l	30	10	15
Adsorbable organic halogens	mg/l	1		
Ammonia	mg/l	10	-	
Cadmium	mg/l	0.02		
Chemical oxygen demand	mg/l	160	32	< 30
Chromium (hexavalent)	mg/l	0.1		
Chromium (total)	mg/l	0.5		
Cobalt	mg/l	0.5		
Colour	m^{-1}	7(436 nm[a].yellow)v 5 (525 nm.red), 3 620 nm.blue)		
Copper	mg/l	0.5		
Mercury	mg/l	≤ 0.01		0
Nikel	mg/l	0.5		
Oil and grease	mg/l	10		3
Pesticides	mg/l	0.05 – 0.10[b]		
pH	S.U.[c]	6 – 9	7.4	
Phenol	mg/l	0.5		
Sulfide	mg/l	1		
Temperature increase	°C	<3°		
Total coliform bacteria	mg/l	400		
Total nitrogen	mg/l	10		< 0.5
Total phosphorus	mg/l	2	-	
Total suspended solids	mg/l	50	22	
Zinc	mg/l	2		

[a] **Nanometers**

[b] **0.05 mg/l for tatal pesticides (organophosphorus pesticides excluded); 0.10 mg/l for organophosphorus pesticides**

[c] **Standard unit**

[d] **at the edge of a scientifically established mixing zone which takes into account ambient water quality. Receiving water use, potential receptors and assimilative capacity; when the zone is not defined, use 100 meters from the point of discharge**

Table 20: Compared with Wastewater, Storm Water Runoff, Effluent and Sanitary Discharges (General Application) (NEQEG)

Parameter	Unit	Guideline Value	Result Value			
			Inlet WWTP		Outlet of WWTP	
			10.12.2019	8.2.2022	11.12.2019	8.2.2022
5-day Biochemical oxygen demand	mg/l	50	48	210	10	15
Ammonia	mg/l	10				
Arsenic	mg/l	0.1		0.005		0
Cadmium	mg/l	0.1				
Chemical oxygen demand	mg/l	250	128	480	32	< 30
Chlorine (total residual)	mg/l	0.2				
Chromium (hexavalent)	mg/l	0.1				
Chromium (total)	mg/l	0.5				
Copper	mg/l	0.5				
Cyanide (free)/ Cyanide (total)	mg/l	0.1 / 1				
Fluoride	mg/l	20				
Heavy metals (total)	mg/l	10				
Iron	mg/l	3.5				
Lead	mg/l	0.1				
Mercury	mg/l	0.01		0		0
Nickel	mg/l	0.5				
Oil and grease	mg/l	10		5		3
pH	mg/l	6-9	7.7	-	7.4	
Phenols	mg/l	0.5				
Selenium	mg/l	0.1				
Silver	mg/l	0.5				
Sulphide	mg/l	1				
Temperature increase	mg/l	<3b				
Total coliform bacteria	mg/l	400				
Total phosphorus	mg/l	2	-			
Total Nitrogen	Mg/l	-		< 0.5		< 0.5
Total suspended solids	mg/l	50	160		22	
Zinc	mg/l	2				

a Standard unit

b At the edge of a scientifically established mixing zone which takes into account ambient water quality, receiving water use, potential receptors and assimilative capacity; when the zone is not defined, use 100 meters from the point of discharge

Pollution prevention and handbook, 1998 toward cleaner production

World Bank Group in collaboration with United Nations Environment Programme and the United Nations Industrial Development Organization

Figure 44: wastewater collection point

ISO TECH LABORATORY

ISO-TECH LABORATORY

ISO 9001:2015 Cert. No. 666666

Laboratory Technical Consultant: U Saw Christopher Maung
B.Sc Engg: (Civil), Dip S.E(Delft) Lecturer of YIT (Retd), Consultant (Y.C.D.C), LWSE 001
Former Member (UNICEF, Water quality monitoring & Surveillance Myanmar)

WTL-RE-002
Issue Date - 01-12-2012
Effective Date - 01-12-2012
Issue No - 1.0/Page 1 of 1

WW1219 072

WASTEWATER QUALITY TEST RESULTS FORM

Client: Spring River

Nature of Water: Wastewater - Inlet (မစင်ဆေးကြိုး)

Location: Shwe Lin Ban, Hlaing Thar Yar Township.

Date and Time of collection: 10.12.2019

Date and Time of arrival at Laboratory: 10.12.2019

Date and Time of commencing examination: 11.12.2019

Date and Time of completing: 16.12.2019

Results of Wastewater Analysis

Parameters	Results	
pH	7.7	
Biochemical Oxygen Demand (BOD) (mg/l) (5 days at 20 °C)	48	
Chemical Oxygen Demand (COD) (mg/l)	128	
Dissolved Oxygen (DO) (mg/l)	2.2	
Total Solids (mg/l)	440	
Total Suspended Solids (mg/l)	160	
Total Dissolved Solids (mg/l)		
Nitrate ($N.NO_3$) (mg/l)		
Ammonia Nitrogen (NH_3) (mg/l)		
Ammonium Nitrogen (NH_4) (mg/l)		
Phosphate (mg/l)		

Remark: This certificate is issued only for the receipt of the test sample.

Tested by

Signature: Heira

Name: Zaw Hein Oo
B.Sc (Chemistry)
Sr. Chemist
ISO TECH Laboratory

Approved by

Signature:

Name: Soe Thit
B.E (Civil) 1980,
Technical Officer
ISO TECH Laboratory

(a division of WEG Co.,Ltd.)

No.18, Lanthit Road, Nanthargone Quarter, Insein Township, Yangon, Myanmar.
Ph: 01-640955, 09-73225175, 09-30339681, 01-644506, E-mail: isotechlaboratory@gmail.com, Website: weg-myanmar.com

Figure 45: Result of Wastewater treatment plant inlet

ALARM Ecological Laboratory

Water Testing Result Report

Report Number : EL-WR-22-00057 Date : February 8, 2022

Client Information			Sample Information		
Client Name	:	-	Sample ID	:	7625
Organization	:	Spring River Knitting (Myanmar) Co., Ltd	Sample Name	:	Wastewater Treatment Plant Inlet
Client ID	:	-	Sample Type / Source	:	Waste
Registration Date & Time	:	27.1.2022	Sampling Date & Time	:	26.1.2022
Contact	:	09-428347078	Sample Location	:	Shwe Lin Ban Industrial Zone, Hlaing Thar Yar
Testing Purpose	:	-	Latitude	:	-
			Longitude	:	-

Testing Results

This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service.
This report shall not be reproduced except in full, without written approval of the laboratory

Sr.	Quality Parameters	Results	Units	Emission Standards	Remarks
1	BOD_5 [a]	210	mg/L	≤ 50 [d]	Above the limit
2	COD [a]	480	mg/L	≤ 250 [d]	Above the limit
3	Arsenic [a]	0.005	mg/L	≤ 0.1 [d]	Normal
4	Oil & Grease [a]	5	mg/L	≤ 10 [d]	Normal
5	Total Nitrogen [a]	< 0.5	mg/L	-	-
6	Mercury	0	mg/L	≤ 0.01 [d]	Normal

"ND" = Not Detected "LOD" = Lower limit of detection " - " = No Reference Standard

Tested by	Checked by	Approved by
Daw May Myat Khine Lab. Technician II Ecological Laboratory ALARM	Daw Lin Myat Myat Aung Lab. Technician I Ecological Laboratory ALARM	Dr. Aye Aye Win Laboratory In-charge Ecological Laboratory (ALARM)

531 (D), MarlarMyaingYeikThar Street, Kamayut Tsp., Yangon, Myanmar Tel: 01-503301, 01-503302, 09-407496078
Email: aelab@alarmmyanmar.org , websites: www.alarmmyanmar.org

Figure 46: Result of Wastewater treatment plant inlet (26.1.2022)

ISO TECH LABORATORY

Laboratory Technical Consultant: U Saw Christopher Maung
B.Sc Engg. (Civil), Dip S.E(Delft) Lecturer of YIT (Retd) Consultant (Y.C.D.C), LWSE 001
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ISO 9001:2015 Cert. No.

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WW1219 071

WASTEWATER QUALITY TEST RESULTS FORM

Client: Spring River
Nature of Water: Wastewater - Outlet (စဝ်ဆေးပြီး)
Location: Shwe Lin Ban, Hlaing Thar Yar Township.
Date and Time of collection: 10.12.2019
Date and Time of arrival at Laboratory: 10.12.2019
Date and Time of commencing examination: 11.12.2019
Date and Time of completing: 16.12.2019

Results of Wastewater Analysis

Parameters	Results	
pH	7.4	
Biochemical Oxygen Demand (BOD) (mg/l) (5 days at 20 °C)	10	
Chemical Oxygen Demand (COD) (mg/l)	32	
Dissolved Oxygen (DO) (mg/l)	6.8	
Total Solids (mg/l)	237	
Total Suspended Solids (mg/l)	22	
Total Dissolved Solids (mg/l)		
Nitrate (N.NO_3) (mg/l)		
Ammonia Nitrogen (NH_3) (mg/l)		
Ammonium Nitrogen (NH_4) (mg/l)		
Phosphate (mg/l)		

Remark: This certificate is issued only for the receipt of the test sample.

Tested by
Signature: Hein
Name: Zaw Hein Oo, B.Sc (Chemistry), Sr. Chemist, ISO TECH Laboratory

Approved by
Signature: Soe
Name: Soe Thit, B.E (Civil) 1980, Technical Officer, ISO TECH Laboratory

(a division of WEG Co.,Ltd.)
No.18, Lanthit Road, Nanthargone Quarter, Insein Township, Yangon, Myanmar.
Ph: 01-640955, 09-73225175, 09-30339681, 01-644506, E-mail: isotechlaboratory@gmail.com, Website: weg-myanmar.com

Figure 47: Result of Wastewater Quality at out let wastewater treatment plant

ALARM Ecological Laboratory

Water Testing Result Report

Report Number : EL-WR-22-00058 Date : February 8, 2022

Client Information		Sample Information	
Client Name	: -	Sample ID	: 7626
Organization	: Spring River Knitting (Myanmar) Co., Ltd	Sample Name	: Wastewater Treatment Plant Outlet
Client ID	: -	Sample Type / Source	: Treated
Registration Date & Time	: 27.1.2022	Sampling Date & Time	: 26.1.2022
Contact	: 09-428347078	Sample Location	: Shwe Lin Ban Industrial Zone, Hlaing Thar Yar
Testing Purpose	: -	Latitude	: -
		Longitude	: -

Testing Results

This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service.
This report shall not be reproduced except in full, without written approval of the laboratory

Sr.	Quality Parameters	Results	Units	Emission Standards	Remarks
1	BOD_5	15	mg/L	≤ 50	Normal
2	COD	< 30	mg/L	≤ 250	Normal
3	Arsenic	0	mg/L	≤ 0.1	Normal
4	Oil & Grease	3	mg/L	≤ 10	Normal
5	Total Nitrogen	< 0.5	mg/L	-	-
6	Mercury	0	mg/L	≤ 0.01	Normal

"ND" = Not Detected "LOD" = Lower limit of detection " - " = No Reference Standard

Tested by	Checked by	Approved by
Daw May Myat Khine Lab Technician II Ecological Laboratory ALARM	Daw Lin Myat Myat Aung Lab. Technician I Ecological Laboratory ALARM	Dr. Aye Aye Win Laboratory In-Charge Ecological Laboratory (ALARM)

531 (D), MarlarMyaingYeikThar Street, Kamayut Tsp., Yangon, Myanmar Tel: 01-503301, 01-503302, 09-407496078
Email: aelab@alarmmyanmar.org , websites: www.alarmmyanmar.org

Figure 48: Result of Wastewater Quality at out let wastewater treatment plant (26.1.2022)

In order to laboratory test result of wastewater quality, almost all the parameters of wastewater are within the acceptable limit of NEQEG.

1.8.4 Biological Environment

The Project Site is a built-environment and the species of flora and fauna surveyed at the site are native species not uncommon to the Yangon area. There were no protected species or species of conservation value identified.

To comply with compensatory planting required by YCDC, the Developer has paid a fee to YCDC, to cut the trees that won't be used in the new development landscape.

1.8.5 Regional Socio-Economical Environment

Economic Profile

According to the Myanmar Times report, Hlaing Thar Yar industrial zones economic profile was recollect tales of those working in the industrial era.
Dozens of little houses are perched along the edge of the factory areas, some recently settled, while other others have been living for over 10 years.
Meanwhile, if minimum wages is fixed at K4, 800, a worker will earn K144, 000 as basic salary and get K206, 400 if five hours overtime is added.
According to workers, living costs – including room rental and food expenses – amounted to nearly K-80,000 a month and rose to K-120,000 due to the rising cost of basic commodities.
Unfortunately, these are not isolated cases. Many others migrated from rural areas to Yangon's industrial zone, in search of employment. In 2016-17, over 130,000 workers have been employed in several categories of work throughout the complex
According to the workers from Hlaing Tharyar industrial zones, their monthly living cost is between K100, 000 and K-200, 000.

Existing Access

The township is connected to other parts of Yangon across the Yangon river over the Aung Zeya Bridge, the Bayinnaung Bridge, and the Shwe Pyi Thar Bridge so that's why existing access to the proposed site is from more entries and exits to serve other entry and exits to downtown.

Overview

Hlaingthayar is the most developed of the new satellite towns founded in the 1980s. Hlaingthaya Industrial Zone, consisted of mostly garment and other light industries, is one of the largest industrial parks in the country. Showpiece gated communities of the wealthy like the FMI City and Pun Hlaing Garden Residences in the southeastern part of the township are the domain of the country's elite and are arguably among the best communities in the country. After Cyclone Nargis the township experienced a jump in population due to refugees.

Education

The township has 48 primary schools, 9 middle schools and 8 high schools. And Yangon Technological University also maintains a campus in Hlaingthaya.

Culture and Heritage

There's no culture and heritage building around project area.

1.9 Commitment about the Project

- **During the day, consumer waste, construction waste and hazardous waste, will be segregated, before disposing of performing waste treatment**
- **The project will focus on air emissions; Wastewater treatment; Noise and vibration; Relevant standards and regulations for the disposal of waste, we will follow the guidelines of NEQEG.**

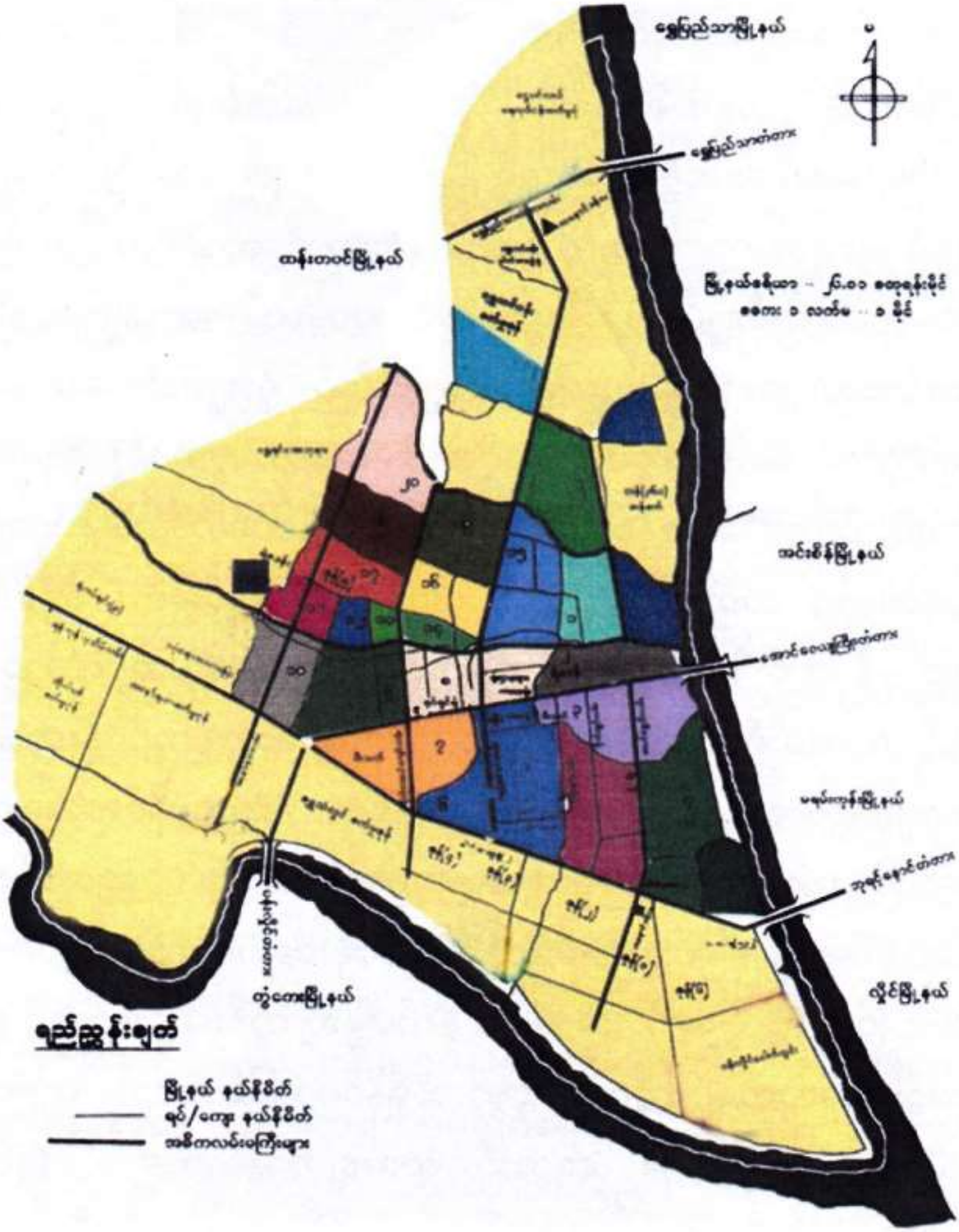

Figure 49: Hlaing Tharyar Township Area of Yangon Region

CHAPTER- 2 HEALTH POLICIES AND COMMITMENTS, LEGAL AND INSTITUTIONAL ARRANGEMENT

2.1 Safety Health & Environment Policy (SHE)

2.1.1 Legal Principle Basis

Factory Act 1951(as amended 2016) section 13-58

Occupational Safety and Health Act, [15.03/2019]

H&M Best Chemical Management Practice Guideline

H&M Zero Discharge of Hazardous Chemicals

2.1.2 Objective

Generally, the aim of SHE policy is to make enterprise operates with high efficiency and guarantee the safety of crews and properties simultaneously; on the other hand, improve the image of enterprise in sustainable development responsibility.

For workers, Management at Spring River Knitting (Myanmar) Co., Ltd believes that safety is the first priority and all accidents are preventable, because of this belief it has adopted a "Zero Accident "philosophy. Spring River Knitting (Myanmar) will make every effort to eliminate all incidents/accidents in daily operation. All Spring River Knitting (Myanmar) employees at the work site will be accountable for the effectiveness of the Factory SHE principles at all times.

2.1.3 Duties of Employer Employee

Employer

a. Set up a crew to execute SHE principles
b. Guarantee the welfare for the workers
c. Assess the risks and hazards
d. Provide proper and sufficient Personal Protective Equipment(PPE) to workers on relevant positions
e. Training workers periodically to give them general knowledge of SHE policy and be familiar with potential occupational hazards and how to prevent them.
f. Review and update the content of policy at least annually in accord with the national law and maintain the mechanism works practically.

Employee

a. Follow the safety instructions of occupation and general
b. Cooperate with safety training activities
c. Report safety risks and accidents timely

2.1.4 Organization Chart & Site Communications

The members of the safety committee are appointed by Spring River Knitting (Myanmar) management according to their positions and related professional training they've received. These members are the main human resources dealing with facility SHE issues and arrange the relevant training activities.

Beside the members of the safety committee, the department supervisors also have the duty to cooperate with SHE routines, they shall ensure that their working areas are free from any risk and hazards before their workers enter into the working place, and SHE principles shall be one of the most important topics issued in regular meetings.

2.1.5 Working Details

Safety Items

a. Fire Safety
- ✓ Fire Safety Certificate renew;
- ✓ Check and record fire safety equipment's(fire extinguishers, fire alarms, emergency lights etc.) at least on a monthly basis, and maintain the evacuation signals, make necessary replacement; Fire safety training for new workers and biannual fire drill;
- ✓ Annual audit for fire emergency plan.

b. Smoking Policy

Spring River Knitting (Myanmar) fully understands the severity of the hazards the smoking brings to the health of non-smoking employees and safety of company property, so it is prohibited anywhere and anytime in the whole facility area. “No Smoking “signals shall be pasted on the obvious places for reference, and employees who offences the rule shall be disciplined.

c. Occupational Safety

- ✓ Maintain the production machines and the protective units periodically and keep the record;
- ✓ Maintain the power supplying machines and electric wires, warning signs shall be pasted on the meter boxes;
- ✓ Occupational safety training for new and old workers and refresh occasionally;
- ✓ Provide PPE to workers on specific positions that might be threatened by hazards from noise, dust, chemicals, metal tools and lifting, and usage training shall be offered.

d. First Aid/Injury Management

- ✓ Keep the ratio of professionally trained first aid to be around 1:100;
- ✓ Check and maintain the medical room and medical boxes at least on a monthly basis and supplement the first aid tools;
- ✓ Arrange internal first aid training for workers to give them basic knowledge of first aid.

e. Trauma Counseling

Spring River Knitting (Myanmar) management has identified the need and benefit in offering any injured person professional counselling to assist in the injury recovery process. A designated third party (i.e. rehabilitation provider) may provide this service.

Health Items

a. Worker’s Welfare

The employer has duty to offer a comfortable working environment for employees, these include:

- ✓ Abundant toilets and drinking water taps, and these places should be kept clean;
- ✓ Proper lighting and ventilation, the workplace temperature must be kept in a suitable arrange and bight enough to protect the workers’ eyes;
- ✓ Canteen with sufficient tables and sits;
- ✓ Positions with repetitive working gestures and long time standing must have prevention actions;
- ✓ Workers on positions that need to get in touch with chemicals, dust and food shall be offered annual medical examination.

b. Cleanliness &Housekeeping

In order to provide a high standard of working environment for all employees and give a good impression to our clients, it is the responsibility of every employee to ensure Spring River Knitting (Myanmar) facility is maintained in first rate condition. Furthermore facilities provide and allocate suitable rubbish and scrap areas and supplies sufficient waste disposal containers and ensure they are properly used and maintained. Daily visual walk-round inspections conducted by area cleaning supervisors, and the cleaners are monitored by HR department for their working performance.

Environment Items

a. Waste Management

- ✓ Create and maintain a Waste List for all wastes from different streams, in the list, clarify their hazards, data accumulated, and proper disposal method;
- ✓ Develop procedures to segregate hazardous and non-hazardous waste and arrange training for relevant departments;
- ✓ Find ways to set targets to reduce the quantity of waste at least on an annual basis.

b. Emission to Air & GHG Control

- ✓ Createand maintain an Emission to Air Inventory List which clarifies the names of emission, sources, legal limits etc.;
- ✓ Arrange annual test for emission to air to monitor it regularly;

- ✓ Monitor the usage of energy consumption; (Fuel and Coke)
- ✓ Find ways to set targets to improve the efficiency of energy use and decrease the emission to air on an annually basis.

c. Effluent/Wastewater **(No processing in this factory)**

- ✓ Effluent Treatment Plant(ETP) supervisor monitors the quality and quantity of wastewater before it's being discharged on a daily basis;
- ✓ Arrange the waste water test on a biannual basis;
- ✓ Find ways to set targets to improve the quality of effluent on an annually basis.

d. Water Use

- ✓ Record the water consumption everyday especially for production use;
- ✓ Maintain the water transportation system to prevent leakage;
- ✓ Organize training for employees to strengthen the water-saving awareness
- ✓ Find ways to set targets to improve the efficiency of water use on an annually basis.

2.2 Environmental Policy of Myanmar

The government of the Union of Myanmar has already created short and long term environmental policy which balances environmental needs and development requirement. There are also environmental policies for using natural resources; there are laws, rules and regulations to control pollutions and other undesirable consequences that resulted from development activities. National environment policy, in short, is sustainable development. As the country is still a developing country infrastructure and services development have to be accelerated while the environment should be conserved as far as possible.

In his policy speech on environment delivered in March, 2011 President had stressed the conservation of forests and Wildlife, the reduction of air, water and land pollutions and the controlled dumping of wastes, both industrial and domestic. He had also emphasized the need for economic development in harmony with environmental conservation.

In one of his speeches delivered in 2012 the vice president, state that it is wrong to develop first and conserve later, but that development and conservation tasks should be carried out simultaneously for meaningful sustainable development.

Environmental policies that are right-based, people centered and pro-poured should also be enacted. Only this can ensure the right of the local people to the sustainable uses and management of their resources.The principle of sustainable and equitable development to economic development should be applied. Also ensure that policies and practices are ecologically sound, socially equitable, economically viable and culturally appropriate.

2.3 Legal Requirements

2.3.1 Myanmar Environmental Laws, Regulations & Standards

Historical Background

National Commission on Environmental Affairs (NCEA) was formed in 1990 with the purposes of setting environmental standards and creating environmental policies for utilizing natural resources and controlling environmental pollutions. It was organized as a division under the Ministry of Foreign Affairs in April 1992.

NCEA has adopted a National Environmental Policy (NEP) in 1994 to ensure the incorporation of environmental concerns in planning for economic development. The NEP emphasizes "the responsibility of the State and every citizen to preserve its natural resources in the interest of present and future generations". In 2005, NCEA was transferred under the Ministry of Forestry.

The Ministry of Forestry was upgraded in September 2011 as the Ministry of Environmental Conservation and Forestry (MOECAF), the focal and coordinating agency for the overall environmental management in Myanmar. The organization is presented in the following Figure;

The Environmental Conservation Department, one of the six departments under the MONREC (Former MOECAF), is responsible for implementing National Environmental Policy and to manage natural resources conservation and pollution control on water, air and land. The main ECD responsibilities include:

- Development of legislation related to environmental regulations, guidelines and procedures;
- Coordination of environmental conservation activities;
- Development of plans on climate change mitigation and adaptation, on desertification control and ozone layer protection;
- Preparation of national report in relation with international agreements.

ECD has presently occupied at the Head Office in Nay Pyi Taw and in 14 states of the Union. One office is located in Mandalay.

The National Environmental Conservation Committee (NECC) was then established in April 2011 by ECD which selected representatives from most Ministries to participate to this committee. There is at present one NECC but the Government has the objective, since 2013, to establish one such committee per Province of the Union. Different ministries involved in dealing with environmental issues also have their own policies, capacities, processes, legislations, and budgets for the environmental issues they have to address. Capacity and institution building in the short and medium term is being carried out by each ministry separately on their own budgets.

2.3.2 Myanmar's National Waste Management Strategy and Action Plan

https://optoce.no/wp-content/uploads/2019/04/Myanmar-National-Waste-Management-Strategy_Mar-2018.pdf

The Myanmar National Waste Management Strategy and Core Action Plan (2018-2030) was approved by the President's Office Notification No. 21/2020 on 27-1-2020.

Scope and Period Covered by the Strategy

The National Waste Management Strategy and Action Plan for Myanmar aims to make transformation from conventional waste management towards achieving a goal of a zero waste, resource-efficient and sustainable society by 2030. This recognises that waste to be regarded as resources. Thus, waste management needs to be environmentally effective, economically affordable and socially acceptable. To this end, it sets strategic plan with short-term targets (2017-2020), mid-term targets (20212025) and long-term targets (2025-2030) to be achieved. It also includes a comprehensive list of strategies and actions that are based on the findings of a quick study and feedback from a range of city-level stakeholders. The National Waste Management Strategy and Action Plan thus reflects the stated goals and directives of public authorities with a view towards efficient and effective implementation of waste management.

Therefore, the National Waste Management Strategy and Action Plan makes efforts to link with other existing and proposed national environmental policies, laws/regulations, development plans and strategies . The National Comprehensive Development Plan (NCDP) 2015 of Myanmar identifies the importance of managing the environment and natural resources in a sustainable manner, promoting sustainable and transparent investments in ways that sustain the resource base and benefit the local and national population as a whole; reducing environmental health risks from air and water pollution with improved access to those services, and reducing vulnerability to climate change related disasters and impacts.

Further, the proposed National Environmental Policy aims to provide long-term guidance for government, civil society, the private sector and development partners in Myanmar regarding environmentally sustainable development objectives, including but not limited to the introduction of detailed strategic frameworks and action plans targeting the environment sector, such as green economic development, climate change and waste management strategies, and other relevant plans and policies. Similarly, both National Climate Change Policy and Strategy and National Green Economy Policy and Strategic Framework (currently being drafted) are also aimed at achieving green growth, climate resilient, inclusive and sustainable development in Myanmar.

2.3.3 List of Restricted Chemical

It has been issued the list of restricted chemical by central leading board on prevention of hazards from chemical and related substances with Notification No: 2/2016 on 30th June, 2016

As the Restricted Chemicals under section 5, sub-section (h) of Prevention of Hazard from Chemical and Related Substances Law, The 26 numbers of Controlled Precursor Chemical which were issued by Ministry of Health with the notification number (1/2012), the one number of chemical which was banned by Vienna Convention and Montreal Protocol and two other chemicals, totally, the 29 numbers of chemical are specified and they are as follows;

(a). Controlled Precursor Chemicals

1. Acetic Anhydride
2. N- Acetylanthranilic Acid
3. Ephedrine
4. Ergometrine
5. Ergotamine
6. Isosafrole
7. Lysergic Acid
8. 3-4 Methylenedioxyphenyl-2-propanone
9. Norephedrine
10. 1-Phenyl-2-Propanone
11. Piperonal
12. Potassium Permanganate
13. Pseudoephedrine
14. Safrole
15. Acetone
16. Anthranilic Acid
17. Ethyl Ether (or) Diethyl Ether
18. Hydrochloric Acid
19. Methyl Ethyl Ketone
20. Phenylacetic Acid
21. (Piperidine
22. Sulphuric Acid
23. Toluene
24. Safrole rich oil
25. Caffeine
26. Thionyl Chloride

(b). Banned Chemical by Vienna Convention and Montreal Protocol

27. Hydro-chloro-fluro-carbon(HCFC)

(c). Other Chemicals

28. Mercury
29. Sodium Cyanide

2.3.4 Myanmar Laws relating to the Environment and Legal Committment

There are many environment related laws, acts, legislations and regulations. All of them deal with the general protection of the environment in one way or another.

The project proponent (Spring River Knitting (Myanmar) Company Limited) pledges to abide and required to comply with all existing laws in Myanmar, and the following rules will be followed additional rules along with the sub-sections include in the main law.

Adminstrative Sector

1. The Yangon Police Act, 1899 - Government Department is Ministry of Home Affairs
2. The Towns Act, 1907
3. The Village Act, 1907
4. The Police Act, 1945
5. The Emergency Provision Act, 1950

Agriculture and Irrigation Sector

6. The Embankment Act, 1909 - Ministry of Agriculture, livestock and Irrigation

Culture Sector

The following law, section, article, paragraph are understood and will be complied by our factory;

7. The Protection and Preservation of Cultural Heritage Region Law, 1998 - Ministry of Religious Affairs and Culture ✓

   13 The Region or State Conservation Committees and Regional Conservation Committees shall carry out conservation activities in the cultural heritage area in accordance with the stipulations.

   15 (E) taking necessary measures to prevent the relinquishing of archaeological objects from within the cultural heritage and to recover the relics of the exiles; To preserve and preserve the original objects of exile abroad;

8. Historical Building Protection Act 2015 (Section 12) ✓

   12. If a person who finds an ancient monument of over one hundred years old and above or under the ground or above or under the water which has no owner or custodian knows or it seems reasonable to assume that the said monument is an ancient monument, he shall promptly inform the relevant Ward or Village-Tract Administrative Office.

City Development Sector

The following law, section, article, paragraph are understood under this sector and will be complied by our factory;

9. Yangon City Development Law [28.06/2018] [09.10.2018] - Yangon City Development Committee ✓

   2. The objectives of this law are as follows:

      (A) To develop the city in a sustainable manner with the development of the city, under the leadership of the Development Affairs Committee;

      (B) To obtain full tax on development tax and the existing laws and regulations for development projects within the city boundaries. Rules and regulations To use it in accordance with the rules;

      (C) Clean and tidy like international capitals. Pleasant To encourage the city's residents to contribute to the development of a beautiful and vibrant city.

      (D) Responsibility for development activities; Accountability To develop a transparent, people-centered management system;

      (E) To formulate responsible agencies and departments in order to be more effective in development activities.

10. The Underground Water Act, 1930 - National Resources, Environmental conservation Dept

    Prohibitions on accessing and usingunderground water without license

11. Fire Brigade Act, Myanmar 2015 (Article 25) ✓

    25. The owner or manager of the factory, workshop, bus terminal, airport, port, hotel, motel, lodgings, condominium, market, department, organization or business exposed to fire hazard shall, in accord with the directive of the Department of Fire Services:

    (a) not fail to form the Reserve Fire Brigade; (b) not fail to provide fire safety equipment.

Finance and Revenue Sector

The following law, section, article, paragraph are understood under this sector and will be complied by our factory;

12. The Myanmar Insurance Law, 1993 - Ministry of Finance and Revenue ✓

    15. Owners of motor vehicles shall affect compulsory Third Party Liability Insurance with the Myanma Insurance.

    16. An entrepreneur or an organization operating an enterprise which may cause loss to State-owned property or which may cause damage to the life and property of the public or which may cause pollution to the environment shall effect compulsory General Liability Insurance with the Myanma Insurance.

Health Sector

The following law, section, article, paragraph are understood and will be complied by our factory;

13. The Prevention and Control of Communicable Diseases Law, 1995 - 27.1.2011 - Ministry of Health

    3(a) In order to prevent the spread of communicable disease, the Department of Health shall carry out the following activities in accordance with the guidelines of the Ministry of Health:

      (1) Vaccination and vaccination of children; for adults as needed; conducting infectious health education services; Monitoring and prevention of infectious diseases; cross border crossings and exits of the country; International Airport; Water port Other needed airports; Conducting medical examinations for the prevention of communicable disease at ports and bus stops; housing; Hotel Restrictions or restrictions in motels and guesthouses; separately treated persons suspected of having an infection or infection; Spraying anti-infective drugs as needed; Vaccination; Vaccination and environmental cleanup activities; Building healthful housing in the work place to prevent the

spread of infectious workers to the public and the people doing social and economic development. Access to safe drinking water and water; Regarding proper disposal of waste, relevant government departments; Advising and coordinating with government and non-governmental organizations; Performing other activities as may be prescribed by the Ministry of Health from time to time;

4. The public shall comply with the measures undertaken by the Ministry of Health and the Department of Health under section 3 in respect of prevention of the occurrence and spread of communicable disease and control thereof.

14. The Union of Myanmar Public Health Law, 1972

Public Health Law (1972) it is concerned with protection of people's health by controlling the quality and cleanliness of food, drugs, environmental sanitation, epidemic diseases and regulation of private clinics.

The aims of this Law are as follows:

a. to develop private health care services in accordance with the national health policy;
b. to participate and carry out systematically by private health care services in the national health care system as an integral part;
c. to enable utilizing effectively the resources of private sector in providing health care to the public;
d. to enable the public to choose as desired in fulfilling their needs for health by establishing private health care services;
e. to enable provision of quality service at fair cost and to take responsibility.

15. The Control of Smoking and Consumption of Tobacco Product Law, 2006 ✓

9. The person-in-charge shall:

(a) keep the caption and mark referring that it is a non-smoking area at the place mentioned in section 6 in accordance with the stipulations;
(b) arrange the specific place where smoking is allowed as mentioned in section 7 and keep the caption and mark also referring that it is a specific place where smoking is allowed, in accordance with the stipulations;
(c) supervise and carry out measures so that no one shall smoke at the non-smoking area;
(d) accept the inspection when the supervisory body comes to the place for which he is responsible.

16. Protection of chemicals and equipment to prevent the risk of legal 2013, (Article 15, 16, 17, 22, 27) Ministry of Industry ✓

15 (a) to inspected for the safety and the power of resistance of the machinery and equipments by the respective Supervisory Board and Board of Inspection; (b) to attended the person who serve in the work to the respective foreign trainings or the trainings and the expert trainings on prevention of hazard from the chemical and related substances opened by the government department and the Government organizations.

16. A person who has obtained a licence:- to (a) abide the licence regulations; (b) perform to abide strictly the instructions for being safety in using the chemical and related substances by himself and also the persons who serve the work; (c) to keep the required safety equipments enough in the chemical and related substances businesses, furthermore shall grant the personal protection equipments and dresses free of charge to the working persons; (d) to make the course of training and study and instruction if necessary to the working persons for using the occupational safety equipment, the personal protection equipment and the dresses systematically in the chemical and related substances business;

11 (e) to inspected by the respective Supervisory Board and Boards of Inspection in respect of whether or not the hazard may impact on the Human Being and Animals' health and the environment; (f) to make medical check up the working persons who will work in the chemical and related substances business and shall permit to serve in that work after obtaining the recommendation that his health is suitable for that work. This medical check up records shall be kept systematically;(g) to send the copy of informative letter of the permission to the respective Department of Township Administration, if the hazardous chemical or related substances are permitted to store; (h) toacquire in advance the guidance and agreement of the respective Department of Fire Brigade, if the business that is worried to fire hazard is operated by using the fire hazard substances or the explosive substances; (i) to transport only the permitted amount of the chemical and related substances in accordance with the prescriptive stipulations, if they are transported in local;(j) to take the permission from the Central Supervisory Board if the chemical and related substance is altered and transferred from one place to any other place which contained in the license; (k) to abide and perform in accordance with the related environmental laws not to impact and damage to the environment in operating the chemical and related substances business.

17. A person who has obtained a licence shall put the insurance in accordance with the prescriptive stipulations to be able to pay the compensation, if the impact and damage is occurred on the Human Being and Animals or the environment in respect of the chemical and related substances businesses.

22. A person who has obtained the registration certificate shall abide the regulations consisted in the registration certificate furthermore shall also abide the order and instructions issued occasionally by the

Central Supervisory Board.

27. A person who has obtained the licence to be complied the following matters to control and decrease the hazard of the chemical and related substances:- (a) classifying the hazard level to protect in advance the hazard according to the properties of the chemical and related substances; (b) expressing the Material Safety Data Sheet and Pictogram; (c) providing the safety equipments, the personal protection equipments to protect and decrease the accident and attending to the training to be used systematically; (d) performing in accordance with the stipulations in respect of transporting, possessing, storing, using, discharging the chemical and related substances; (e) not being imported or exported the chemical and related substances banned by the Central Supervisory Board and the machinery and equipments which are used them

17. Occupational Safety and Health Law (Article 26, 28, 30)

The following law, section, article, paragraph are understood under this sector and will be complied by our factory;

(A) Occupational safety in various business sectors; To effectively implement health issues;

(B) Occupational injury; Define the responsibilities of stakeholders in this law, including employers and workers, to reduce workplace illness.

(C) Occupational hazards; Employers on Occupational Diseases Workers and stakeholders under this law to take precautionary measures;

(D) Occupational injuries; Improving workers' safety and productivity by preventing workplace diseases;

(E) To create occupational safety and health standards in accordance with international and regional standards that are appropriate to the situation in your country and to create a safe and healthy workplace.

(F) To support research activities for the development of occupational safety and health services.

26. Employer:

(A) Workplace Procedures and risk assessments of the equipment and equipment used in them shall be made as necessary.

(B) Work environment needs to be measured and evaluated as necessary.

(C) Arrange for the workers to be examined by a certified physician in accordance with the requirements for occupational diseases.

(D) Sub-section (a); Based on the findings of (b) and (c), arrangements shall be made to ensure that the workplace is safe and healthy.

(E) Appropriate personal protective clothing prescribed by the Department for the workers; Provide adequate supplies and equipment free of charge.

(F) Preventive measures and measures to be taken in case of emergency.

(G) Having clinics in the business not less than the number of workers specified by the Ministry; Appointing registered doctors and nurses; Provide necessary medicine and supplies.

(H) Managers of the relevant type of business or department, including himself; Workers Members of the Occupational Safety and Health Committee shall attend safety and health training prescribed by the Ministry.

(I) Arrangements should be made as soon as possible to report any incident to the Occupational Safety and Health Officer or Manager if an employee encounters an occupational injury or danger to life and health.

(J) Materials used in the workplace or process; Care must be taken to ensure the safety and health of those in the workplace due to equipment or waste.

(K) Terminate the process immediately in the event of an imminent situation of workplace injury; Relocate workers and make necessary life-saving and rescue arrangements. Where possible, workers may be relocated to other suitable safe workplaces.

(L) Occupational safety and health directives; Danger warning signs; Milk Posters and directional signs must be kept in accordance with the regulations.

(M) Arrangements shall be made to comply with the advance warnings when entering and exiting the restricted work area which may cause danger.

(N) Knowledge; Technology, Disseminate or disseminate the Occupational Safety and Health Handbook and Guidelines issued by the relevant Ministries for the acquisition of skills to workers as well as those related to the workplace.

(O) Rehearsing a fire safety plan; Training on proper use of firefighting equipment.

(P) The Chief Inspector and the inspection officers entered the work site; Inquiry Documents Requesting evidence or confiscation of evidence must be permitted.

(Q) If he is employed in hazardous work and work place, he shall be required to work only within the specified working hours.

(R) Be responsible for occupational safety and health costs.

28. A worker who has been injured in the workplace or has a work-related illness If it is not covered by the Social Security Act, the employer must pay the cost of the examination to determine the extent of the

employee's disability and class of disability.

30. The worker:

(A) Personal protective clothing issued by the employer in accordance with the stipulations of the Department for occupational safety and health; Wear equipment and tools properly.

(B) the employer for occupational safety and health in accordance with this Law and the rules issued under this Law; Occupational Safety and Health Committee; Follow the instructions and recommendations as directed by the Occupational Safety and Health Officer.

(C) Occupational safety and health directives; Terms and Conditions Symbols Posters; Follow the instructions and warnings.

(D) Equipment used in the workplace; စက်၊ Machine parts; Vehicles Electrical and other equipment must be used properly.

(E) Care must be taken not to endanger the safety and health of oneself and others due to its conduct or failure to do so in the workplace.

(F) Employer; Occupational safety and health officials shall cooperate in the performance of their duties under this Act.

(G) Conditions which may endanger occupational safety and health; Subject If you find something happening, you can do it yourself. Through a close supervisor or employer. Report immediately to the Occupational Safety and Health Officer or manager immediately

(H) may refuse to continue working in the event of a disaster, but shall not refuse to be transferred to a safe workplace provided by the employer.

(I) Representatives may be selected to coordinate with other workers or trade unions in a timely manner for the safety and health of workers in various fields.

Hotels and Torism, and Industrial Sector

The following law, section, article, paragraph are understood under this sector and will be complied by our factory;

18. The Myanmar Hotels and Tourism Law, 1993 - Ministry of Hotels and Tourism

    To prevent damage to cultural heritage areas or sites of natural beauty, caused by the hotel and tourism industry
19. The Oilfields Act, 1918 - Ministry of Electric Power and Energy
20. The Petroleum Act, 1934 - Ministry of Electric Power and Energy
21. The Factories Act, 1951 Ministry of Industry [20.11.1951] [20.01/2016] [[1951] TAct 65.]] <Amended 09.10.1953, 21.10.1954, 22.05.1962, 20.01.2016>

    Chapter 3. Health. Cleanliness provision history, Article 13 : (1) every workshop; Each workshop should be kept neat and clean. They must also be free from the smell of sewage or sewage sludge or other odors

    Disposal of waste and leachate.

    Article 14 : (1) In every workshop Disposal of waste materials; Leaks and vapors; Particulars; To eliminate odors, be environmentally friendly.

    Getting ventilation and balancing heat.

    Article 15 : (1) ensure adequate ventilation in all work areas; Employees must make adequate plans to balance the sun's heat and health.

    <u>Particles and fumes</u>

    16 : (1) The people who are asked to work at the workshop in relation to the working procedures at the workshop; Hazardous particles; Or if any other impurities appear, Particle Or if there is a large amount of smoke. These fumes are very important. Avoid breathing in and inhaling steam in the room; Must provide the best possible management. In addition, we can remove the impurities, vapor, etc. If you need to make an exit, These fumes will be arranged so that they can be located near as close to the site as possible. Also, the site must be blocked as much as possible.

    (2) If the fireplace is not removed outside the workshop, Do not drive the engine without moving. Also, if the workers in the room are not prepared to prevent the accumulation of harmful fumes, No other engine will be installed. No room shall be cut in it.
22. Oil and Petroleum Law [01.08/2017] [01.08/2017] ✓

    9 (A) Vehicle carrying any kind of oil and petroleum products; issuing licenses to vessels and vessels;

    (E) stipulate the rules and regulations which are to be followed in the operation of the conveyance except the pipeline.

10 (A) Issuing a license for storage and storage;
(B) motor vehicles carrying any kind of oil and petroleum products; Boats & Couplings Issuance of a permit for carrying;
(C) Application period for the license under sub-section (a) and the permit under sub-section (b); Terms and conditions; How to Apply Setting forth the authorized authority and the fees charged;
(D) to conduct field inspections in the event of environmental degradation in the oil and gas industry;

23. (Boiler Law)
22. The owner:
(a) has the right to use a boiler in accord with the prescribed manner if he or she obtains certificate or provisional order;
(b) may, if desirous to alter the term of the certificate or provisional order, apply in advance for inspection before the expiry of the term of such certificate or provisional order

24. Electricity Law (2014) Ministry of Electrical Power and Energy ✓
21. (a) The license holder shall, if he fails to comply with the law, rules, regulations, Procedures, orders and directions or the specified quality, standards and Norms, be responsible in accordance with the law if any person or Organization is affected or suffers a loss as a result.
22. (a) The license holder shall be responsible in accordance with the law if any Person or organization is affected or suffers a loss due to his negligence in Performance;
23. (a) The license holder shall not be responsible in accordance with the law if any Person or any enterprise is affected or suffers a loss due to any force majeure
Event due to natural disaster including damages and losses to electricity

25. The Private Industrial Enterprise Law, 1990 - Ministry of Industry ✓
4(b) Any person conducting any private industrial enterprise on the day this Law is enacted;
13 (f) shall shift the place of enterprise, change the nature of enterprise, amalgamate enterprises and split up enterprises only with the approval of the Directorate;
(g) shall abide by the orders and directives issued from time to time by the Ministry and the Directorate;
15 (a) appointing foreign exports and technicians with the approval of the Ministry;
(b) carrying out change of the name of enterprise, transfer of ownership, temporary suspension or permanent closing down of the enterprise in the manner prescribed and with the approval of the Directorate.

26. The Small and Medium Enterprise Development Law, 2015 Ministry of Industry
To provide favorable and sound business environment to the newly established in their operations

27. The Standardization Law 3.7.2014 - Ministry of Science and Technology ✓
17. A person desirous of obtaining quality recommendation shall apply to the department and organization which have obtained the accreditation certificate from the Department.
19. The Committee may, if it is found out that the person who has obtained the quality recommendation violates any term or condition contained in the relevant recommendation, take any of the following actions:
(a) Warning;, (b) suspending the quality recommendation for a limited period; , (c) cancelling the quality recommendation.
26. If any person who has obtained the quality recommendation uses the standardization mark on the product or relating to service which does not meet the relevant standard shall be punished with imprisonment for a term not exceeding one year or with fine not exceeding Kyat one million or with both.

National Planning and Economic Development

The following law, section, article, paragraph are understood under this sector and will be complied by our factory;

28. Myanmar Special Economic Zone Law, 2014 - Ministry of National Planning and Finance
Instruction investor compliance with existing laws related to the conservation and protection of the natural environment and environmental conservation law

29. Myanmar Foreign Investment Law, 2012
To restrict or prohibit investment activities which affect public health, the environment and ecosystems, which produce toxic waste or which engage with toxic chemicals, duties of investors to conduct business in such a way as to avoid environmental damage, air and water pollution, in accordance with existing laws

30. Myanmar Citizen Investment Law, 2013
Broad provision supporting environmental conservation and protection and adherence to existing laws related to environmental matters, restrictions on business which cause damage to the natural environmental ecosystems

31. Myanmar Investment Law, 2016 ✓

50 (D) to register the land lease agreement in accordance with the Contract Registration Act in accordance with the Contract Registration Act.

60 Foreign professional employees who work legally with the permit may not deduct any tax paid according to the amount of money transferred according to the taxable duties under the Income Tax Act under the Income Tax Act. can transfer.

61 The foreign investors that the transfer of the financing described in Section 56 Foreign Exchange Management Law list of capital or common list valid funds through state banks to foreign banks operate in the Foreign Exchange Management Act away Free use of the money can be transferred.

65 (F) No significant change in the appearance or elevation of the nature of the land on which it is rented or used shall be permitted without the Commission's approval.

73. The investor must insure the types of insurance prescribed by law in any insurance business that is authorized to do business in the State.

32. Myanmar Investment Rules [30.03/2017] [20.09/2018] ✓

202 The investor shall comply with all of the terms and conditions contained in the permit and other applicable laws when conducting the investment business.

203 The investor is responsible for those affected by the investment projects. Must be fully involved in coordinating the process with government agencies.

204 Or in any of these Rules Or in future amendments to the law. Except as expressly provided in the Notices or Notices, the obligations of the Investor shall be the sole responsibility of the State, and shall not impose any further obligations upon the investor without contravening any other law of the State.

206 The investor shall, in accord with the provisions of Section 51 (a), provide the foreign expert with the foreign expert; Technology If you wish to be appointed as a business expert or consultant, the foreign expert's passport, Approval must be submitted to the Commission Office with professional credentials or a diploma and personal profile.

212 An investor who has a permit or tax exemption or relief may have to insure a relevant type of insurance, depending on the nature of the business:

33. Investment from the Notification No. 11/2013 Myanmar Investment commission

(a) Name of investor or promoter, citizenship, address, business location, actual operating business in accord with the relevant law, location of head office of effective management, location of incorporated business organization, type of business

34. Myanmar Commercial Tax Law (1990) - Ministry of National Planning and Finance ✓

4.(a) The tax shall be charged on the goods produced in the country as mentioned in the Schedule.

(b) The tax shall be charged on the services carried out in the country as mentioned in the Schedule.

35. Income tax law [23.02.1974] [01.04/2016] ✓

11 : (A) Anyone shall pay business tax with respect to the income he receives from the business.

Science and Technology Sector

The following law, section, article, paragraph are understood in this sector and will be complied by our factory;

36. The Science and Technology Development Law, 1994 - Ministry of Industry

For Myanmar Science and technology research department to carry out research development in the area of environmental conservation

37. Myanmar Engineering Council Law [28.11-2013] [25.03-2019] ✓

34 Any person who receives a registration certificate is subject to any provision of this law or Rules and Regulations issued under this Law; Rules and regulations; Notifications Order Any prohibition, directive or procedure; If found to violate any of the conditions of the registration certificate, the Executive Board may impose one of the following administrative orders:

Warning:

(B) providing appropriate fines;, (C) Withdrawal of the registration certificate for a limited period; (D) canceling the registration certificate;

38. The Electricity Law 27.10.2014 - The relevant Union Ministry assigned by the Union Government ✓

Objective is (g) to have the right to use the electric power which has the standardized voltage, current, and frequency by the users of electric power and to protect from causing damages to the electrical equipment of users due to the electric power which is not consistent with standardization;

Transportation Sector

The following law, section, article, paragraph will be complied by our factory;

39. The Canal Act, 1905 - Ministry of Agriculture, livestock and Irrigation

Against the destruction of, damage to, or pollution of the flow of water in any cannel or drainage work

40. The Defile Traffic Act, 1907 - To keep port, rivers, and banks clean including

41. The Ports Act, 1908 - Myanmar Port Authority

measures against fuel and oil leakage from vessels and willful disposal of waste into water, measures to prevent danger to public health from the spread of infection or contagious disease from vessel arriving at or stationed in ports

42. The Motor Vehicles Law, 1964 and amended in 1989 - Ministry of transport and communication ✓
    To control vehicle engine emissions and the leakage of fuel or oil
43. The Highways Law, 2000 - Ministry of transport and communication
    To prohibit planting, cutting or destroying trees within highway boundaries without permission and to prevent damage to highway
44. Conservation of Water Resources and River Law, 2006 - Ministry of Agriculture, livestock and Irrigation ✓

Environmental Conservation Sector

The following law, section, article, paragraph are understood under this sector and will be complied by our factory;

45. Environmental Conservation Law - (ECL) 2012 - Ministry of National Resources and Environmental Conservation ✓
    7(o) managing to cause the polluter to compensate for environmental impact, cause to contribute fund by the organizations which obtain benefit from the natural environmental service system, cause to contribute a part of the benefit from the businesses which explore, trade and use the natural resources in environmental conservation works;
    14. any source of pollution which cause pollution in the environment in accord with stipulated environmental quality standards.
    15. use an on-site facility or controlling equipment in order to monitor, control, manage, reduce or eliminate environmental pollution. If it is impracticable, it shall be arranged to dispose the wastes in accord with environmentally sound methods.
    24. The Ministry may conduct inspection whether or not it is performed in conformity with such terms and conditions or inform the relevant Government departments, Government organizations to carry out inspections.
    29. No one shall violate any prohibition contained in the rules, notifications, orders, directives and procedures issued under this Law.
46. Environmental Conservation Rule 2014 ✓
    69 (A) items that pollute the environment; hazardous waste or hazardous materials prescribed to the public, directly or indirectly. Release in some way that may be directly or indirectly harmful; Release; Abandonment It is a waste of time.
    (B) not to carry out any activities which may cause damage to the ecosystem except to the public interest, subject to the public interest

    Also the following law, section, article, paragraph will be complied by our factory;
47. National guidelines for environmental quality (emission) (2015) ✓
48. The Environmental Impact Assessment Procedure (2015) Article 102,110,113,115, 119 ✓
49. Environmental Conservation and Cleaning Rules & Regulations, Yangon City Development Committee

Labour Sector

The following law, section, article, paragraph are understood under this section and will be complied by our factory;

50. Social Security Law, 2012 Ministry of Labor, - immigration and population ✓
    11. (a) The following establishments shall be applied with the provisions for compulsory registration for social security system and benefits contained in this Law if they employ minimum number of workers and above determined by the Ministry of Labour in co-ordination with the Social Security Board:
    (i) industries which carry out business whether or not they utilize mechanical power or a certain kind of power, businesses of manufacturing, repairing and servicing, or engineering businesses, factories, warehouses and establishments; (ii) Government departments, Government organizations and regional administrative organizations which carry out business; (iii) development organizations; (iv) financial organizations; (v) companies, associations, organizations, and their subordinate departments and branch offices which carry out business; (vi) shops, commercial establishments, public entertaining establishments; (vii) Government departments and Government organizations which carry out business or transport businesses owned by regional administrative body, and transport businesses carried out with the permission of such department, body or in joint venture with such department or body; (viii) constructions carried out for a period of one year and above under employment agreement; (ix) businesses carried out with foreign investment or citizen investment or joint ventured businesses; (x) businesses relating to mining and gem contained in any existing law; (xi) businesses relating to petroleum and natural gas contained in any existing law; (xii) ports and out-ports contained in any existing law; (xiii) businesses and organizations carried out with freight handling workers; (xiv) Ministry

of Labour and its subordinate departments and organizations; (xv) establishments determined by the Ministry of Labour, from time to time, that they shall be applied with the provisions of compulsory registration for Social Security System and benefits contained in this Law in co-ordination with the Social Security Board and with the approval of the Union Government.

15. (a) The following funds are included in the Social Security Fund:

(i) health and social care fund; (ii) family assistance fund; (iii) invalidity benefit, superannuation benefit, and survivors' benefit fund; (iv) unemployment benefit fund; (v) other social security fund for social security system of compulsory registration and contribution stipulated by the Ministry of Labour, in co-ordination with the Social Security Board, under clause (ii) of sub-section (e) of section 13; (vi) other social security fund stipulated that contribution may be paid after voluntary registration under clause (ii) of sub-section (e) of section 13; (vii) Social Security Housing Plan fund.

18 (b) The employer shall deduct contributions to be paid by worker from his wages together with contribution to be paid by him and pay to the social security fund. The employer shall also incur the expense for such contribution.

48.(a) The employer shall effect insurance by registering at the relevant township social security office in order to get employment injury benefit by the workers applied to provisions of compulsory registration for employment injury benefit insurance system contained in section 45 and by paying contribution to employment injury benefit fund in accord with the stipulations.

(b) The employers may affect insurance by registering voluntarily for the workers who are not applied to provisions of compulsory registration for employment injury benefit insurance system and by paying stipulated contribution to employment injury benefit insurance fund.

(c) When registering to effect insurance for employment injury benefit under sub-sections (a) and (b), the worker shall submit medical certificate.

49.(a) The employers and insured of establishments where the employer had registered compulsorily under sub-section (a) of section 48 or where the employer had registered voluntarily under sub-section (b) of section 48 who have paid contribution to employment injury benefit fund shall not apply to the provisions contained in the Workmen's Compensation Act in respect of the employment injury benefit.

(b) The insured that has affected insurance for employment injury benefit under sub-sections (a) and (b) of section 48 shall only be entitled to employment injury benefits contained in this Law.

75. The employers of establishments applied by this Law:

(a) shall prepare and keep the following records and lists correctly and submit to the relevant township social security office in accord with the stipulations:

(i) records and lists of workers' daily attendance; (ii) records on appointment of new workers, employing worker by changing of work, termination, dismissal and resignation; (iii) records on promotion and paying remuneration; (iv) records and lists of employer, manager, and administrator and records on change of them; (b) shall inform the relevant township social security office if the following matters arise: (i) changes in number of workers and address of establishment; (ii) change of employer, change of business, suspension of work, and close-down of work; (iii) employment injury, decease and contracting diseases; (c) shall submit records of work and lists if requested by inspectorate or official assigned by the Social Security Head Office and various levels of Regional Social Security Office under this Law.

51. Labour Organization Act -2011 ✓

Functions and Duties of the Executive Committee

13. The executive committee shall maintain the fund of the relevant labour organization.

14. The executive committee shall prepare and keep the monthly accounts and annual accounts of the funds collected monthly, other funds and expenditure accounts and send the annual statement of the accounts of labour organization whenever the financial year ends, to the relevant township registrar and annual statement of the accounts of Myanmar Labour Confederation and the Labour Federations to the Chief Registrar without fail

52. Minimum Wage Law 2013 and the Minimum Wage Rules 2013 ✓

This expression shall include overtime fee or bonus paid by the employer for good work or character, or other remunerations or benefits which may be determined as income

However, it took nearly two and a half years before a new minimum wage of 4,800 Kyats per day (eight (8) working hours) at a base rate of 600 Kyats per hour was proposed (Notification No. 1/2018 dated 2 January 2018).

53. The Payment of Wages Law, 2016 (25.1.2016) ✓

54. The Workmen's Compensation Act, 1923

provides for payment of compensation to workmen and their dependants in case of injury and accident (including certain occupational disease) arising out of and in the course of employment and resulting in disablement or death.

55. Labor Dispute Law (2012) And Resolution Law (2014) ✓
Was enacted in 2012, with a stated purpose that includes safeguarding workers' rights, peaceful workplaces, and "obtaining rights fairly, rightfully, and quickly by settling the dispute of the employer and worker justly." Historically, disputes between employers and workers
56. The leave and Holiday Act 1951 ✓
(4) An employee who has been granted earnee leave shall, before his earned leave begins, be paid the wages or pay (as the ease may be) due for the period of earned leave allowed. Such payment shall be made to employee or his authorized representative at the place where wages or pay are or is usually paid
57. Employment and Skills Development Act (2013) ✓
After the employer has employed a worker for any job, he shall within 30 days of so doing, sign a Contract of Employment with the worker. This clause however shall not apply to permanent workers of government departments and organizations.
(2) If prior to employment, the worker is required to attend any pr-employment training for a period or appointed on probation for a period, sub-section(1) shall not apply for that period.

Consumer Sector

The following law, section, article, paragraph are understood under this sector and will be complied by our factory;

58. Consumer Protection Law (2014) Ministry of Commerce
(i) informing to the relevant department, organization for enabling to prohibit regarding goods that are unsuit for consumption; (ii) coordinating with the Ministry of Science and Technology for enabling to form in accord with the stipulations, if necessary, the standardization experts groups and laboratories of goods or services;
59. The Export and Import Law (2012) - Ministry of Commerce ✓
7. A person who obtained any license shall not violate the conditions contained in the license.
60. Protection of the Rights of Indigenous Peoples – Ministry of Ethnic Affairs ✓
5. The matters of projects shall completely be informed, coordinated and performed with the relevant local ethnic groups in the case of development works, major projects, businesses and extraction of natural resources will be implemented within the area of ethnic groups.

Spring River Knitting (Myanmar) Company has to comply with the above country's laws and in addition, also to follow the law in the following by technically, articles, subsection for the conservation task of environment, and Powers Prohibitions protecting the public health responsibility and methods of action and penalties. And has to apply for license rights parts of the cultural heritage preservation, issuance of permits algorithm for identification and monitoring for the mandate of the special emphasis proceedings

Natural Disaster Management Law (The Pyidaungsu Hluttaw Law No. 21,2013) The 9th waning of Waso,1375, M.E. (31st July, 2013)

The objectives of this Law are as follows:

a. **to implement natural disaster management programmes systematically and expeditiously in order to reduce disaster risks;**
b. **to form the National Committee and Local Bodies in order to implement natural disaster management programmes systematically and expeditiously;**
c. **to coordinate with national and international government departments and organizations, social organizations, other non-government organizations or international organizations and regional organizations in carrying out natural disaster management activities;**
d. **to conserve and restore the environment affected by natural disasters;**
e. **to provide health, education, social and livelihood programmes in order to bring about better living conditions for victims.**

Environmental protection law is under MOECAF since 2005. The main objectives are to set environmental standards, to create environmental policies for using natural resources, to issue rules and regulation to control pollution, and to create short and long term environmental policies which balances environmental needs and developmental requirement.

Some Regulations or guidelines for conducting EMP

Some of the regulations or guidelines for conducting EMP in Myanmar are:

i. Environmental Impact Assessment Rules. (Draft), 1999, by the then Ministry of Environment, of the previous government.
ii. Directives No.20/2013 (dated 13-3-2013) on Environmental Impact Assessment Regulation. MOECAF.

iii. Article 2s to 5) and Article 63-8.0 of EIA Procedure No. 616 / 2015
iv. EIA Guideline 2014, from website of MOECAF, www.fdmoecaf.gov.mm/com.

The regional EMP general guideline set up by Asian Development Bank (ADB) in 2006 includes the following principles which are, in essence, similar to the guideline of MOECAF. They are:

- protect the environment for future generations
- ensure safe, productive and aesthetically pleasing environment
- attain all beneficial uses of the environment without any undesirable consequences
- preserve important historic, cultural, religious and natural aspects of national heritage
- enhance quality of renewable sources, recycle delectable resources
- identify critical environment problems; find solution
- harmonize development and conservation
- predict and monitor impacts, access its cumulative impact and mitigate the impacts
- analyze the cost and benefit

2.3.5 Small and Medium Enterprise Development Law (2015)

Objectives of Small and Medium Enterprise Development Law

The objectives of this law are as follows:

a. to enable to accept the information related to business, technical assistance and financial aids for the small and medium enterprises;
b. to reach local and international markets and enhance the competitiveness of small and medium enterprises;
c. to have new employment opportunities and increase income of the people through the development of small and medium enterprises;
d. to reduce the difficulties and obstacles in business operations of small and medium enterprises.

Basic Principles of Small and Medium Enterprise Development Law

The basic principles of this law are as follows:

a. tendering necessary financial assistance, tendering legal advice and laying down the administrative policy in order to thrive small and medium enterprises and to reduce the difficulties of enterprise;
b. undertaking necessary measures for small and medium enterprises in order to compete not only in the local market but also in the foreign markets with the international standardized quality products and services to increase the capacity of competitiveness, and to obtain market;
c. encouraging small and medium enterprises for registration which are not yet registered in accord with the law;
d. supporting the availability of information, technology and financial investment to new establishing or existing small and medium enterprises;

Small and Medium Enterprise Development Policies

In order to promote domestic SMEs and to reduce poverty, the responsible ministry shall carry out the followings –

a. Encouraging supporting enterprises that can create linkage to the domestic and foreign markets;
b. Carrying out the transfer of technology and knowledge and investment promotion in cooperation with local and international organizations;
c. Encouraging human resource development and employment opportunities;
d. Encouraging the promotion of information and research activities and to make the smooth processes by eliminating obstacles;
e. Undertaking the development of entrepreneurial businesses;
f. Undertaking the development of business development services;
g. Enabling the participation of entrepreneurs and SMEs in regional business activities;

2.3.6 Law relating to foreign workers

After Myanmar has opened its doors to the world, investors around the world are rushing into the country to examine the business opportunities. As the country is trying to speed up the economic growth but lacks a skilled workforce, many businesses in Myanmar—both local and foreign—are trying to bring in experts from outside of the country. In this article, we will explain about the procedures and requirements for foreigners to work in Myanmar.

In the initial stage of economic development, Myanmar will need help from foreign experts due to inadequate number of skillful workers in the country. The Myanmar government, realizing the values of expertise and experience that foreign experts will bring to the country, allows foreign companies a six-year transitional period in fulfilling the government's mandate to employ local workforce. According to the Foreign Investment Law, Myanmar citizens must occupy at least 25 percent of the total employees within the first two-year period, at least 50 percent within the second period, and at least 75 percent within the third period from the commencement of the business. The Myanmar Citizens Investment Law also allows local businesses to employ foreign experts. An official from the Ministry of Immigration and Population, as quoted in The Irrawaddy, estimated that about 8,000 foreigners are currently in the country on long-term visas.

As foreign investments roll in to Myanmar, foreign workers will feature an important role in the country's development. Not only will they bring and transfer essential skills and expertise to Myanmar's fledgling workforce, they will also boost the country's economy by means of consumption, production, and tax payments. By making the immigration procedures more transparent and convenient for applicants, the government can help bring foreign investors and workers into the sectors of economy in need.

In order to assist companies that have received MIC permits with the visa and immigration process for their foreign employees, MIC has set up a one-stop-service center in its Yangon office. According to Directorate of Investment and Company Administration (DICA), the procedures for a company to obtain work permits for foreign employees are as follows:

- Mention the number of foreign experts/technicians to be employed in the investment application form submitted to the MIC.
- After obtaining a permit from MIC, apply for appointment and stay permits.
- With the endorsement from MIC, apply for work permits from the Directorate of Labor under the Ministry of Labor, Employment and Social Security.
- Apply for stay permit and visas from the National Registration Department under the Ministry of Immigration and Population.

<u>The registration of foreigners act</u>

[Burma act vii, 1940.], (28th march, 1940.)

a) for requiring any foreigner entering, or being present in, The Union of Burma to report his presence to a prescribed authority within such time and in such manner and with such particulars as may be prescribed ;
b) for requiring any foreigner moving from one place to another place in The Union of Burma to report, on arrival at such other place, his presence to a prescribed authority within such time and in such manner and with such particulars as may be prescribed ;
c) for requiring any foreigner who is about to leave The Union of Burma to report the date of his intended departure and such other particulars as may be prescribed to such authority and within such period before departure as may be prescribed ;
d) for requiring any foreigner entering, being present in, or departing from, The Union of Burma to produce, on demand by a prescribed authority, such proof of his identity as may be prescribed ;
e) for requiring any person having the management of any hotel, boardinghouse, or any other premises of like nature—
    i. to record particulars of any person residing therein, and
    ii. in the case of foreigners, to report such particulars to such authority as may be prescribed, in accordance with prescribed conditions;

2.4 Environmental Monitoring Plan's guide line from ECD, and YCDC,

2.4.1 Scope

To develop procedures for monitoring key characteristics of operators and activities in factory that can have significant environmental impacts and for measuring performance in terms of meeting objective and guideline (emission standard from ECD and directives from other government department) as well as conformance to relevant environmental law and regulations / rule.

The procedure applies to monitoring and measuring the following factors in this garment factory.

- Key elements of operations and activities that can have significant impacts on environment
- Frequency and effectiveness of operational control procedure and instruction for controlling the environmental impact in factory
- Conformance to environmental policy, objectives and targets.
- Compliance with relevant environmental law, rule , guideline

2.4.2 Procedure

The management team and Department heads and HSE manager shall establish and implement monitoring and measurement plan in key area, such as;

- Sewages discharge	- Measurement required
- BOD, Mass of oil and grease	
- Solid waste disposal	- Reuse, recycle contractor for plastic, cardboard, scrap fabric wood
- Dispose to designated YCDC area	
- Number of bins of general solid waste.	
- Number of bins of solid waste from canteen	
- Recyclables collections	- (paper, aluminum, plastic, packaging material, wood, card board
- Electricity Consumption	- Consumption of production area daily
- Air Pollution Emission	- Inside the factory production area
- Ironing area	
- Smoke density and room temperature	- Humidity
- Laundry Inventory (washing area)	- Quantity of some garments

Remark: any changes to procedure / plan shall be informed to HSE Manager

2.4.3 Relevant Records

The EMS Manager and the department heads (some supervisors) has to check (e.g. spot-check) regularly whether the some management plan and procedure are implemented accordingly or not. In case of non-conformance, relevant authorized head shall establish appropriate corrective and preventative actions according to corporate procedure.

The HSE manager and Department heads shall hold monthly meeting for evaluating OHS, environmental performance as well as to review and revise them, effectiveness of plan. Monitoring and measurement records are kept in file at management department.

2.5 Environmental Standards and guideline values for air, noise and water

Environmental Pollution Standard (Monitoring Guide Line)

At Environmental rule (2014), Clause 34, 50,61 this proposed factory is under B category group and Emission Guide Line is general guide line relating to this auto service industry

(1) Air Quality (2005-WHO)
(2) Waste water, storm water runoff Efficient and Sanitary Discharge (General application – World Bank)
(3) Noise level
(4) Odor (Industrial odor control – 2002)

2.5.1 Air Quality

Air pollution means emitting any impurities into the air including odours, volatile organic compounds, fuel vapors, smoke, dust, gases, fumes and solid particle of any kind.

This operation must maintain and operate equipment and deal with machine parts, materials in a proper and efficient manner to prevent air pollution at all working times.

Tampering with antipollution (grinding, welding) or vehicle emission control system is and offence. Workshop that assembly, install, service for vehicles must have technician, skill workers for their operation and they have knowledge, conform to the requirements and standard detailed in air pollution guide line.

Table 21: Air Pollution Guide Line (General Guide Line)

Parameter	Averaging Period	Guideline Value μg/m^3
Nitrogen dioxide	1-year 1-hour	40 200
Ozone	8-hour daily maximum	100
Particulate matter PM10[a]	1-year 24-houg/m3	20 50
Particulate matter PM25[b]	1-year 24-hour	10 25
Sulfur dioxide	24-hour 10-minute	20 500

[a] Particulate matter 10 micrometers or less in diameter

[b] Particulate matter 2.5 micrometers or less in diameter

2.5.2 Noise Pollution

Working time is during 8AM to 5 PM and factory manager is aware of the effects of noise from operation to neighbors. They need to check regularly noise equipment (generator, grinding, and compressor). Noise limit from this factory is applicable to General guide lines during day time.

Table 22: Maximum permissible limit for noise level dB(A)

Condition	Guideline values (dBA)		
	Day	Evening	Night
Dwelling suburb, together with an existing weak traffic movement Dwelling zone including business Centre, public place, public road Commercial/Administration zone, downtown	50 60 65	45 55 60	40 50 55
Note: Noise level in workplace should not exceed 85-90 dB(A). (Provision of PPE for workers) (International limit: 90; EU limit: 85) The allowed level of noise which does not interfere with health is 45 dB(A).			

2.5.3 Hazardous materials and Waste

When handling hazardous materials and waste (such as hydraulic oil, solvents, Gear oil, Engine oil, fuel), it is an offence to cause any substance to leak, spill, or otherwise escape in a manner that harms or is likely to harm environment. Factory Manager is aware of legal requirement of (industrial law, factory law, chemical law, labor law) before using, storing, transporting and disposing of hazardous materials, their empty container Most of these laws relating to chemical storage was depending on the amount of storing.

2.5.4 Odor

Odor standard is very low, reference to the guide line.

2.5.5 Water Pollution

According to Emission standard Guide line, general guide line is complying with this industry and attached effluent, storm water, waste water guide line is reference for factory.

Water pollution includes introducing litter, sediment, oil, grease, washing water, debris, flammable liquids such as paint etc. into waters or placing such material where it is likely to enter public drain or waterways, this includes the storm water system and ground water.

All operational practicable steps must be taken to ensure spill or leaks entering the local water way or ground water.

At working area, keeping chemical in a coverage area, storage, bundled area, having stocked spill kits on hand, staff know how to use them. (There is some chemical use in this factory and water usage may medium because there may be washing operation performed in this factory but no dyeing process).

Disposal of liquid waste

Criteria for waste water discharged into public drain in front of the factory building.

Table 23: Effluent and Sanitary Discharges (General Application))

Parameter	Unit	Guideline Value
5-day Biochemical oxygen demand	mg/l	50
Ammonia	mg/l	10
Arsenic	mg/l	0.1
Cadmium	mg/l	0.1
Chemical oxygen demand	mg/l	250
Chlorine (total residual)	mg/l	0.2
Chromium (hexavalent)	mg/l	0.1
Chromium (total)	mg/l	0.5
Copper	mg/l	0.5
Cyanide (free)	mg/l	0.1
Cyanide (total)	mg/l	1
Fluoride	mg/l	20
Heavy metals (total)	mg/l	**10**
Iron	mg/l	3.5
Lead	mg/l	0.1
Mercury	mg/l	0.01
Nickel	mg/l	0.5
Oil and grease	mg/l	10
pH	mg/l	6-9
Phenols	mg/l	0.5
Selenium	mg/l	0.1
Silver	mg/l	0.5
Sulfide	mg/l	1
Temperature increase	mg/l	<3b
Total coliform bacteria	mg/l	400
Total phosphorus	mg/l	2
Total suspended solids	mg/l	50
Zinc	mg/l	2

a

Standard unit

b At the edge of a scientifically established mixing zone which takes into account ambient water quality, receiving water use, potential receptors and assimilative capacity; when the zone is not defined, use 100 meters from the point of discharge

Pollution prevention and handbook, 1998 toward cleaner production

World Bank Group in collaboration with United Nations Environment Program and the United Nations Industrial Development Organization

Table 24: WHO Drinking water Standard Guideline

Parameters	WHO Drinking water guideline values (1993)
pH	6.5 - 8.5
Colour	15 TCU
Turbidity	5 NTU
Total hardness (as CaCO3)	500 mg/l
Iron	0.3 mg/l
Manganese	0.05 mg/l
Chloride (Cl)	250 mg/l
Sulphate (SO4)	200 mg/l
Total solids	1500 mg/l
Dissolved solids	1000 mg/l
Fluoride (F)	15 mg/l
Lead (Pb)	0.01 mg/l
Arsenic (As)	0.01 mg/l
Nitrate (N-NO3)	50 mg/l
Cyanide (CN)	0.07 mg/l
Zinc (Zn)	3 mg/l
Copper (Cu)	2 mg/l

Table 25: Guideline values (Reference values) for naturally occurring chemicals which are of health significance in drinking water

Arsenic	0.01 mg/l
Barium	0.7 mg/l
Boron	0.5 mg/l
Chromium	0.05 mg/l
Fluoride	16.5 mg/l

Manganese	0.05 mg/l
Malybdnum	0.07 mg/l
Uranium	0.015 mg/l

2.6 Recommended Strategy

Given the absence of an enacted over-arching national standard previously, it is proposed to adopt a YCDC provisional standard for wastewater effluent standards. This could conveniently adopt similar standards as those of YCDC but taking into account notions of the receiving water's assimilative capacity and functional use (as considered in the existing system prevailing in China) and economic considerations (as considered in the EU Water Framework Directive). Indeed, the standard proposed by MOECAF in its draft form and National Environmental Quality (Emission) Guide Line (NEQEG) form MONREC is extremely strict considering the prevailing situation of wastewater management in Myanmar and looks hardly applicable except investing in the most advanced treatment systems available in the world. In this respect, YCDC proposed standards are far more realistic and reflect an achievable target for simple treatment technologies.

2.7 Legal Certificates Permit and License for Setting up Knitting Factory

Sr. No	Certificate Permit or License	Responsible Authority	When to apply (or) Remark
1	Myanmar Investment Commission Permit (1151/ 2016) ✓	MIC	Already applied
2	Form of Permit	Ministry of Planning and Finance	Already applied
3	Certificate of Industrial Registration (ရကကြီး/၄၄၆၃)	DIAC	Already applied
4	Boiler Inspection Permit (မစ–5608) ✓	Factory Inspection Department	Already applied
5	Electrical Safety Certificate ✓	EI/YD 156/5-2018 (form EI)	Already Applied
6	Certificate for Importer and Exporter registration 42823/(10-12-2016) ✓	Ministry of Trade	Already applied
7	Company Registration 100670402(93 FC / 2015 - 2016)NPW ✓	DIAC	Already applied
8	Fire Safety Certificate (1791 / 2017,December, 7) ✓	Fire department	Already applied
9	Environmental Clearance License	ECD	This report is part of the application (on going)
10	Export & Import Certificate (42049 – 7.10.2016) ✓	Ministry of Planning and Finance	Alrady Applied
11	Certificate of membership (468 – 5.6.2018) ✓	Myanmar Garment Manufacturer Association	Already Applied
12	Certificate of membership (33900 - 21.7.2016) ✓	Myanmar Federation of Chambers of Commerce and Industry	Already Applied
13	BC Permit (09731/ 2017 Jan (30) ✓	YCDC (Engineering Department)	Already Applied
14	လုပ်ငန်းလိုင်စင် (293520288)– 2019 –2020 ✓	YCDC (Planning Department)	Already Applied
15	ကျန်းမာရေးဘေးအန္တရာယ်ကင်းရှင်းကြောင်းထောက်ခံချက် ✓	YCDC (Health Department)	Already Applied

2.8 Commitment for the complying of Laws and Regulation

- **The project proponent is responsible for enforcing laws and regulations issued by local and relevant departments related to environmental protection. Rules and requirements; All obligations and responsibilities will be complied with.**
- **Committed to ensure policies which are prescribed by Spring River Knitting (Myanmar) Company Limited will be followed strictly**

CHAPTER-3 SUMMARY OF IMPACTS AND MITIGATION MEASURES

3.1 Commitment for Environmental Conservation by Spring River Knitting (Myanmar)

Regarding objects emitted into soil, water and air environment, Spring River Knitting (Myanmar) will comply with National Environmental Quality (Effluent) Guidelines issued by Myanmar Environmental Conservation Department in 2015 and it is their committment.

3.2 Pre-analyzing on environmental related matters

The implementation for pre, analyzing on-environmental related matters was done according to transfer job to the AMK and Associate, environmental services to draw revised EMP for garment that function with the system of CMP which can be performed the implementations of environmental conservation which are mentioned below.

1. Learning and observation on MIC proposal of Company
2. Meeting with BOD for the implementation process of Company
3. Discussion with General Manager and responsible persons; and requested necessary information
4. Learning in products site
5. Detail learnt and observed on production situation, ventilation, lighting, fresh air condition, chemical using or not, fire protection, safety, system for cleaning, social welfare, health program and administrative system
6. Dialogue and frankly discussion with all staffs in their sites.
7. Discussion with representatives of branches
8. Discovered related rules and acts and referred on that
9. EMP has been drawn with report base on finding from former SEE- Trust's consultants previously.

3.2.1 Finding and Recommendation

Environmental Aspect

- No emission CO_2 to environment expect same emission from standby by diesel engine
- No effect on quality of air to the environment, but maintaining should be done
- No chemical waste water and hazardous waste from factory
- No noise sound from factory to environment as well as work area

Social Aspect

- No Social problems in the work environment was found. There are commitment by owner regards on CSR programs.

Operational and Management Aspect (O&M)

As the product are exporting to Europe the customers are checking the production management, environment and social aspect seldom. The also focus on labor and human right also. So up to now no serious problems found in this aspect.

Economic Aspect

In this aspect this project have no big issues on Social and Environment aspect but the government will get income from tax, duties of production, tax from expatriates and staffs. Employment opportunities is also big advantage and land rent cost to Myanmar Investor and tax upon land rent by government. Apart from that we have chance to get new technology. So it can be said, this is an economically feasible project.

3.2.2 Identification and assessment of potential Impact

Work done and inspection has been stated as following:

1. Learning and observation on factory location and surrounding areas
2. To fund the potential Impact, third party done the assessments.
3. The condition of cleaning inside the factory and compound.
4. Implementation status ‘of all branches of factory
5. Situation of electric power, air ventilation, noisy condition, temperature, factory space, condition of

flexibility when implementing

6. Safety and security program
7. Fire
8. Emergency exit and how to protect from fire
9. Water, home, recreation and meal for staffs
10. Process procedure and disciplines of all branches
11. Water supply
12. How to support and provide staff's affairs
13. Study in clinic
14. Learning on guard situation of the factory

3.2.3 Review and comments

1. The place which finding inside the factory is comfortable for staffs and labors when working
2. Not find dust and others on the floor and machines before start working in the morning
3. Already fixed open fans and exhaust fans in the factory and use masks all labors when working
4. There's some chemical use when production especially washing and wastewater treatment. Used raw materials are imported from abroad and finished products are exported from this factory. Therefore all employees are safety for health.
5. In the production procedure, there has not included dying process.
6. There has not happen problem noise pollution. When machine run, normal noisy that cannot hear from outside. Noise from saw factory that near garment factory also low noise.
7. There include safety bar in all machines
8. Supervisors provide good supervision to all labors for safety and security
9. Clippings are kept in one place systematically. Not use boiler power
10. Arranged clear maps which mentioned emergency exit and hang up fire extinguishers.
11. Supervisors shut down and closed main and breakers before leave from factory. Electricity system is raise standard and already trained all staffs for fire protection.
12. Arranged drinking water adequately for all
13. Septic tanks are enough for hygiene
14. Nurses are standby for treat if happen wounded in work site. If need to send hospital, there already arranged. There found small wounded in labors in some times and nurse can treat completely and recovered.
15. There has not problem like fighting each other, slogan, oppose up to study time.
16. Some suggestion boxes were kept inside factory. All staffs can discuss frankly their needs and commitments.
17. Products are inspected to protect from dangerous for customers. All products are kept in control were house to prevent fungus, insects and other infected.
18. Time card system are used for entry and going out by doing finger printing at the gates
19. Production units arranged basic salary, bonus, over time and other profit based on production gross rate transportation and entertainment.

3.3 Impact Identification and Impact Assessment

In spite of the fact that the proposed project is considered a totally developmental one with many positive impacts, especially at socio-economic level, and looked forward to be sustainable, this project will for sure generate some negative impacts on the environment and the people involved in the production, handling, transportation and marketing .... Etc. processes.

This Environmental Impact identification and assessment has been conducted, based on ISO 14001

This environmental impact assessment is conducted, not only because it is required by law, but also to

measure the exact impact/s of the activity on the environment and to propose what suitable mitigation measure/s that can be undertaken to decrease these impacts to the least.

- Positive Impacts: The facility will get work for approximated more than 300 families in the first phase.
- Negative Impacts: As an axiom, no whatever economic activity is without negative impact, especially on the environment.
- This environmental impact assessment is conducted, not only because it is required by law, but also to measure the exact impact/s of the activity on the environment and to propose what suitable mitigation measure/s that can be undertaken to decrease these impacts to the least.
- The following adverse impacts are identified by studying that they are affected less or more on operational condition.

3.3.1 Hazardous materials:

In this factory, there is some chemical material use in washing process, and using of diesel fuel for generator and caustic soda etc. for spot cleaning operation

Anyhow, the company will follow the following measures to monitor and minimize the negative effect/s when handling any considered hazardous (or can generate hazardous) material:

- Allocating these materials in a special fully closed store with good ventilation devices.
- Making access to these materials authorized only for certain skilled and trained persons (better also limitation in number).
- Person/s to deal with these materials only when they wear the suitable and protective dresses. All related precautions should be strictly followed.
- Following the exact procedures when handling such materials, e.g. exact dose, disposal restrictions, special processing, storage conditions.... etc.
- Sprouting detailed awareness among all workers to keep them knowledge-updated about such materials (and those will be introduced in the future) , their chemistry, hazardous nature, right ways to handle and the exact methodology to work with them.

3.3.2 Air Emissions and Ambient Air Quality:

The major sources for air quality deterioration additives are (e.g. pigments + oil vapors + odors), smoke and gases from generator, kitchen and emissions from different mechanical and electric appliances. The mitigation measures to be carried out are installation of efficient ventilation system + workers wear suitable masks when needed + sustainable maintenance for all machinery + continuous surveillance.

Air emissions have no boundaries and can migrate between areas depending upon the wind direction and speed. The sources of air emission can be grouped into three categories of point, area and line sources:

- A point source is a single source of emission with an identified location, such as an industry;
- An area source is when the sources of emission are many widely distributed pointed sources have relatively comparable significance; and
- A line source is when the sources of emissions from a number of fixed or moving facilities have relatively comparable significance, such as roads,

Predicted Air Emissions from the Site

For the purposes of modeling the movement and dispersion of air emissions, the following section details the potential emissions from the construction / operational activities at the proposed site.

Construction Phase

During the construction phase, SPM is expected to be the main pollutant associated with on-site roads (paved and unpaved), stockpiles and material handling. In this case, pollution emission sources shall be distributed throughout the project site and shall fall under the category of area source. The land acquired is fairly flat, so extensive formation work is not expected during this phase. It is assumed that most of the excavated material shall be used within the project with minimal cut and fill material to come from outside the site.

Due to the confined nature of heavy construction activity during this limited period, tailpipe emissions from

construction equipment are assumed to be essentially negligible.

In the absence of information regarding the quantity and type of construction equipment to be deployed at any particular time, emission factors for construction activities were used for emissions estimates. Overall SPM emissions were estimated using the emission factor of 1.2 tons SPM / Month of activity / acre as per AP-42 section 13.2.3.3 (U.S.EPA, 1995). This emission factor is most useful for developing estimates of overall emissions from construction throughout a geographical area and most applicable to construction operations with medium activity level, moderate silt contents, and semiarid climate (U.S.EPA, 1995). The derivation of the factor assumes that construction activity occurs 30 days per month, making the above estimate somewhat conservatively high for total suspended particulate (US.EPA, 1995).

Operational Phase

During the operational phase, the diesel generator sets to be operated for back-up power supply are the major source of air pollution

From this point source, the following pollutants are expected:

SO_2, SPM, CO, and NO_X emissions

Diesel Generator Set Fuel Combustion – Point Source

To serve as a 100% back-up power supply, one diesel generator connected to individual stacks shall be installed and it will be provided with scrubbers, which will reduce the Sulfur content to quite an extent to quite an extent thereby improving the air quality. The number of diesel generator sets operated shall be based on the load requirement, thus conserving fuel.

As a worst-case scenario, emissions were predicted assuming an operation time of 24 hours. This generator is to be located in the Electric Substation area located in the suitable place of the site.

Table 26: Diesel Generator Set Specifications

Sr. No	Particulars	437 kVA
1	No of DG sets	1
2	No of stacks	1
3	Oil consumption (L / hr)	28.05
4	Sulfur content (%)	0.05
5	Density of oil (kg / m^3)	97.7
6	High of stacks (m)	30
7	Diameter of stack (m)	0.5
8	Gas flow rate (M^3 / S)	1.15
9	Exit velocity of gas (M/S)	2.93

The following table provides emission factors and corresponding emission rates of PM (used for SPM, SO2 NOx and CO.

Table 27: Emission Rates from Diesel Generator Set

Pollutant	Emission Rate (g/s)
Particulate matter (SPM)	0.07
Sulfur dioxide (SO_2)	0.40
Nitrogen dioxide (NO_x)	0.67

Emission rates of SPM, No_X and CO were calculated using the MONREC emission guideline limits for new diesel engines for generator sets (lower than 500 kW) in conjunction with the gas flow rate as specified, after incorporating the necessary temperature corrections. The emission rate of SO_2 was based on the oil consumption rate and the sulfur content in the fuel, as provided by CPCB standards of Sulfur content in HSD (commercial grade) after the year 2005. The generator sets would be provided with scrubbers, which will help in reducing the sulfur content considerably in the emissions (0.05%) thereby improving the quality of the air.

Local air quality

The project site is located in Shwe Lin Ban Industrial Zone in Yangon Region. This factory does not emit more gaseous emission to the air and the surround factories which emit the cumulative effect of these emissions could be affected on local air quality.

Based on these factors the sensitivity of local air quality with respect to additional atmospheric emission from this area can be assessed as moderate.

Dust

Operation for manufacturing Knitting wear generates very less dust causing no serious negative impacts on air environment. The major and only one of air pollutant in this factory is from generator engine running.It is mainly in the form of particulate matter and SO2. Particulate matter usually ranges from PM_{10} to $PM_{2.5}$. The smaller $PM_{2.5}$ is also known as respiratory particulate matter (RPM) and is more harmful than PM_{10}. Due to its minute particle size it can pass through ordinary mask.

Nuisance and health impacts are associated with increased level of dust. Pneumoconiosis is due to inhalation of dust and cause severe lung problem and lung cancer. Dust allergy and asthma are also cause by inhalation of dust.

Dust also has on impact on the aesthetic beauty of the area, for instance, dust covering the green vegetation.

Smoke or fugitive gas emission

Unlike more factories that spew out billows and billows of dark smoke into the atmosphere smoke is not a serious issue in this Industrial Zone compound. The impact of smoke from these factories on the environment is negligible.

However, smoke or gases emission can occur from combustion engines of machinery and vehicles. Gases such as NO_X, CO, CO_2, SO_2, hydrocarbons etc. are usually generated from Generator engine while CO_2, NO_2, SO_2, etc. are usually generated from exhausts.

Increase level of smoke will have serious impact on health such as various diseases associated with respiratory duct and lung (bronchitis, asthma to lung cancer). The emission of smoke, or Green House Gases can leads to global climate change.

Mitigation/corrective measures

The latest measuring of air quality survey has been done on 18.1.2020, and result is within the WHO air quality Guideline Figure 39**. However the result is within the limit or over limit, the following mitigation measures will be performed by Spring River Knitting (Myanmar) continuously during the operation.**

- Regularly check the engine of vehicles and all other machinery including heavy machinery, small machinery including pumps. Well-maintained and well-operated engine reduces smoke emission
- Use fuel oil with low sulfur (if possible)
- Use environmentally friendly state of the art instruments and machines (such as engines with higher fuel efficiency)
- Equip instrument, machine and vehicles with air pollution control device to minimize exhaust emission. (These may not be readily available but should be considered in advanced for the near future).
- To conserve fuel and to prevent unnecessarily emission of gas (smoke) never let vehicles and instrument left running unnecessarily
- Avoid open burning of all kind of solid wastes; reuse and recycle them as far as possible and finally dispose them at approved land fill.
- Provide Personnel Protection Equipment (PPE) such as nose and mouth cover, face mask etc. to workers exposed to smoke (gas emission)
- Water must be sprayed along the access road and this is practiced in many countries. A water with sprinklers is necessary for suppression of dust on the road.

To minimize dust emission:

- Sprinkle water on unpaved road during dry period (wet suppression can greatly reduce dust emission up to 70%) **(Already Installed this facilities)**
- regular cleaning of road surface by sweeping
- speed control of vehicle movement (a speed reduction from 30km/hr to 15km/hr will reduce 50% of dust emission, it is learnt)
- vehicular emission of particulates, SO2, NO_X, hydrocarbons can be minimized by proper training, operation and maintenance of vehicles and other oil-operated machines and equipment
- never let dust emission goes out of control

3.3.3 Noise:

In spite of the level of noise in working with most of the machinery in the factory are within the human accepted level (max. 60 Decibel), some mitigation measures will be carried out in case of exceptional noise levels arise during any phase of work; e.g. workers wear ears' anti-noise devices + keeping continuous checking and sustainable maintenance for all machinery.

Noise Emissions Sources

The assessment of the impacts of noise on the surrounding community depends upon;

- characteristics of noise source (instantaneous, intermittent, or continuous in nature, with the latter contributing the least to noise pollution);
- time of day at which noise occurs; and
- location of noise source with respect to noise sensitive receptor

For the purposes of predicting noise emissions impacts from the site, the noise emission sources were examined during both construction and operation phases.

Construction Phase

The description of construction activity is also pertinent to the noise emissions emitted in the construction phase. Sources of noise emissions are expected from various types of construction equipment General noise levels generated from the operation of equipment and machinery are provided in table as shown below.

Table 28: Noise Levels Generated from Construction Equipment

Name of Source	Noise Level at 16 m(50 ft) from Source in dB(A)	Noise level at 1 m from Source (calculated in dB(A)
Air Compressor	87	111
Back hoe/ Loader	81	105
Concrete Mixer Truck	85	109
Concrete Pumper	70	94
Concrete Vibrators	77	101
Cranes - mobile	81	105
Dump Truck	83	107
Generator	Not considered	75 (as prescribed by CPCB)
Hammering	86	110
Jackhammer	88	112
Pile Driver	100	124
Radial Arm Saw	80	104

The MONREC has been prescribed noise emission specification by NEQEG (2015). However, the limited information available is provided in Table below

Table 29: Noise Limits for Appliances and Construction Equipment at Construction Stage

Equipment	Noise Limit dB (A) Maximum
Window Air Conditioner	68
Air Cooler	60
Diesel Generators	85-90
Compactors (rollers) front Loaders, Concrete Mixers, Cranes Vibrators and Saws	75

The resultant noise emission level, as calculated from information provided in table is 125 dB (A) ,using the equation and considering all pertinent equipment to be in operation and as a worst-case scenario, this resultant noise level of 125 dB(A) was subsequently used to predict noise exposure patterns. According to noise monitoring result mentioned in Table 18 , maximum noise level in factory is within the World Bank guideline for Industrial; commercial. And it is also approved by Factories and general labor laws inspection department, Ministry of labor, immigratin and population after checking on 8.11.2019 which has been shown in Figure 43

Operational Phase

During the operational phase, the diesel power generators will be the major source of noise

Diesel General Set

The diesel generators will be positioned and located in the designated location in the factory.

The noise level of each diesel generator set will be maximum 75 dB(A) , as prescribed by the MONREC, the

total resultant sound pressure level of 1 diesel generators sets was determined to be 75 dB(A) by the addition of sound intensities, by using the formulas.

To keep the noise levels under permissible limits, the DG set manufacture is to take sufficient measures to achieve the targets of noise as per laws.

3.2.4 Solid wastes:

It is inevitable that, during the working of the factory, the solid wastes will increase both quantitatively & qualitatively. The company shall apply a strict policy within its all sections aims to minimize the solid wastes to the minimum by introducing the following measures: (1) Solid waste separation and implying recycling when possible. (2) Introducing suitable, clean and sufficient containers and keep them always closed and emptying them daily on regular bases. (3) Cleaning around and spraying insecticides when necessary and (4) Arranging awareness training programs for all personnel on how to handle solid wastes.

Impact on Solid Waste

Solid Waste from open surfaces is expected. Some pollutants expected from such areas, and particularly during the rainy days include: Waste/spilt oils and grease will be undesirable in the public drainage network. Some waste oils and lubricants may contain hazardous substances such as poly-chlorinated biphenyls (PCBs). Products as well as contribution from other non-product substances will also be found in surface run-off. Solid wastes including papers, plastics and broken pipes among other refuse that may be thrown in the compound and drains. This will be expected during operation phase of the project. It will be avoided by providing training to the management and workers on various ways of minimizing any spillages. Solid Waste Management for this factory has been mentioned in 5.2.4 Solid Waste Management Plan at Factory of this report.

3.3.5 Wastewater:

In contrary to many other industries like metal, food, leather ... etc., garment industry (without dyeing process) is well-known not necessary to use that much water. Major wastewater will be produced by the personnel daily household uses, flushing and cleaning.

Pollution Source from water Environment and Mitigation Measures

Ground Water

The ground water aquifer body underlying the factory site area is an important natural resource as it is widely dig for portable and other uses by local factory in this industrial zone. Fe and Mg Content are lower than limit of general acceptability.

Based on these factors the sensitivity of the ground water underlying the site with respect to any pollution incident can be assessed as normal.

Waste Water

The project site is situated near to Hlaing River. Waste water from this industrial Zone will discharge into this river via public drains. Based on this factor the sensitivity of surface water with respect to any pollution incident can be assessed as moderate.

Mitigation/corrective measures

The latest measuring of Wastewater Effluent level has been done on 18.12.2019, and result is within the Guide line standard. (Comparison has been made with NEQEG's Effluent level for Textile Manufacturing Guideline as well as General application of wastewater, storm water run-off, effluent and sanitary discharges). However, the result is within the limit or over limit; the following mitigation measures will be performed by Spring River Knitting (Myanmar) continuously during the operation.

- plan for overall drainage , maintain existing public drain
- new artificial drainage could be created, if necessary
- As regard waste or waste water, oils, grease, suspended solids from workshop must be treated before discharge.
- Treat domestic effluents from office, kitchen, housing, sanitary waste water etc before discharged outside.

Recommended Water Quality by (International Finance Corporation)

Parameter	Guideline Value
PH	6-9
BOD	30 mg/L
COD	125 mg/L
Total Nitrogen	10 mg/L
Total Phosphorus	2 mg/L
Oil/Grease	10 mg/L
Total suspended Solid	50 mg/L
Total Coli form Bacteria	400 MPN/100 mL

As the result of wastewater quality from final outlet to Public drain which has been shown in, Figure 47 and compared with Effluent levels for 2.3.2.1 Textiles manufacturing 36 of ECD Effluent Standard, it was within the limit currently and not necessary to treat by Wastewater Treatment Plant.

No dyeing process in this factory and water is used for washing process and domestic use. However the domestic wastewater has been monitoring in progress as EIA / IEE procedure since operation started.

3.3.6 Topography and Physiographical Impact

Construction period will have very localized impact on topography and physiography of the factory compound.

During operation period, there is very little industrial air pollution (odor air inside factory) and waste water from industrial use and employee use, solid waste from factory operation.

Impact on soils

There will be no impact on soil of the factory compound during construction and operations.

Raw material

Specification of raw material is which resistance to chemical is good and moderate, not recycled, not hazardous.

Land Use

There will be no impact on land use of the area. Cutting of two to three small trees for extension of factor construction will be inevitable.

Terrestrial

There will be no impact on the terrestrial flora and fauna of the surrounding area due to operation and existing old factory.

Socio-Economic

No Adverse impact can be expected on socio-economic condition of surrounding area from the proposed factory during operation period, it is located in government owned industrial zone. It is to increase in local economic and social benefit by creating employee, not social impact to land use, culture heritage.

Table 30: The environmental and safety components and their impact sign

No.	Environmental and Safety Component	Impact		
		Positive	No Impact	Negative
1.	Air Quality			X
2.	Groundwater Quality		X	
3.	Heat Flow			X
4.	Community Water Supply			X
5.	Public Health and Services			X
6.	Workers Health and Safety			X
7.	Dust and Noise Reduction			X
8.	Cultural and Heritage		X	
9.	Socio-economic	X		
10.	Water Courses and Wades		X	
11.	Forests and Biodiversity Areas		X	
12.	Aesthetic		X	
13.	Waste Reduction			X
14.	Work Accidents Min.			X

15.	Recycling Applications	X		
16.	Poverty Alleviation	X		

While Table 31 below shows the environmental impacts and the related mitigation measure/s to be carried out in order to minimize its negativity to the minimum, taking in consideration that no whatever developmental project operates without at least generating one negative impact on at least one of the environmental elements (the 4 well-known environmental elements are soil cover + air + water + life forms including human being). It is a matter of innovation to find a mechanism that balances between implementing developmental projects with the least harm to any of the environmental elements.

Table 31: Environmental Impacts and the related Mitigation Measures

Sr.	Environmental Impact	Source/s	Place to occurring	Mitigation Measures to be carried out
1.	Air Quality gets worse		Inside doors + Outside • coloring pigments + paints + oil vapors + odors	1. Installation of efficient ventilation system 2. Workers wear suitable masks when needed 3. Sustainable maintenance for all machinery 4. Continuous surveillance
2.	Noise level gets higher	Machinery + cars + tools	Inside doors + Outside	1. Sustainable maintenance for all machinery. 2. Workers wear ears' anti-noise devices
3.	Solid wastes increase (quantitative & qualitative)	Personnel + operations + visitors	Inside + outside	1. Solid waste separation and implying recycling when possible 2. Introducing suitable and sufficient containers and keep them always closed 3. Emptying daily 4. Cleaning around and spraying anti-insects 5. Awareness training for all personnel
4.	Wastewater quantity increases	Personnel daily life needs + flushing + cleaning	Inside mainly	1. Collection of all wastewater from all utilities in the underground sealed cesspool. 2. The cesspool will be professionally emptied by special sewage tanks once filled and disposed according to the acting municipality regulations.
5.	Fresh water quantity increased	Personnel daily life needs + flushing + cleaning + irrigation	Inside & outside	1. Rational use of water. 2)Application of dripping system in irrigation 2. Application of water saving devices 3. Awareness programs for the workers
6.	Fire risk possibility increases	Electric contact + over warming of the mis-handling	Inside & outside	1. Sustainable maintenance for all machinery 2. 2)Oils and all other combustibles kept isolated 3. Efficient fire alarm system introduced 4. Awareness programs for the workers
7.	Human health	All	Everywhere	1. Medical periodic checking for all personnel 2. No use of whatever hazardous material 3. Awareness programs for the workers to follow the labor safety regulations
8.	Biodiversity	Construction activities + operation + urbanization	Outside	1. Limitation of movement around 2. No whatever dumping nearby 3. No use of pesticides
9.	Green cover decrease	Urbanization + industrialization	Outside	1. Planting new >> plants 2. Irrigation and caring 3)Awareness
10.	Heat Flow increase	Operations	Inside mainly	1. Air conditioning installation 2. Good ventilation
11.	Runoff increase	Roofs + paved yards	Outside	1. Building an efficient drainage system (engineering issue) 2. Construction of a water harvesting utility
12.	Aesthetics	New construction	Outside	1. >>> Planting 2. Movement restrictions 3)Rehabilitation of what might affected
13.	Public Roads' status Gets worse	> Traffic	Outdoors	1. Contribution for street rehabilitation. 2. Complying with the permitted loads.
14.	Recycling possibilities	Import +	Inside + outside	1. All fabric trimmings 2) trash from outside to buy and recycle operation

3.4 Pollution and Emission Sources-Characteristics, Quantification and prediction

Pollutants generated due to project activities during both the construction and operation phase are solid, liquid and gaseous in nature. Also the generation of pollution could be operation phase are given below;

The Construction Phase has been completed since 2016 June, and Operation Phase is being in progress

Table 32: Generation of Pollution Sources

Sr.	Activity / Area	Pollutant	Pollutant Characteristics	Frequency
OPERATION PHASE				
1.	Vehicular movement	Air emissions and noise	Vehicle exhaust emissions	Continuous/periodic
2.	Diesel power generators	Air emission	SO2,NOx,SPM,CO from fuel burning	Periodic, only during power failure
		Noise	Noise due to running of equipment	
		Waste	Used oil Generation	Periodic, during oil change
3.	Canteen	Waste Water	Wastewater containing waste food matter	Continuous/periodic
		Domestic Solid waste	Garbage/ Food waste	Continuous
4.	Offices	Sewage	Wastewater –BOD, S.S, Pathogens	Continuous
		Domestic Solid waste	Bio-degradable and non-biodegradable waste	Continuous-small quantities
5.	Recreation Area	Sewage	Wastewater – BOD, S.S, Pathogens	Continuous
		Domestic Solid Waste	Bio-degradable and non-biodegradable waste	Continuous-small quantities
7.	Sewage treatment Plant	Solid waste	Settled and stabilized sludge	Continuous
		Treated water	Treated sewage used for horticulture	Continuous
8.	Diesel Storage	Solid waste	Settled sludge during tank cleaning	Occasional
		Oil	Oil spillage-Accidental large spills due to pipe rupture Oil spillage – Small quantities due to small pipe leaks	Accidental / Only due to poor housekeeping
9.	Maintenance / housekeeping	Wastewater	Floor washing	Continuous
		Solid waste	Used equipment parts and garden wastes	Continuous
10.	Air conditioners	Air emission	Ozone Depleting Substance release	Continuous
11.	Vehicle Parking Area	Oil spills	Minor oil leaks in parking lot	Continuous-small quantities
12.	Storm water drains	Wastewater	Contamination discharge from site – mainly suspended solids	During rainy season

3.5 Significant Aspects, their Impacts on the Environment and Mitigation Measures

3.5.1 Environmental Problems associated with construction stage

As the project access roadway has served the transportation of this area for a long time, most environmental impacts from the widening would occur only during the construction. The severities of these impacts are considered to be minor to moderate because they can be mitigated by implementing appropriate mitigation measures. Furthermore, construction is taking place in the existing ROW, which is free from significant or important natural features. And they would last for a short period during the construction. The environmental aspects of concern would be;

- Blockage of entrance/ access;
- Traffic congestion and safety
- Soil erosion and flooding during wet season;
- Nuisance noise during the construction;

- Deterioration of air quality from construction machinery and vehicles; and
- Dust generation during dry season

Table 33 shows the potential environmental impacts, and proposed mitigation measures during the construction stage. Contractor is responsible for implementing the mitigation measures during the construction and will be required to follow developer's conditions of contract, specifications for construction, and proposed environmental management plan. The proposed mitigation measures in table will be included in the contract. Developer's project engineer will assist and monitor the contractor in accordance with the mitigation measures identified and on site implementation.

Table 33: Potential Environmental Impact during Construction

Environmental Aspect	Potential Impact	Mitigation Measures
Physical Environment		
Noise	Construction activities may increase noise level and cause the noise level to exceed the standard. However, when comparing with other 4 lane roads in adjacent areas, there is no impact of noise on communities and sensitive receptors. The impact of noise may be considered to be negligible.	Construction equipment will be equipped with engine silencers or use equipment, which generate lower noise level Noise creating activities will be carried out during daylight hours. The contractor will inform local public regarding the unavoidable noise creating activities, timing and construction plan prior to the location.
Air quality	Transportation of construction material, equipment transportation and construction activities may cause the increase of dust and toxic gas. the sensitive receptors are not immediately adjacent to the right of way, the impact on air pollution may not be significant.	The construction materials and wastes will be removed from the construction area as soon as possible. Spoil trucks, material trucks, and disposal remover will be covered at all times. Regular water spraying will be done on, open surface. The equipment and machinery will be regularly checked and malfunction observed will be corrected accordingly. The haulage distance will be kept to a minimum The truck speed will be limited to minimized dust generation The contractor will plant tall, leafy, and dense vegetation between roads and local people settlement.
Vibration	Construction transportation , and activities may cause high level of vibration, which cause the trouble to persons in building	The worksite surface condition will be maintained regularly Vibration creating activities will be strictly controlled in such a way that minimizes the vibration
Surface water Hydrology	Construction may cause the modification of water flows	Contractor will intensity the construction activities during the dry season, e.g. , excavating of filling and connecting construction. Pipes and culverts will be regularly cleaned to prevent blockage of water resulting in flooding problem. Dumping of residual construction material or solid waste into waterways shall be prohibited to protect waterways from being shallow or stagnant water problem.
Water quality	Water quality could be deteriorated due to the increased sediment and suspended particles, and the contamination from leach ate	Proper drainage will be constructed during the dry season\ vegetative area around 1 m from waterways will be maintained as a buffer zone. Contractor will consider planting native vegetation at the disturbed water streams Construction material will be stored at least 10 m from the watercourse Sanitary latrine and septic tank will be installed within construction camps Waste dumping will be prohibited Washing equipment will not be allowed in the water streams
Soil and erosion	Opened surface may cause increased erosion	Construction activities will be intensified during dry season The extent of ground disturbance will be minimized. Grasses and native vegetation will be promptly grown after compacted to protect the soil surface instantly.
Geology and mineral	No significant mineral sources exist within the vicinity of the project area	
Sand, earth, aggregate, cement	Dust, noise and vibration could be generated from earth removing, cement store.	Noise and vibration generating activities within store, stock pile will be carried out during daylight hours. Proper dust, noise and vibration control shall be in places

		Stockpiles of construction materials shall be covered or sprinkled to prevent dust nuisance.
Ecological Resources		
Aquatic ecology	Erosion from construction sites may result in downstream siltation, Construction residual can be a major source of turbidity, and raise biological oxygen demand	The activities of construction will be intensified during the dry season. Drain will be constructed during the construction Construction machinery will be inspected regularly to prevent any oil leakage Construction activities will be prohibited in front of waterway to prevent silt laden water from entering the water stream
Wildlife	No local wildlife corridors	
Forest	No ecologically sensitive areas and forest exists	
Human and economic development		
Land use	Land use pattern would change significantly as the resident already exists and the height of building would take place wholly within the existing area.	Contractor will avoid making any damage to the water streams crossed Construction activities will be done in such a way that avoids filling up water resource and interrupt water system There will be efficient drainage system to avoid flooding problem/ sedimentation, blockage
Transportation	Construction would result in congestion, especially at the populated areas and junction with main road. Transportation of construction material may damage the existing roadway	Construction equipment and materials will be moved during the off peak periods traffic to avoid the traffic congestion Contractor shall provide appropriate construction technique such as detour roads, sign board, to minimize the problem of local traffic Local people will be informed regarding the construction plan and activities, and appropriate alternative roads, in advance Caution signs will be posted to remind road uses before entering the construction area. The routes, which have been used to transport construction equipment and materials, will be maintained in good condition, during day time only
Flood control	There would be impact on drainage, if the drainage structures are not adequately installed	The appropriate and sufficient drainage structures will e installed.
Public utilities & infrastructure	Widening / relocation of infrastructures may be necessary Construction may affect the accessibility of local utilities and public areas	Contractor will inform affected people regarding any inconveniences, e.g. electric and water cut due to the construction in advance Temporary access to any existing areas along the project being constructed will be provided
Quality of life values		
Socio – economic	The impacts on the quality of life of the local people would be minor in nature but positive overall. The positive impact is the expansion of local trading especially on consumer products , due to increasing demand from construction workers, Construction activities may affect the convenience of local public and travelers who use the road passing the project area during construction period	Local public will be informed prior to commencement of civil work regarding temporary conveniences during the construction Contractor will minimize damage on surface of existing roads and local tracks Road obstruction will be avoided. Where unavoidable, damages will be repaired as soon as possible Labor would be sought locally, consequently providing employment to the local people leading to increased economic activity.
Resettlement	No land expropriation is required as the widening will take place within existing area. However local people who set up temporary shops with area may be affected	SPRING RIVER KNITTING (MYANMAR)will be responsible for shifting of the shops to a suitable location outside the project when needed, which could be just behind the existing shop set up location , as most shop owners are likely the people living in the vicinity
Archaeological & aesthetic value	No archaeological sites would be impacted	
Health and safety	Poor sanitary condition, e.g. dirty drinking water, inappropriate waste management and inadequate and dirty toilet, could result in workers' sickness. Unsafe condition may cause workers' injuries	Contractor will be required to set up a sanitary management plan for worker camp to ensure that SPRING RIVER KNITTING (MYANMAR) 's requirements are met Appropriate waste management will be setup , e.g. waste disposal method, provision of garbage can, etc. Clean drinking water will be provided to on site construction workers

		Responsibility will be trained in safety precaution and emergency plan prior to the construction First aid kit and appropriate personal protective equipment will be sufficiently provided.

3.5.2 Environmental Effects during operation

The identified environmental effects from operation of the proposed project are listed in table of Identified impacts during operation. The absence of environmentally sensitive areas within the project area precludes any significant indirect environmental effects. Major impacts would include increased noise, vibration, air pollution, and waste management and road accident due to road traffic and soil erosion and flooding due to blockage of water flow and poor condition of shoulder. SPRING RIVER KNITTING (MYANMAR)has been followed good practice during maintenance and coordinate with local government and other concerned agencies to reduce the impacts.

Table 34: Identified Impact and Mitigation Measures during Operation

Environmental Aspect	Potential Impact	Mitigation Measures
Physical Environment		
Noise	Noise level may increase due to the increased traffic volume	SPRING RIVER KNITTING (MYANMAR)has been setup a monitoring plan for noise level during the operation at sensitive receptor, e.g. school, and hospital and provide efficient noise barrier where needed. Road surface condition has been maintained to reduce noise pollution.
Air quality	Increase traffic level may result in deterioration of ambient air quality	Spring River's project engineer is maintaining good condition of waste control to enhance the highest efficiency of the environment in progress. Traffic signs has been provided to facilitate the traffic and minimize the congestion SPRING RIVER KNITTING (MYANMAR)is maintaining tall, leafy , and dense vegetation between roads and local people' settlement building in progress
Surface water Hydrology	Building may cause the modification of water flows	Culvert maintenance has been carried out by highway district to ensure the highest efficiency in order to avoid the blockage of water flows along the highway
Soil and erosion	Poor condition of maintenance could result in erosion	Inspection grassing is being done especially in the time before the rainy season
Health and safety	High traffic volume may cause the higher rate of accident to both the pedestrians and the road users High waste volume may cause the health of people living in building	Spring River's project engineer is maintaining the traffic warning signs and surface condition to alleviate the accident in progress Management committee is maintaining the waste disposal movement, ground water quality control, sewage plant, wastewater treatment plant every month, including firefighting system, generator, and fuel tank inspection.

3.5.3 Actual Situation of labor and working condition

The regulation with respect to labor and working conditions are under the responsibility of the Ministry of labor of Union of Myanmar

Factory's rules and regulation concerning labor and employment cover the following issues;

- General Rules,
- Employment Contract
- Working rules/ discipline
- Salary, allowance, holiday and leave
- Basic pay scale system and overtime
- Health control, safety and sanitation

Spring River Knitting (Myanmar) Company Limited confirmed

- Not to apply child labor / forced labor
- Complying government regulation with social security and labor law
- Already working and discussing with Shwe Pyi Thar Region – labor Department for employment of labor

The waste generation on account of this project is negligible.

Though there are aspects connected with the activities of this product but their negative impact on the environment is very low and minimal. World over, this type of project is considered as low risk project. There are very little possibilities of adverse impact on biological and socio economical environment of project. This project shall rather bring in more prosperity to local population and shall enhance their quality of life.

Significant aspects of this project are listed below: -

Depletion of Resource and Mitigation Solution

Water

Total annual requirement of water quantity for this project is to be quite low and nominal.

Mitigation Solution

a. Minimize wastage of water by awareness & training of employees

Electricity

The annual requirement of power is expected to be **360,000 units** per year.

Mitigation Solution

a. This is expected to be met from Govt Supply. However, promoter has planned to install a Silent D.G Set. To meet emergent power need when govt supply is not available / there is disruption due to breakdown or other eventuality.
b. Minimize wastage of electricity by awareness & training of employees

Human health issues

Injury due to accident

Risk related to human injury & Human health issues is associated with the garment production activities.

All these activities carry a risk of injury and can cause human health issues.

Mitigation Solution

- Training of employees in Industrial Safety
- Training of Personnel in First Aid
- Provisioning of Vehicle with Driver at factory site for evacuation to Hospital

Fire Risk

Fire risk is estimated on account of: -

1. human negligence
2. electric short circuit
3. dryer jamming
4. Disruption in supply of thermic oil to the boiler.

Mitigation Solution

- Training of employees in Fire Fighting
- Provisioning of Fire Hydrant & other firefighting equipment
- Provisioning of First Aid Boxes with basic medicines
- Training of Personnel in First Aid
- Provisioning of Vehicle with Driver at factory site for evacuation to Hospital

3.5.4 Health Standards for this factory with Health Impacts

Identification of Potential Hazards

Safety measures

- May cause by machines, tools, or other equipment
- By explosives, combustible or inflammable substances.
- By electricity, heat or other energy.
- By inappropriate work methods in operating, maintaining, transporting, handling of heavy objects.
- In relation to performance of other work

Health measures

- By failure to maintain the proper standards of ventilation, lighting, illumination, thermal insulation damp-proofing, cleanliness, etc.

Hazard Control

Working Environment Measurement and Improvement

- Measure and evaluate the working environment and establish and report the results and a plan for improvement of the working environment.
- Prioritize the conditions to be improved based on the resulted of measurement by Head of the relevant department.
- Voluntary efforts to improve the working environment in connection with the facilities which they are in charge of shall be made by employees.

Medical Examination

- Medical examination for employees on a regular basis and from time to time. An employee who is found or suspected to have health problems as the result of the medical examination to take the second medical examination and promptly notify the employee of the results.
- Appropriate measures such as change of the working place, Reassignment and transfer or shorter working hour if deemed to be necessary to maintain the health of the employees as the result of the medical examination.

Management of Employee with Health Problems

- Control any health disorder of employees, the person in charge of the safety and health shall watch the health of him or her from time to time and notify the health management department immediately upon detecting any health problems of an employee.

Spray Insecticide, sterilize and fumigate the facilities and place subjected to sterilization as stipulated in the applicable laws and the heads of the relevant departments has been cooperated in doing so.

3.5.5 Significant Impacts and mitigation/corrective measures during the Decommissioning

The Decommissioning Phase comes after the long Operation Phase which usually last for several decades depending on the availability of benefit and profit of the working condition both personal and social. At the end of the long Operation Phase the relief of the land will change or the landscape will greatly altered, and that will depend on the duration and the magnitude of the operation. Damage car or vehicles' body, old parts of the engines, gear box etc. will remain greatly impacting the aesthetic natural beauty of the original landscape. The company can simply walk away and leave the site if it will be no longer use after operation. (This is known as abandonment phase and commonly practiced in some countries with abundant land area many years ago.) But in this era of environmental awareness such a practice is no longer allowed.

Corrective measures (mitigations)

Even if the company wants to abandon its old site it still has the responsibility for carrying out decommissioning and rehabilitation of the abandoned site. Decommissioning plan is now the most important environmental requirement in this kind of projects.

Hire a contractor and party to do the clearing and tidying up of the site. Old buildings have to be brought down and machinery and equipment have to be dismantled; some can be reused or put up for sale. Materials that have to be disposed of must be disposed of at an approved landfill. The ground, if contaminated with oil spills or chemicals have to be removed and cleared.

The decommissioning work simply means the clearing and tidying up op the old site

The decommissioning and rehabilitation work for this factory will be managed by Spring River factory management guided by the Environmental Law (2012)

3.6 Anticipated environmental and Social Impact Evaluation

a. Preamble

Generally the environmental and social impacts can be categorized as either primary or secondary. Primary impacts are those which are attributed directly by the Plastic Products Manufacturing Factory and secondary impacts are those which are indirectly included and typically include the associated investment, nature of business, changed patterns of social and economic activities by the proposed actions.

Method of statement

b. Actual and fore seeable events, including operational and typical events of project operation are mentioned in this report. Process that may create risk to the environment are considered and are analyzed in terms of key potential environmental impacts

The environmental impacts may include all those that are beneficial or adverse, short or long term, temporary or permanent direct or indirect and local or regional.

Table 35: Impact Matrix

Sr No.	Environmental Aspects	Potential Impacts	Scale	Extent	Permanence	Likelihood	Duration	Significance
Site Preparation and Construction Phase								
1.	Vegetation and terrestrial habitat	Biodiversity loss	High	Local	Irreversible	High	Long	High
		Habitat destruction	High	Local	Irreversible	High	Long	High
		Soil erosion	High	Local	Irreversible	High	Long	High
2.	Water quality, and processes	Disturbances to the marine habitat	High	Local	Irreversible	High	Long	High
		Water contamination	High	Local	Irreversible	High	Long	High
3.	Air quality	Air pollution	High	Local	Reversible	High	Long	Medium
4.	Noise	Noise pollution	High	Local	Reversible	High	Short	Low
5.	Hazard Vulnerability	Fire	High	Local	Irreversible	Less	Short	Low
		Accidents with chemicals	High	Local	Irreversible	Less	Short	Low
6.	Waste Generation	Air pollution	High	Regional	Reversible	High	Short	Low
		Water contamination	High	Local	Reversible	High	Short	Medium
7.	Energy and water consumption	Climate change	High	Local	Reversible	High	Long	Medium
8.	Socio-economic (positive impact)	Increase in employment	Low	Local		High	Short	Low
Operation Phase								
9.	Water quality,	Disturbances to the marine habitat	High	Regional	Irreversible	High	Long	High
		Water contamination	High	Local	Irreversible	High	Long	High
10.	Air quality	Air pollution	High	Local	Reversible	High	Long	Low
11.	Noise	Noise pollution	High	Local	Reversible	High	Short	Low
12.	Hazard Vulnerability	Fire	High	Local	Reversible	Less	Long	Low
		Accidents with chemicals	High	Local	Irreversible	Less	Short	Low
13.	Waste Generation	Air pollution	High	Local	Reversible	High	Long	High
		Water contamination	High	Regional	Reversible	High	Long	High
14.	Energy and water consumption	Climate change	High	Regional		High	Long	High
15.	Socio-economic (positive impact)	Increase in employment	High	Local		High	Long	High

Suggestion

- It is evaluated that the proposed design B has minimal environmental impacts.
- In the light of the minor environmental impacts estimated in design , it is proposed
- It is suggested that enhancement of car parking, road widening should be considered

- Environmental Management or environmental protection plan of EMS objective is plan, do check and act for every issue.

Table 36: Summary of Potential Effects from Changes in Ground Water Flow Regime

Value Environmental Component	Environmental Effect
Aquatic Environment	Aside from stability (No likely effect)
Terrestrial Environment	Effect on aerial extent of existing wetlands and creation of new wetlands. This effect is both adverse from perspective of upland areas and positive from the perspective of creating new landscape. Nature: neutral Magnitude : Low Geographic Extent: site specific Duration/ Frequency: long term Reversibility : Reversible Ecological Context: undisturbed Certainty of knowledge: high No likely significant effect
Land and resource use	There is a potential for land and resource use to change on a local scale based on modification to existing ands or creation of new land form. Nature: adverse Ma Nature: neutral Magnitude : Low Geographic Extent: site specific Duration/ Frequency: long term Reversibility : Irreversible Ecological Context: undisturbed Certainty of knowledge: high Not likely significant effect
Communities	No effect on ground water levels downstream, therefore there will be not hydro geological effects.

3.7 Potential Impacts at Factory Operation and Production Process

3.7.1 Impacts on Soil and Mitigation Measures

The geology underlying the factory building facility comprises permeable alluvial sands, clay (impermeable) and silt in valley filled deposit. There is no natural geologic barrier to retard the infiltration of any controlled release of hazardous substance.

Based on these factors the sensitivity of the underlying soils with respect to any pollution incident is assessed as medium to high.

Mitigation/corrective measures

- Implement adequate protection and maintenance of top soil.
- Top soil has to be utilized for greening processes (that is the planting of trees and creation of green belt; keep minimum storage time to prevent nutrient loss.
- Natural drainage must not be disturbed or altered as far as possible. Artificial drainages could be constructed in alignment with the original natural ones.

3.7.2 Machine injuries and Corrective Protection Measures

Machines using in knitting factory and other cutting tools can cause minor injury to workers' hands. Sewing machines used to make knitting wear are powerful and use needles that can cause severe harm to machine operators.

Fingers can easily be caught in these machines. Over time, the vibration damages nerves and can reduce the amount of blood that goes to the fingers, causing vibration-induced white finger (VWF) where the fingers tingle, hurt, or lose feeling. In the worst case, you can no longer hold objects or use your hands.

Hand injuries caused by vibrating tools

Nailing machines and other equipment that vibrates can lead to a problem called "dead hand," vibration-induced white finger (VWF), hand-arm vibration (HAV), or Raynaud's phenomenon. The vibration limits blood from flowing freely to the fingers, causing them to tingle and lose feeling, turn white, then blue, and even develop ulcers. This injury is not curable. The best way to reduce the damage from it is to ensure that

any person who develops signs is immediately changed to a job with no vibration. It can be prevented by making sure workers do not work too many hours with vibrating tools, regularly rotate out of jobs with vibrating tools, and inspect and maintain tools on a schedule.

Injuries from sewing and ironing can be prevented. Machines need:

Corrective Action / Mitigation

- Guards on the needle areas and on the v-belts above and below the table.
- 2-handed controls on cutting, puncturing, nailing, and stamping machines.
- Electric or other sensors to shut off power to a machine if the worker's body is in the wrong place.
- To prevent injuries to workers who are cleaning, fixing, or adjusting machines, it is important to follow lock out and tag out procedures for repair and maintenance work.

3.7.3 Strain and overuse injuries

Workers often sit or stand in the same position all day. If you can sit, chairs might not support your back and legs. In badly equipped factories, you might have only short stools instead of chairs, causing neck, back, leg, and knee pain.

Corrective Action / Mitigation

- Rotate jobs during the day so no one does any job too long.
- Demand that the factory provide you with chairs and equipment that fit your body and your job.
- Set up your work area so you have what you need close at hand and you do not have to reach, bend, or twist too much.
- Exercise to stretch and strengthen your muscles.

3.7.4 Dangers from dust

Although knitting operations do not generate a lot of dust and small bits of material and only a little of dust generate, breathing these can cause irritation and other breathing problems. Breathing dust, which may contain heavy metals such as chromium, nickel, cadmium, and other chemicals used, can cause problems for very young, pregnant, or older workers, and over time can cause skin irritation and allergies, sinus and nasal cancers, and other problems.

Corrective Action / Mitigation

- An extractor can remove most of the dust from the workstation and area around it.
- A cloth over your nose and mouth may keep a little of the dust out, but it does not protect you very well. Use a dust mask that fits tightly over your nose and mouth.
- Use a vacuum cleaner or at least a damp cloth to clean the dust from surfaces around your work area at least 2 times during your shift.
- Use material that was tanned without heavy metals and toxic chemicals.
- After working at chemical storage area, boiler room, wash chemicals and dust off your hands regularly in washing room, especially before eating or drinking.

3.7.5 Source of potential Impact in Factory during Operation

Table 37: Source of potential Impact in Factory during Operation

Site / Area	Activity that may impact on environment	Potential Impact
Detargent and Wash Agent storage area	Spillage from wash agent and cleaning agent	Vapors are released to air
Fuel storage area generator house area		CO_2, NO_x and So_x are released
Fire extinguisher	Dowsing a fire	CO_2 is released during used
Waste yard (empty container)	Odor and gas released to air	Light pollution
Septic tank (sewage)	Natural process of conventional method	Odors and gas released to air / light pollution
M & E Warehouse	Accidental spill of wire cable, lighting equipment, etc.	(fire sensitive)
Housekeeping	Cleaning of scrap material, Dust and packaging material	Contamination of soil / ground water

Table 38: Raw materials and Associated Environmental Impact

	Raw Material	Nature	Potential Environmental Impact
1.	Fuel / Lubricant / grease	Hazardous	Soil and surface water contamination
2.	Yarn, Cotton, Acrylic, wool	Hazardous	Odors and light pollution
3.	Wash Agent/ softener	Hazardous	Soil and surface water contamination

Table 39: Anticipate Impact and Mitigation measures in Operation Phase

	Component	Potential Impact	Impact without Mitigation	Impact after Mitigation
1.	Air			
	Emission from gen set	Air pollution	Minor	Negligible
	Noise	Worker's health	Moderate	Minor
	Dust	Air pollution	Moderate	Minor
2.	Water			
	Surface runoff water	Surface water pollution	Minor to moderate	Negligible
3.	Land			
	Solid waste	Soil and water pollution	Moderate	Minor
4.	Social/ Economic Environment			
	Traffic	Public nuisance	Minor	Negligible
	Visual	Public nuisance	Minor	Negligible
	Job opportunities	Local economy	Minor to moderate	moderate
	Conflict	Social impact	Minor	Negligible
	Population	Social impact	Minor	Negligible
	Life style	Social impact	Minor	Negligible
5.	Resources use			
	Energy consumption	Global impact	Major	Acceptable limit
	Water consumption	Global impact	Minor to moderate	Acceptable limit
6.	Bio- Diversity Environment			
	Flora	Ecology	Minor	Negligible
	Fauna	Ecology	Minor	Negligible

Environmental Effects during operation

The potential environmental effects from operation of the proposed project

The absence of environmentally sensitive areas within the project area precludes any significant indirect environmental effects. Major impacts would include increased noise, vibration, air pollution, and waste management and road accident due to road traffic and soil erosion and flooding due to blockage of water flow and poor condition of shoulder. Spring River will follow good practice during maintenance and coordinate with local government and other concerned agencies to reduce the impacts.

Table 40: Impact Matrix for Operation Phase

Sr No.	Environmental Aspects	Potential Impacts	Scale	Extent	Permanence	Likelihood	Duration	Significance
Operation Phase								
1.	Water quality,	Disturbances to the marine habitat	High	Regional	Irreversible	High	Long	High
		Water contamination	Low	Local	Irreversible	High	Long	High
2.	Air quality	Air pollution	Low	Local	Reversible	High	Long	Low
3.	Noise	Noise pollution	Low	Local	Reversible	High	Short	Low
4.	Hazard Vulnerability	Fire	High	Local	Reversible	Less	Long	Low
		Accidents with Wash agent	Low	Local	Irreversible	Less	Short	Low
5.	Waste Generation	Air pollution	High	Local	Reversible	High	Long	High
		Water contamination	Low	Regional	Reversible	High	Long	High
6.	Energy and water consumption	Climate change	High	Regional		High	Long	High
7.	Socio- economic (positive impact)	Increase in employment	Low	Local		High	Long	High

Interaction of Project Activities with the Environment

During the operational phase, air and water will be affected due to the industrial development, residential development and power plant set-up and handling of the same will pose occupational hazards as well. Greenbelt, other infrastructural facilities to come up with the industrial estate development will have a broad influence on the environment as well as the society.

The other identified potential impacts and mitigation measures are discussed in the following table in detail.

3.8 Other minor impacts (Potential Significant impacts) and Mitigation Measures

Impact of waste disposal

This referred to the waste generated from the factory that is the office compound, warehouse, kitchen messing room, work shop, etc.

The waste can be in the form of solid waste, waste water and spill or leak that contaminated the soil.

Solid wastes from the working area is in the form of domestic waste and office waste, while waste water is in the form of domestic waste (from kitchen, toilet, bath) and oil spill or leakage.

The spill or leakage of fuel oil, and grease etc could be also substantial if there is a lack of discipline among the workers.

Mitigation Measures

Some of the office waste (paper, packing, cardboard, used office equipment etc.) could be recycled.

Dispose the domestic solid waste (from kitchen, messing room) at an approved land fill or dump site. Avoid open burning of the solid waste; use incinerator if available.

The domestic sewage (food and kitchen waste) and waste water from baths, toilets (manually flushing toilets) will go to a small septic tank and then to soak pit. There must be no discharge of untreated waste water into the open or into-stream, river or water bodies through public drain.

There can be spill of fuel oil, grease etc. at the workshop compound where vehicles are kept. Do no wash down oil spill with water. It will seep into underground water. Soak the oil spill with absorbents or available rags and discard it at an approved land fill.

Refuel vehicles only at designated refueling spot. Use a sump to collect oil spill.

The floor of fuel depot (store) must be sealed (with concrete floor) to prevent the oil from leaking underground. Construct a small bund (drain) around the fuel depot to prevent the spill from spreading.

Discipline all workers for good housing practice; not to litter, not to discard solid waste, rubbish, unused food and kitchen waste indiscriminately.

Impact on traffic

Impact on traffic could be termed negligible since vehicles, truck were rarely used on public road.

Mitigation

Educate the drivers of vehicles and must be driven slowly especially when using a public road. Ask the drivers to follow the principle of defensive driving.

Impact of emergency and health (hospital) service

As In a near downtown area like the project site ,if an accident that effect people occurs, the available service at Yangon General Hospital can solve such a serious problem. The hospitals and clinic at Yangon should be taken into considerations. The condition may only be worse if there is no emergency plan or contingency plan to mitigate the impact.

Natural disasters such as violent storms and great floods are not ruled out for this area; there is no precedent of such a disaster within memory. But there can be potential for accidents at the work place.

Mitigation

Careful planning of emergency procedures must be formulated and implemented. Train at least two workers for first aid training while another three to five workers for firefighting.

Provide adequate First Aid Kits, Fire extinguishers (cylinder) and water jet pumps. Most of all provide Personnel Protective Equipment (PPE) to workers exposed to dust, smokes, heat, vibration etc.

Always try to prevent or reduce incidence and severity of injuries during operation. Try to respond immediately and adequately in case of a serious accident.

For emergency response, organize regular mock drills for first aid works and also mock drills for fire fighting.

Display phone numbers and addresses of nearest Red Cross Society, Ambulance Service, Fire Brigade, Police Station, Yangon General Hospital, Private Hospital and Yangon Region Hospitals on the wall so that every worker can see easily.

Visual impact and lighting	In this era of environmental awareness bright light at night is considered pollution. The project site and surrounding area access to electricity at every time. The camp (project site) has to rely on generator for lighting when MESB system breaks down.

Mitigation

Provide appropriate lighting only for security reason. Avoid excessive use of light at night; white light attracts more insects than yellow light at night. So use yellow light lamp (bulb) for outside. If too many insects aggregate at a lamp switch off the light for a few minutes.

Impact of social illness or anti-social behavior on the project and vice versa	The impact can be a two way interaction. Social illness of the workers can have negative impact on the project while the project can have impacts on the workers who came from different regions. Such an issue can occur during the Construction Phase. But no big impact could be anticipated since the number of workers is relatively small, just over 50, during this Operation Phase. However the authority/manager of the workshop should not be complacent with this. Disputes, quarrels, brawls, among the workers or with locals; theft; misappropriation of money and materials; unethical sexual practices or sexual offences etc. can happen from time to time. All these have the potential to hinder or even jeopardize the operation of this manufacturing or fabrication factory.

Mitigation measures

Education and disciplinary actions are necessary. Educate the employees to be good workers, to be dutiful, well-disciplined and diligent. Give them proper training on work place regulation and on code of conducts.

Prohibit the use of narcotics among the workers; ban the drinking of alcohol in the work place and if possible inside the working area.

As for dealing with the local people educate the workers regarding local cultural behavior, etiquette, conducts, and awareness to achieve responsible and health community interactions.

The company must deal with the workers on a fair and square basis. The company should be aware of the widespread cases of workers protects and unrest as a result of overworked, underpaid, unfair dealing and unhealthy relation between the employer and employees.

Impact: potential security	The security issue can be in the form of theft, vandalism and sabotage. There is always the potential security issue for the project site. The local people around and the workers inside can pose a potential for security issue if left unchecked.

Mitigation

The fencing or walling of the compound is necessary. Access control must be implemented; set up effective security gate; no unauthorized access to the project site is permitted. Check all the entering and leaving of the project site. Do not let the workers mingle freely with the local people, especially during working hours. Educate security guards to be attentive and dutiful. All workers must wear uniform and keep ID card for easy identification.

Keep every material that are of certain value and that could be easily stolen under lock and key.

Educate and discipline the workers. Set up punitive measures, such as suspension or sacking (termination of employment) for workers found to be in contravention of the rules or requirements.

Table 41: Interaction Matrix for the proposed project

			Preconstruction				Infrastructure development and Operation														
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
	Component	Project Activities Parameter / Factor	Land Acquirement	Site Preparation/ leveling including development of plots, parking lots, size Zoning	Burning of waste/, refuges & cleared vegetation	Construction of boundary wall to separate out zones	Laying of Roads	Water supply pipelines, overhead tanks etc.	Drainage network	Laying of treated water disposal pipelines	Power connection, laying of transmission line	Laying of telecom lines	Laying of gas distribution lines	Civil and building works	Heavy equipment operation	Disposal of construction wastes	Influx of construction workers	Material transportation, traffic movement, (Road and water way)	Green belt development	Operation of generator facilities	Storage of chemical / flammables
	Soil	Erosion Risks		*	*																
		Soil Quality / contamination		*												*		*			*
	Resources	Fuels/ electricity		*							*							*			
		Construction Material- stone, aggregates				*	*				*			*							
		Land especially undeveloped or agricultural land		*															*		
	Water	Interception or alteration of river beds																			
		Alternation of hydraulic regime												*							
		Alteration of surface runoff and interflow				*								*							
		Alteration of aquifers																			
		Water Quality																			
		Temperature																			
	Air	Air Quality			*		*						*			*					
		Noise				*	*											*			
		Climate														-					
Biological	Terrestrial Flora	Effect on grass & flowers																			
		Effect on farmland		*																	
		Endangered species																			
	Aquatic Biota	Habitat removal																			
		Contamination of/ Disturbance to habitats																			
		Reduction of aquatic biota																			
	Terrestrial Fauna	Fragmentation of terrestrial habitats																			

			Preconstruction				Infrastructure development and Operation														
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
		Disturbance of habitats by noise or vibration		*														*			
		Reduction of Biodiversity																			
Social	Economy	Creation of new economic activities	*				*				*		*								
		Commercial value of properties								*	*										
		Generation of Temporary and permanent jobs														*		*			
		Effect on crops		*			*														
		Reduction of farmland productivity																			
		Income for the state and private sector									*	*									
		Savings for consumers &private consumers									*		_	*							
		Savings in foreign currency for the state											*								
	Education	Training in new technologies																	_		
		Training in new skills				To workers							*		-						*
		Political Conflicts						*											_	_	.
		Training in new skills				To workers							*		-						*
	Order	Unrest, demonstrations	*				*		social conflicts									*			
		Conflicts with projects of urban, commercial or Industrial development						*					_			_	*	*			
		Increase in Crime															*				
		Accidents												*	*	*				*	*
		Temporary												*	*					*	*
		Chronic		•													_				*
		Acute												*							*
		Land Use		*																	*
		Recreation		*	*																
		Aesthetics and human interest		*						*				*		*		*	*		*
		Cultural status															*				

3.9 Natural Hazard, Industrial Hazard and Disaster Management Plan

A disaster is a catastrophic situation in which suddenly people are plunged into helplessness and suffering and, as a result, need protection clothing shelter, medical and social care and other necessities of life Disaster can be divided into two main groups. They are;

1. Natural Disaster
2. Industrial Disaster

3.9.1 Natural Disaster

In the first, is disaster resulting from natural phenomena, like earthquake volcanic eruptions, storm surges, and cyclones tropical storms, flood and forest fires.

Regarding natural disasters, the site where the factory is located found no major damage during the century, except for the disaster caused by Cyclone Nargis in 2008.

On May 2, 2008, Cyclone Nargis struck Myanmar's Ayeyarwady Delta and swept across the region toward Yangon. By the time the storm had passed, it had killed over 140,000 people, tearing apart families, destroying homes, and shattering livelihoods.

Among others, climate change has led to unpredictable weather, hampering livelihoods, while the migration boom to Yangon and elsewhere has provided economic opportunity even as it has altered the local social fabric.

After Cyclone Nargis the township experienced a jump in population due to refugees.

3.9.2 Industrial Disaster

The second group includes disaster event associated by man or by man's impact upon the environment. Examples are named conflict, industrial accidents, factory fires, explosion and the outside structural collapses.

The objective of the industrial disaster management plan to make use of the combined resources of the plant and the outside services to achieve the following;

- ✓ Effect the rescue and medical treatment of causalities
- ✓ Safeguard other people
- ✓ Minimize damage to property and the environment
- ✓ Initially contain and ultimately being the incident under control
- ✓ Identify and dead
- ✓ Provide for the needs of relatives
- ✓ Provide authoritative information to the news media
- ✓ Secure the safe rehabilitation of affected area
- ✓ Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency

Risk Assessment and Classification of identified Environmental Impact

Evaluation, rating and classification of Significant Impact for Spring River (Myanmar)

(University of New South Way)'s method of Environmental Risk Rating Procedure
https://www.gs.unsw.edu.au/policy/documents/envriskratingprocedure.pdf

No	Environmental Aspect	Associated Environmental Impact	Likelihood	Consequence	Risk rating	Significant
	Use of electricity for production	Generation of Green house	A	4	High	Yes
	Use of electricity for production air-condition, Air blower	Generation of Green house	A	4	High	Yes
	Use of electricity for computer and other office equipment, office — air condition	Generation of Green house	A	4	High	Yes
	Generation of Paper in office, production area	Use of forest resource	A	5	High	Yes
	Generation of general office waste, production waste, store waste (Packaging)	Use of landfill	A	4	High	Yes
	Storage and use of chemical for Housekeeping of production Area, Toilet, office	Pollution of water way	B	5	Low	No
	Dining Room	Generation of organic waste	A	5	High	Yes
	Ware House	Generation of solid waste	A	3	High	Yes
	Use of fuel for staff-vehicle, Import, Export traffic	Generation of green house and use of diesel		4	Medium	Yes
	Use of fuel for Generator	Generation of green house and use of diesel		3	Medium	Yes
	Spill from storage and use of diesel fuel for , emergency generator, Air compressor, machine	Pollution of water way	E	3	Medium	No
	Use of water in staff, dining room, kitchen, toilets, washing room	Use of limited water resources (Tube well / ground tank)	A	4	High	Yes
	Labor Management (well fare and salary) (Hygiene to production area)	'Complain for Socio — eco	E	2	High	No
	Sewage from septic tank for Toilets	Pollution of rice mill	C	4	Low	No

Consequences

Level	Descriptor	Consequences examples
1	Catastrophic	Long term environmental damage (5 years or longer),
2	Major	Medium-term (1-5 years) environmental damage,
3	Moderate	Short-term (less than 1 year) environmental damage
4	Minor	Environmental damage,
5	Insignificant	Negligible environmental impact, managed within operating budgets

Likelihood

Level	Descriptor	Likelihood of the risk arising and leading to consequence	the assessed level of
A	Almost certain	Is expected to occur in most circumstances and has a history of occurrence	Once a year or more frequent
B	Likely	Will probably occur in most circumstances	Once in 1 to 3 years
C	Possible	Could occur at some time	Once in 3 to 10 years
D	Unlikely	Not likely to occur in normal circumstances	Once in 10 to 50 years
E	Rare	May occur only in exceptional circumstances	Once in 100 years or more

Risk Matrix

Likelihood	Consequences Catastrophic 1	Major 2	Moderate 3	Minor 4	Insignificant 5
Almost certain **A**	Extreme	Extreme	High	High	Medium
Likely **B**	Extreme	Extreme	High	Medium	Low
Possible **C**	Extreme	High	Medium	Medium	Low
Unlikely **D**	High	Medium	Medium	Low	Low
Rare **E**	High	Medium	Low	Low	Low

Evaluation of impacts, Risk assessment and mitigation measure, in this factories operational phases

Classification

Rare -1		Unlikely – 2		Possible -3		Likely – 4		Almost certain -5	
Frequency	Probability	Actual frequency	Probability	Actual frequency	Probability	Actual frequency	Probability	Actual frequency	Probability
Not expected to occur for years	<0.1%	Expected to occur at least annually	0.1 – 1%	Expected to occur at least monthly	1 – 10 %	Expected to occur at least weekly	10 – 50 %	Expected to occur at least daily	More than 50 %

Likelihood scoring: Rare =1, Unlikely = 2, Possible = 3, likely =4, almost certain =5

Severity and of impact consequence

Consequence	Condition	Scoring
Negligible	Loss interruption of > 1 hour minimal or no impact on the environment	1
Minor	Loss interruption of > 8 hours minor impact on environment	2
Moderate	Loss interruption of > 1 day moderate impact on environment	3
Major	Loss interruption of > 1 week Major impact on environment	4
Catastrophic	Permanent loss of service or facility catastrophic impact on environment	5

Risk Rating Matrix

Actual Risk outcome					
Low (Green) 1 – 3	Moderate (yellow) 4 – 6		High (Amber) 8 – 12		Extreme (Red) 15 – 25
Consequence	Likelihood				
	Rare 1	Unlikely 2	Possible 3	Likely 4	Almost certain 5
Catastrophic 5	5 (yellow)	10 (Amber)	15 (Red)	20 (Red)	25 (Red)
Major 4	4 (yellow)	8 (Amber)	12 (Amber)	16 (Red)	20 (Red)
Moderate 3	3 (Green)	6 (Yellow)	9 (Amber)	12 (Amber)	15 (Red)
Minor 2	2 (Green)	4 (Yellow)	6 (Yellow)	8 (Amber)	10 (Amber)
Negligible 1	1 (Green)	2 (Green)	3 (Green)	4 (Yellow)	5 (Amber)

Source: National Patient Agency

According to above table, for this rice mill, the environmental impacts are identified, classified and presented in the following table for all operational phases.

Table 42: Impact identification and classification

No.	Impact objects	Pollution	Risk Evaluation: Severity Condition	Severity Score	Likelihood Condition	Likelihood score	Risk Rating score	Level of Risk	Operational Mitigation / control measures
	Construction Phase (Already successfully passed over)								
	Physical environment								
a.	Air Environment	Dust from site cleaning leveling process Dust from exhausted gas from transport vehicles Dust from construction and equipment machinery	Minor	2	Possible	3	6	Moderate (Yellow)	Used Chimney to reduce stack air emission Plant tree to reduce carbon emission Spraying water to reduce dust emission on road Vehicles, generators are well maintained Masks are provided to workers to avoid inhalation problem due dust
b.	Surface water	Vegetable, biomass from site cleaning Leveling ground, Living waste water oil, Living solid waste, Demolition waste, Waste oil	Minor	2	unlikely	2	4	Moderate (Yellow)	
c.	Soil and underground water	Vegetable, bush biomass from site clearance, Leveling material, Living wastewater, Living solid waste Demolition waste, Waste oil	Minor	2	Rare	1	2	Low (Green)	
d.	Biological environment	Vegetable, bush biomass from site clearance, Leveling material, Living wastewater, Living solid waste, Demolition waste, Waste oil	Minor	2	Rare	1	2	Low (Green)	
e.	Cultural social environment	Temperature, inundation Conflict between construction worker and residence, local people.	Minor	2	Rare	1	2	Low (Gre	

No.	Impact objects	Pollution	Risk Evaluation				Risk Rating		Operational Mitigation / control measures
			Severity		Likelihood				
			Condition	Score	Condition	score	score	Level of Risk	
		Occupational accident							
	Operation Phase								
	Physical environment								
a.	Air Environment	Emission gas from generator, transport vehicle, air condition Inside rice mill (heat wave)	Minor	2	Possible	3	6	Moderate (Yellow)	Used Chimney to reduce stack air emission Plant tree to reduce carbon emission Spraying water to reduce dust emission on road Vehicles, generators are well maintained Masks are provided to workers to avoid inhalation problem due dust
b.	Surface water	Industrial waste water Living solid waste Nonhazardous processing solid waste Excess sludge from waste water and septic tank	Minor	2	unlikely	2	4	Moderate (Yellow)	Recycling or proper disposal according to YCDC regulation. Flow meter need to be installed at overhead tank
c.	Soil and underground water	Living wastewater Industrial waste water Living solid waste Nonhazardous processing solid waste Hazardous processing solid waste Excess sludge from waste water treatment	Minor	2	unlikely	2	4	Moderate (Yellow)	Solid waste generated from the operation of rice mill are segregated into biodegradable and recycle waste and handed over to waste buyer for proper management Contamination of soil is reduced by suitable management of oil and fuel
d.	Biological environment	Living wastewater Industrial waste water Living solid waste Nonhazardous process Hazardous processing solid waste	Minor	2	Rare	1	2	Low (Green)	
e.	Noise	Noise can generate from vehicle movement and especially from operation of generator or other vibrating machines	Insignificant	1	Unlikely	2	2	Low (Green)	Use of PPE like ear plug, ear muffs in the noisy workplace like generator area. Building noise insulated ensure satisrice mill maintenance equipment.
f.	Waste management / disposal	Surrounding environmental pollution and soil contamination	Minor	2	Possible	3	6	Moderate (Yellow	Disposal of solid sewage waste in own septic following the waste management plan Solid waste need to collect in storage and handed over to local waste buyer Medical waste generated by the rice mill is handed over to YCDC
g.	Dangerous goods/ hazardous material Handling	Contamination of soil, surface, water, ground water & accident	Unlikely	2	Rare	1	2	Low (Green)	Proper inspection and maintenance / storage of hazardous materials such as needle, fudge electric bulbs, empty oil/ medicals waste etc.
h.	Traffic pattern	Increase of vehicle traffic as well as gaseous emission & risk of increasing road accidents	Negligible	1	Possible	3	3	Low (Green)	Vehicular movement would be restricted at day time and adequate parking facilities might be provided
i.	Cultural social environment	Risk of emission gas from generator Risk of waste water treatment plant Fire and explosion risk Chemical exposure Temperature exposure Labor accident Traffic obstruction from local people	Minor	2	unlikely	2	4	Moderate (Yellow)	

No.	Impact objects	Pollution	Risk Evaluation				Risk Rating		Operational Mitigation / control measures
			Severity		Likelihood		score	Level of Risk	
			Condition	Score	Condition	score			
	Decommission Phase								
	Physical environment								
	Air Environment	Dust from site cleaning process Dust from exhausted gas from transport vehicles Dust from construction and equipment machinery	Minor	2	Possible	3	6	Moderate (Yellow)	Spraying water to reduce dust emission on road Vehicles Engines are well maintained Masks are provided to workers to avoid inhalation problem due dust
b.	Surface water	Nonhazardous processing solid waste Excess sludge from waste water and septic tank	Minor	2	unlikely	2	4	Moderate (Yellow)	
c.	Soil and underground water	Nonhazardous processing solid waste Hazardous processing solid waste Excess sludge from waste water treatment	Minor	2	unlikely	2	4	Moderate (Yellow)	
d.	Biological environment	Non-hazardous process Hazardous processing solid waste	Minor	2	Rare	1	2	Low (Green)	
e.	Cultural social environment	Labor accident Traffic obstruction from local people	Minor	2	unlikely	2	4	Moderate (Yellow)	

3.10 Commitment for Mitigation Measure of the Impact

- **Consideration and mitigation will be given to the potential impact of the project activities to minimize the impact, and to maximize the benefit.**
- **The project will adhere to the mitigation measures for the temporary and permanent environmental and socio-economic impacts that may arise from the proposed project throughout the factory operation period.**

Table 43: Risk Analysis Table (Myanmar Version)

ဌာန	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ		ဖြစ်နိုင်ခြေရှိသော မတော်တဆဖြစ်မှုပုံစံများ	LEC ခွဲခြမ်းစိတ်ဖြာမှု				တာဝန်ယူဆောင်ရွက်ချက်များ	တာဝန်ရှိပုဂ္ဂိုလ်/ အဖွဲ့အစည်း	ဘေးအန္တရာယ် အဆင့်သတ်မှတ်ချက်[1]
	အမှတ်စဉ်	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ		L[2]	E[3]	C[4]	D[5]			
ကွန်ပြူတာစက်ဆွဲ	၁	စက်မောင်းနှင်ခြင်းဆိုင်ရာ စည်းမျဉ်းစည်းကမ်းမရှိခြင်း (သို့မဟုတ်) စက်မောင်းသူမှ စည်းမျဉ်းစည်းကမ်း မလိုက်နာခြင်း။	စက်ချို့ယွင်းမှု	1	6	3	18	စက်ရုံတွင် စက်များမောင်းနှင်မှုနှင့်ဆိုင်သော စည်းမျဉ်းစည်းကမ်းများ ထားရှိ ပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၂	စက်မောင်းသူအိပ်ပျော်နေခြင်း (သို့မဟုတ်) အရက်သေစာသောက်စား ထားခြင်း။	စက်ချို့ယွင်းမှု	1	6	3	18	စက်ရုံတွင် အလုပ်ချိန်တွင် အိပ်ငိုက်ခြင်း၊ အရက်သေစာသောက်စား ခြင်း တို့ကို တားမြစ်ထားသော စည်းကမ်းချက်များရှိပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၃	ကတ်ကြေး၊ ဖောက်စူးများကို မသင့်လျော်သောနေရာတွင် ထားခြင်း၊ အသုံးပြုခြင်း။	စက်ချို့ယွင်းမှု	1	6	3	18	ကတ်ကြေး၊ ဖောက်စူး စသည့်ချွန်ထက်သောပစ္စည်းများကို ကြိုးဖြင့်ချည်ထားရန် စည်းကမ်းချက်များ ထားရှိပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၄	ပြည့်စုံကောင်းမွန်သော၊ ယုံကြည်စိတ်ချရသော၊ ထိရောက်သော လုံခြုံရေး အတွက် ကာကွယ်မှုမရှိခြင်း၊ အပြန်အလှည်ချိတ်ဆက် ဆက်သွယ်မှုများ၊ အချက်ပြမီး၊ အချက်ပေးခေါင်းလောင်း၊ အာမခံမှုရှိသော စက်ကိရိယာများ မရှိခြင်း။	စက်ချို့ယွင်းမှု	0.5	6	3	9	စက်ရုံမှ စက်ပြင်ဝန်ထမ်းများခန့်အပ်ထားပြီး၊ စက်များ၏ အကာအကွယ် စနစ် များ၊ ဝန်ထမ်းများ လုံခြုံရေး တို့ကို အဓိကထား ဆောင်ရွက်စေ ပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၅	မြေပြင်ပေါ်မောင်းနှင်သောစက်ကိရိယာများတွင် ကာကွယ်ရေးစနစ်မပါရှိခြင်း	စက်ချို့ယွင်းမှု	0.5	6	3	9	စက်ရုံမှ စက်ပြင်ဝန်ထမ်းများခန့်အပ်ထားပြီး၊ စက်များ၏ အကာအကွယ် စနစ် များ၊ ဝန်ထမ်းများလုံခြုံရေးတို့ကို အဓိကထားဆောင်ရွက်စေပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၆	ကွန်ပျူတာချည်ရစ်စက်၏လျှပ်စစ်မစီးကူးရန်ကာထားမှုစနစ်မကောင်းခြင်း၊ သွယ်ထားသောကြိုးတန်းများ ဟောင်းနွမ်း ခြင်း၊ ပေါက်ပြဲနေခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း	0.5	6	7	21	စက်ရုံမှ EP ဝန်ထမ်းများခန့်အပ်၍ လျှပ်စစ် ဘေးအန္တရာယ်ဖြစ်စေနိုင်ခြင်း ကို ကာကွယ်ရန် လျှပ်စစ်သွယ်တန်းမှုကို စနစ်တကျဖြစ်စေရန် စစ်ဆေး လုပ်ဆောင် စေပါသည်။	Electrical Technician	အပြာရောင်အဆင့်
	၇	ကွန်ပျူတာချည်ရစ်စက်၏ အခြေခံသင်ကြားပေးမှု မကောင်းမွန်ခြင်း၊ လျှပ်စစ် ယိုစီးမှုစက်ကိရိယာမှာ အားနည်းချက်ရှိခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း	1	6	7	42	စက်ရုံမှ EP ဝန်ထမ်းများခန့်အပ်၍ လျှပ်စစ် ဘေးအန္တရာယ်ဖြစ်စေနိုင်ခြင်းကို ကာကွယ်ရန် လျှပ်စစ်သွယ်တန်းမှုကို စနစ်တကျဖြစ်စေရန် စစ်ဆေးလုပ်ဆောင် စေပါသည်။	Electrical Technician	အဝါရောင်အဆင့်
	၈	အင်ဂျင်ဝိုင်ယိုစိမ့်မှုကြောင့် စက်မောင်းသူချော်လဲနိုင်ခြင်း၊ မီးလန့်ခြင်း၊ မီးလောင်ခြင်း။	အင်ဂျင်ဝိုင်ယိုစိမ့်မှု ကြောင့် စက်မောင်းသူ ချော်လဲနိုင်ခြင်း၊ မီးလန့်ခြင်း၊ မီးလောင်ခြင်း။	0.5	6	3	9	စက်ရုံမှ အင်ဂျင်ဝိုင်ပုံးများကို ယိုစိမ့်မှုမှ ကာကွယ်ရန် အောက်ခံပုံးများ ထားရှိ ပေး ပါသည်။	Mechanic	အပြာရောင်အဆင့်
	၉	စက်သံဆူညံခြင်း။	နားလေးစေနိုင်ခြင်း	0.5	6	3	9	ဝန်ထမ်းများကို နားကြပ်များလုံလောက်စွာပေး၍ အလုပ်ချိန်တွင် နားကြပ်များ တပ်ဆင်စေပါသည်။	Maintenance Section	အပြာရောင်အဆင့်
	၁၀	စက်မောင်းသူမှ နားကြပ်တပ်မထားခြင်း။	နားလေးစေနိုင်ခြင်း	0.5	6	7	21	ဝန်ထမ်းများကို PPE ဝတ်ဆင်မှု၏အရေးပါပုံကို သင်တန်းများပေးပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၁၁	အပူချိန်မြင့်မားလွန်းသောရာသီတွင် လေဝင်လေထွက် ကောင်းမွန်အောင် ဆောင်ရွက် ထားမှုမရှိခြင်း။	အပူရှပ်ခြင်း	1	6	3	18	လေအေးပေးစက်များ ကောင်းစွာထောက်ပံ့ပေးထားပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၂	လုပ်ငန်းခွင်အတွင်းအလင်းရောင်အားနည်းမှုကြောင့် ဝန်ထမ်းများအမြင်အာရုံ ထိခိုက်စေနိုင်ခြင်း။	အဝေးမှုန်စေနိုင်ခြင်း	0.5	6	3	9	လျှပ်စစ်မီးကို လုံလောက်စွာထောက်ပံ့ထားပါသည်။		အပြာရောင်အဆင့်
	၁၃	အလုပ်နားချိန်တွင် ပါဝါခလုတ်များ ပိတ်မသွားခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	အလုပ်နားချိန်တွင် ပါဝါခလုတ်များပိတ်သွားရန်နှင့် မီးဘေးအန္တရာယ် သတိပြု ကြရန် သင်တန်းပေးပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၁၄	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများပိတ်ထားခြင်း၊ အရေးပေါ်အချက်ပြမီးများကို ထားရှိရမည့်နေရာတွင် မထားခြင်းတို့ကြောင့် မတော်တဆမှုဖြစ်ပွားစဉ် အချိန်မီ ထွက်ပြေးနိုင်ရန်ခက်ခဲခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေးစေပါသည်။ ထွက်ပေါက်များပိတ်ဆို့မထားရန်လည်း ဝန်ထမ်းများကို သတိပေးထားပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၁၅	ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ် ကိရိယာ များအသုံးပြုပုံများကိုလည်း သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၆	လက်တွေ့မီးငြိမ်းသတ်ရေးကိရိယာများအလုံအလောက် မရှိခြင်း။	မီးလောင်ခြင်း	1	0.5	15	7.5	စက်ရုံမှ Safety Officer ခန့်အပ်၍ မီးသတ်ကိရိယာများလုံလောက်မှုရှိမရှိ စစ်ဆေးစေပါသည်။	Safety Officer	အပြာရောင်အဆင့်
	၁	ကတ်ကြေး၊ ဖောက်စူးများကို မသင့်လျော်သောနေရာတွင် ထားခြင်း၊ အသုံးပြုခြင်း။	စက်ချို့ယွင်းမှု	1	6	3	18	ကတ်ကြေး၊ ဖောက်စူး စသည့်ချွန်ထက်သောပစ္စည်းများကို ကြိုးဖြင့်ချည်ထားရန် စည်းကမ်းချက်များထားရှိပါသည်။	Management Team	အပြာရောင်အဆင့်
	၂	အပူချိန်မြင့်မားလွန်းသောရာသီတွင် လေဝင်လေထွက် ကောင်းမွန်အောင် ဆောင်ရွက်ထားမှုမရှိခြင်း	အပူရှပ်ခြင်း	1	6	3	18	လေအေးပေးစက်များ ကောင်းစွာထောက်ပံ့ပေးထားပါသည်။	Management	အပြာရောင်အဆင့်
	၃	လုပ်ငန်းခွင်အတွင်းအလင်းရောင်အားနည်းမှုကြောင့် ဝန်ထမ်းများအမြင်အာရုံထိခိုက်စေနိုင်ခြင်း။	အဝေးမှုန်စေနိုင်ခြင်း	0.5	6	3	18	လျှပ်စစ်မီးကို လုံလောက်စွာထောက်ပံ့ထားပါသည်။		အပြာရောင်အဆင့်
	၄	လုပ်ငန်းခွင်မှ မထွက်ခွာမီ မီးများ၊ ပါဝါခလုတ်များ မပိတ်ခဲ့ခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	အလုပ်နားချိန်တွင် ပါဝါခလုတ်များပိတ်သွားရန်နှင့် မီးဘေးအန္တရာယ်သတိပြု ကြရန် သင်တန်းပေးပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၅	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများပိတ်ထားခြင်း၊ အရေးပေါ်အချက်ပြမီးများကို ထားရှိရမည့်နေရာတွင် မထားခြင်းတို့ကြောင့် မတော်တဆမှုဖြစ်ပွားစဉ် အချိန်မီ ထွက်ပြေးနိုင်ရန်ခက်ခဲခြင်း။	အသက်အန္တရာယ်နှင့် ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေးစေပါသည်။ ထွက်ပေါက်များပိတ်ဆို့မထားရန်လည်း ဝန်ထမ်းများ ကို သတိပေးထားပါသည်။	Management	အပြာရောင်အဆင့်
	၆	ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	အသက်အန္တရာယ်နှင့် ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ် ကိရိယာ များအသုံးပြုပုံများကိုလည်း သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၇	လက်တွေ့မီးငြိမ်းသတ်ရေးကိရိယာများအလုံအလောက် မရှိခြင်း။	မီးလောင်ခြင်း	1	0.5	15	7.5	စက်ရုံမှ Safety Officer ခန့်အပ်၍ မီးသတ်ကိရိယာများလုံလောက်မှုရှိမရှိ စစ်ဆေး စေပါသည်။	Safety Officer	အပြာရောင်အဆင့်

[1] **Colour code for significant of Impact** Negligible, Low, Moderate, High

[2] L - **Likely hood** Improbable: 0.5, Probable: 1, Highly probable: 2, Definite: 4

[3] E - **Exposure** Short term: 1, Medium Term: 3, Long Term: 6, Permanent: 8

[4] C - **Criticality** Low 1 - 5, Medium 6, High 10 - 40

[5] D - Dangerous Sum (likelihood x exposure x criticality) negligible < 20, Low: < 40, Moderate: < 60, High: > 60

ဌာန	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ		ဖြစ်နိုင်ခြေရှိသော မတော်တဆဖြစ်မှုပုံစံများ	LEC ခွဲခြမ်းစိတ်ဖြာမှု				တာဝန်ယူဆောင်ရွက်ချက်များ	တာဝန်ရှိပုဂ္ဂိုလ်/ အဖွဲ့အစည်း	ဘေးအန္တရာယ် အဆင့်သတ်မှတ်ချက်[1]
	အမှတ်စဉ်	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ		L[2]	E[3]	C[4]	D[5]			
ချည်ရစ်ဌာန	၁	စက်မောင်းနှင်ခြင်းဆိုင်ရာ စည်းမျဉ်းစည်းကမ်းမရှိခြင်း (သို့မဟုတ်) စက်မောင်းသူမှ စည်းမျဉ်းစည်းကမ်း မလိုက်နာခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	6	3	18	စက်ရုံတွင် စက်များမောင်းနှင်မှုနှင့်ဆိုင်သော စည်းမျဉ်းစည်းကမ်းများ ထားရှိပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၂	စက်မောင်းသူမှ တာဝန်ချိန်တွင်အိပ်ပျော်နေခြင်း (သို့မဟုတ်) ထုတ်လုပ်မှုနှင့်မသက်ဆိုင်သော ကိစ္စတစ်ခုခု လုပ်နေခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	6	3	18	စက်ရုံတွင် အလုပ်ချိန်တွင် အိပ်ငိုက်ခြင်း၊ အရက်သေစာသောက်စားခြင်း တို့ကို တားမြစ်ထားသော စည်းကမ်းချက်များရှိပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၃	ကတ်ကြေး၊ ဖောက်စူးများကို မသင့်လျော်သောနေရာတွင် ထားခြင်း၊ အသုံးပြုခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	6	3	18	ကတ်ကြေး၊ ဖောက်စူး စသည့်ချွန်ထက်သော ပစ္စည်းများကို ကြိုးဖြင့်ချည်ထားရန် စည်းကမ်းချက်များထားရှိပါသည်။	Management Team	အပြာရောင်အဆင့်
	၄	စက်လည်ပတ်မှု၊ တစ်နေရာမှတစ်နေရာသို့ ပို့ဆောင် ပေးသော စက်အစိတ် အပိုင်းများသည် ပြီးပြည့်စုံမှုမရှိခြင်း၊ ယုံကြည်စိတ်ချရမှုမရှိခြင်း၊ ကာကွယ်ရေး ကိရိယာများ တပ်ဆင်ထားမှုမရှိခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	0.5	6	3	9	စက်ရုံမှ စက်ပြင်ဝန်ထမ်းများခန့်အပ်ထားပြီး၊ စက်များ၏ အကာအကွယ် စနစ်များ၊ ဝန်ထမ်းများလုံခြုံရေးတို့ကို အဓိကထားဆောင်ရွက်စေပါသည်။	Management Team	အပြာရောင်အဆင့်
	၅	မော်တာစက်၏လျှပ်စစ်စီးကူးမှုကာထားသောစနစ်မကောင်းခြင်း၊ လျှပ်စစ်ဓါတ်သွားရာလမ်းကြောင်းများ ဟောင်းနွမ်း နေခြင်း၊ ပေါက်ပြဲနေခြင်း၊ လျှပ်စစ်ဓါတ်အသုံးပြုရာတွင် အားနည်းချက်ရှိနေခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း	0.5	6	7	21	လျှပ်စစ် ဘေးအန္တရာယ်ဖြစ်စေနိုင်ခြင်းကို ကာကွယ်ရန်၊ လျှပ်စစ် သွယ်တန်းမှုကို စနစ်တကျဖြစ်စေရန်နှင့် ကြိုးအပေါက်အပြဲများကို ပုံမှန်စစ်ဆေးပေးရန် စက်ရုံမှ EP ဝန်ထမ်းများခန့်အပ်ထားပါသည်။	Electricial Technician	အစိမ်းရောင်အဆင့်
	၆	အင်ဂျင်ဝိုင်ယိုစိမ့်မှုကြောင့် စက်မောင်းသူချော်လဲနိုင်ခြင်း၊ မီးလန့်ခြင်း၊ မီးလောင်ခြင်း။	ချော်လဲနိုင်ခြင်း၊ မီးလောင်ခြင်း	1	6	7	42	စက်ရုံမှ အင်ဂျင်ဝိုင်ပုံးများကို ယိုစိမ့်မှုမှ ကာကွယ်ရန် အောက်ခံပုံးများထားရှိ ပေးပါသည်။	Maintenance	အဝါရောင်အဆင့်
	၇	ချည်ရစ်စက်သံဆူညံခြင်း။	နားလေးစေနိုင်ခြင်း	1	6	7	42	ဝန်ထမ်းများကို နားကြပ်များလုံလောက်စွာပေး၍ အလုပ်ချိန်တွင် နားကြပ်များ တပ်ဆင်စေပါသည်။	Maintenance	အဝါရောင်အဆင့်
	၈	ချည်ရစ်သူမှ ကိရိယာများတပ်ဆင်မထားခြင်း (သို့မဟုတ်) နားကြပ်များမတပ်ထားခြင်း။	နားလေးစေနိုင်ခြင်း	1	6	7	42	ဝန်ထမ်းများကို PPE ဝတ်ဆင်မှု၏အရေးပါပုံကို သင်တန်းများပေးပါသည်။	Supervisor	အဝါရောင်အဆင့်
	၉	အပူချိန်မြင့်မားလွန်းသောရာသီတွင် လေဝင်လေထွက် ကောင်းမွန်အောင် ဆောင်ရွက်ထားမှုမရှိခြင်း။	အပူရှပ်ခြင်း	1	6	3	18	လေအေးပေးစက်များ ကောင်းစွာထောက်ပံ့ပေးထားပါသည်။	Management	အပြာရောင်အဆင့်
	၁၀	လုပ်ငန်းခွင်အတွင်းအလင်းရောင်အားနည်းမှုကြောင့် ဝန်ထမ်းများအမြင်အာရုံထိခိုက်စေနိုင်ခြင်း။	အဝေးမှုန်စေနိုင်ခြင်း	0.5	6	3	9	လျှပ်စစ်မီးကို လုံလောက်စွာထောက်ပံ့ထားပါသည်။	Management	အပြာရောင်အဆင့်
	၁၁	လုပ်ငန်းခွင်မှ မထွက်ခွာမီ မီးများ၊ ပါဝါခလုတ်များ မပိတ်ခဲ့ခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	အလုပ်နားချိန်တွင် ပါဝါခလုတ်များပိတ်သွားရန်နှင့် မီးဘေးအန္တရာယ် သတိပြု ကြရန် သင်တန်းပေးပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၁၂	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများပိတ်ထားခြင်း၊ အရေးပေါ်အချက်ပြမီးများကို ထားရှိရမည့်နေရာတွင် မထားခြင်းတို့ကြောင့် မတော်တဆမှုဖြစ်ပွားစဉ် အချိန်မီ ထွက်ပြေးနိုင်ရန်ခက်ခဲခြင်း။	အသက်အန္တရာယ်နှင့် ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေးစေပါသည်။ ထွက်ပေါက်များပိတ်ဆို့မထားရန်လည်း ဝန်ထမ်းများ ကို သတိပေးထားပါသည်။	Safety Officer	အပြာရောင်အဆင့်
	၁၃	ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	အသက်အန္တရာယ်နှင့် ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ် ကိရိယာ များအသုံးပြုပုံများကိုလည်း သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၄	လက်တွေ့မီးငြိမ်းသတ်ရေးကိရိယာများအလုံအလောက် မရှိခြင်း။	မီးလောင်ခြင်း	1	0.5	15	7.5	စက်ရုံမှ Safety Officer ခန့်အပ်၍ မီးသတ်ကိရိယာများလုံလောက်မှုရှိမရှိ စစ်ဆေး စေပါသည်။	Management Team	အပြာရောင်အဆင့်
လင်းကင်း ချည်ထည်တွဲ ဌာန	၁	စက်မောင်းနှင်ခြင်းဆိုင်ရာ စည်းမျဉ်းစည်းကမ်းမရှိခြင်း (သို့မဟုတ်) စက်မောင်းသူမှ စည်းမျဉ်းစည်းကမ်း မလိုက်နာခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	6	3	18	စက်ရုံတွင် စက်များမောင်းနှင်မှုနှင့်ဆိုင်သော စည်းမျဉ်းစည်းကမ်းများ ထားရှိ ပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၂	စက်ချုပ်သူမှ အလုပ်တွင် အာရုံမစိုက်ခြင်း (သို့မဟုတ်) တာဝန်ချိန်တွင် အိပ်ငိုက်နေခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	6	3	18	စက်ရုံတွင် အလုပ်ချိန်တွင် အိပ်ငိုက်ခြင်း၊ အရက်သေစာသောက်စားခြင်း တို့ကို တားမြစ်ထားသော စည်းကမ်းချက်များရှိပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၃	ကတ်ကြေး၊ ဖောက်စူးများကို မသင့်လျော်သောနေရာတွင် ထားခြင်း၊ အသုံးပြုခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	6	3	18	ကတ်ကြေး၊ ဖောက်စူး စသည့်ချွန်ထက်သောပစ္စည်းများကို ကြိုးဖြင့်ချည်ထားရန် စည်းကမ်းချက်များထားရှိပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၄	စက်ပိုင်းဆိုင်ရာနှင့် လျှပ်စစ်ပိုင်းဆိုင်ရာ လျှပ်စစ်စီးကူးမှု ကာထားသောစနစ် အားနည်းခြင်း၊ သွယ်တန်းထားသော မီးကြိုးများဟောင်းနွမ်းခြင်း၊ ပေါက်ပြဲ နေခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း	0.5	6	7	21	စက်ရုံမှ စက်ပြင်ဝန်ထမ်းများနှင့် EP ဝန်ထမ်းများ ခန့်အပ်၍ စက်ပိုင်း ဆိုင်ရာ လိုအပ်ချက်များ၊ လျှပ်စစ်သွယ်တန်းမှုဆိုင်ရာကိစ္စရပ်များကို ပုံမှန်စစ်ဆေး ပြုပြင်စေပါသည်။	Electrical Technician	အပြာရောင်အဆင့်
	၅	စက်များ၏အခြေခံစနစ်များအားနည်းခြင်း (သို့မဟုတ်) စက်များ၏လျှပ်စစ်ယိုစီးမှုကိရိယာမှာ အားနည်းချက်ရှိခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း	1	6	7	42	စက်ရုံမှ စက်ပြင်ဝန်ထမ်းများနှင့် EP ဝန်ထမ်းများ ခန့်အပ်၍ စက်ပိုင်း ဆိုင်ရာ လိုအပ်ချက်များ၊ လျှပ်စစ်သွယ်တန်းမှုဆိုင်ရာကိစ္စရပ် များကို ပုံမှန်စစ်ဆေး ပြုပြင်စေပါသည်။	Management and Electrical Technician	အပြာရောင်အဆင့်
	၆	အပူချိန်မြင့်မားလွန်းသောရာသီတွင် လေဝင်လေထွက် ကောင်းမွန်အောင် ဆောင်ရွက်ထားမှုမရှိခြင်း။	အပူရှပ်ခြင်း	1	6	3	18	လေအေးပေးစက်များ ကောင်းစွာထောက်ပံ့ပေးထားပါသည်။	Management	အပြာရောင်အဆင့်
	၇	လုပ်ငန်းခွင်အတွင်းအလင်းရောင်အားနည်းမှုကြောင့် ဝန်ထမ်းများအမြင်အာရုံ ထိခိုက်စေနိုင်ခြင်း။	အဝေးမှုန်စေနိုင်ခြင်း	0.5	6	3	9	လျှပ်စစ်မီးကို လုံလောက်စွာထောက်ပံ့ထားပါသည်။	Management	အပြာရောင်အဆင့်
	၈	လုပ်ငန်းခွင်မှ မထွက်ခွာမီ မီးများ၊ ပါဝါခလုတ်များ မပိတ်ခဲ့ခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	အလုပ်နားချိန်တွင် ပါဝါခလုတ်များပိတ်သွားရန်နှင့် မီးဘေးအန္တရာယ် သတိပြု ကြရန် သင်တန်းပေးပါသည်။	Management	အပြာရောင်အဆင့်
	၉	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများပိတ်ထားခြင်း၊ အရေးပေါ်အချက်ပြမီးများ ကို ထားရှိရမည့်နေရာတွင် မထားခြင်းတို့ကြောင့် မတော်တဆမှုဖြစ်ပွားစဉ် အချိန်မီ ထွက်ပြေးနိုင်ရန်ခက်ခဲခြင်း။	အသက်အန္တရာယ်နှင့် ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေး စေပါသည်။ ထွက်ပေါက်များပိတ်ဆို့မထားရန်လည်း ဝန်ထမ်းများကို သတိပေးထားပါသည်။	Safety Officer	အပြာရောင်အဆင့်
	၁၀	ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	အသက်အန္တရာယ်နှင့် ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ်ကိရိယာ များအသုံးပြုပုံများကိုလည်း သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၁	လက်တွေ့မီးငြိမ်းသတ်ရေးကိရိယာများအလုံအလောက် မရှိခြင်း။	မီးလောင်ခြင်း	1	0.5	15	7.5	စက်ရုံမှ Safety Officer ခန့်အပ်၍ မီးသတ်ကိရိယာများလုံလောက်မှုရှိမရှိ စစ်ဆေးစေပါသည်။	Management	အပြာရောင်အဆင့်
လက်ချုပ်ဌာန	၁	ကတ်ကြေး၊ ဖောက်စူးများကို မသင့်လျော်သောနေရာတွင် ထားခြင်း၊ အသုံးပြုခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	6	3	18	ကတ်ကြေး၊ ဖောက်စူး စသည့်ချွန်ထက်သောပစ္စည်းများကို ကြိုးဖြင့်ချည်ထားရန် စည်းကမ်းချက်များထားရှိပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၂	အပူချိန်မြင့်မားလွန်းသောရာသီတွင် လေဝင်လေထွက် ကောင်းမွန်အောင် ဆောင်ရွက်ထားမှုမရှိခြင်း။	အပူရှပ်ခြင်း	1	6	3	18	လေအေးပေးစက်များ ကောင်းစွာထောက်ပံ့ပေးထားပါသည်။	Management	အပြာရောင်အဆင့်
	၃	လုပ်ငန်းခွင်အတွင်းအလင်းရောင်အားနည်းမှုကြောင့် ဝန်ထမ်းများအမြင်အာရုံ ထိခိုက်စေနိုင်ခြင်း။	အဝေးမှုန်စေနိုင်ခြင်း	0.5	6	3	9	လျှပ်စစ်မီးကို လုံလောက်စွာထောက်ပံ့ထားပါသည်။	Management	အပြာရောင်အဆင့်
	၄	လုပ်ငန်းခွင်မှ မထွက်ခွာမီ မီးများ၊ ပါဝါခလုတ်များ မပိတ်ခဲ့ခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	အလုပ်နားချိန်တွင် ပါဝါခလုတ်များပိတ်သွားရန်နှင့် မီးဘေးအန္တရာယ် သတိပြုကြရန် သင်တန်းပေးပါသည်။	Management	အပြာရောင်အဆင့်

ဌာန	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ		ဖြစ်နိုင်ခြေရှိသော	LEC ခွဲခြမ်းစိတ်ဖြာမှု				တာဝန်ယူဆောင်ရွက်ချက်များ	တာဝန်ရှိပုဂ္ဂိုလ်/	ဘေးအန္တရာယ်
	အမှတ်စဉ်	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ	မတော်တဆဖြစ်မှုပုံစံများ	L[2]	E[3]	C[4]	D[5]		အဖွဲ့အစည်း	အဆင့်သတ်မှတ်ချက်[1]
	၅	လက်ချုပ်ချုပ်သူမှ အလုပ်ထဲတွင် အာရုံမစိုက်ခြင်း (သို့မဟုတ်) တာဝန်ချိန်တွင် အိပ်ငိုက်နေခြင်း။	အသက်အန္တရာယ်နှင့် ထိခိုက် ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေး စေပါသည်။ ထွက်ပေါက်များပိတ်ဆို့မထားရန်လည်း ဝန်ထမ်းများ ကို သတိပေးထားပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၆	ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	အသက်အန္တရာယ်နှင့် ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ် ကိရိယာ များအသုံးပြုပုံများကိုလည်း သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၇	လက်တွေ့မီးငြိမ်းသတ်ရေးကိရိယာများအလုံအလောက် မရှိခြင်း။	မီးလောင်ခြင်း	1	0.5	15	7.5	စက်ရုံမှ Safety Officer ခန့်အပ်၍ မီးသတ်ကိရိယာများလုံလောက်မှုရှိမရှိ စစ်ဆေး စေပါသည်။	Management Team	အပြာရောင်အဆင့်
စစ်ဆေးရေးဌာန	၁	ကတ်ကြေး၊ ဖောက်စူးများကို မသင့်လျော်သောနေရာတွင် ထားခြင်း၊ အသုံးပြုခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	6	3	18	ကတ်ကြေး၊ ဖောက်စူး စသည့်ချွန်ထက်သောပစ္စည်း များကို ကြိုးဖြင့်ချည်ထား ရန် စည်းကမ်းချက်များ ထားရှိပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၂	အပူချိန်မြင့်မားလွန်းသောရာသီတွင် လေဝင်လေထွက် ကောင်းမွန်အောင် ဆောင်ရွက်ထားမှုမရှိခြင်း။	အပူရှပ်ခြင်း	1	6	3	18	လေအေးပေးစက်များ ကောင်းစွာထောက်ပံ့ပေးထားပါသည်။	Management	အပြာရောင်အဆင့်
	၃	လုပ်ငန်းခွင်အတွင်းအလင်းရောင်အားနည်းမှုကြောင့် ဝန်ထမ်းများအမြင်အာရုံထိခိုက်စေနိုင်ခြင်း။	အဝေးမှုန်စေနိုင်ခြင်း	0.5	6	3	9	လျှပ်စစ်မီးကို လုံလောက်စွာထောက်ပံ့ထားပါသည်။	Management	အပြာရောင်အဆင့်
	၄	လုပ်ငန်းခွင်မှ မထွက်ခွာမီ မီးများ၊ ပါဝါခလုတ်များ မပိတ်ခဲ့ခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	အလုပ်နားချိန်တွင် ပါဝါခလုတ်များ ပိတ်သွားရန် နှင့် မီးဘေးအန္တရာယ်သတိပြု ကြရန် သင်တန်းပေးပါသည်။	Management Team	အစိမ်းရောင်အဆင့်
	၅	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများပိတ်ထားခြင်း၊ အရေးပေါ်အချက်ပြမီးများကို ထားရှိရမည့်နေရာတွင် မထားခြင်းတို့ကြောင့် မတော်တဆမှုဖြစ်ပွားစဉ် အချိန်မီ ထွက်ပြေးနိုင်ရန်ခက်ခဲခြင်း။	အသက်အန္တရာယ်နှင့် ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေး စေပါသည်။ ထွက်ပေါက်များပိတ်ဆို့မထား ရန်လည်း ဝန်ထမ်းများကို သတိပေး ထား ပါသည်။	Management	အပြာရောင်အဆင့်
	၆	ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	အသက်အန္တရာယ်နှင့် ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ်ကိရိယာ များအသုံးပြုပုံများကိုလည်း သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၇	လက်တွေ့မီးငြိမ်းသတ်ရေးကိရိယာများအလုံအလောက် မရှိခြင်း။	မီးလောင်ခြင်း	1	0.5	15	7.5	စက်ရုံမှ Safety Officer ခန့်အပ်၍ မီးသတ် ကိရိယာများလုံလောက်မှုရှိမရှိ စစ်ဆေး စေ ပါသည်။	Management Team	အပြာရောင်အဆင့်
မော်တာဌာန	၁	စက်မောင်းနှင်ခြင်းဆိုင်ရာ စည်းမျဉ်းစည်းကမ်းမရှိခြင်း (သို့မဟုတ်) စက်မောင်းသူမှ စည်းမျဉ်းစည်းကမ်း မလိုက်နာခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	6	3	18	စက်ရုံတွင် စက်များမောင်းနှင်မှုနှင့်ဆိုင်သော စည်းမျဉ်းစည်းကမ်းများ ထားရှိ ပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၂	မော်တာစက်ချုပ်သူမှ အလုပ်ထဲတွင် အာရုံမစိုက်ခြင်း (သို့မဟုတ်) တာဝန်ချိန်တွင် အိပ်ငိုက်နေခြင်း	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	6	3	18	စက်ရုံတွင် အလုပ်ချိန်တွင် အိပ်ငိုက်ခြင်း၊ အရက်သေစာသောက်စားခြင်း တို့ကို တားမြစ်ထားသော စည်းကမ်းချက်များရှိပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၃	မော်တာစက်ချုပ်သူများ လက်အိတ်ဝတ်ဆင်ထားခြင်း၊ စက်ကိရိယာများအသုံးပြုနေစဉ် စက်ချို့ယွင်းမှုဖြစ်ခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	3	7	21	စက်ရုံမှစက်ပြင်ဝန်ထမ်းများခန့်အပ်ထားပြီး စက်များကို ပုံမှန်စစ်ဆေးမှု များ ပြုလုပ် စေပါသည်။ မတော်တဆမှုတစ်စုံတစ်ရာဖြစ်ပေါ်ပါက အသုံးပြု နိုင်ရန် ဆေးပုံးများကိုလည်း ဌာနအသီးသီးတွင်ထားရှိပါသည်။ ရှေးဦးသူနာပြုသင်တန်းဆင်းသူများစာရင်းကိုလည်း လွယ်ကူစွာ ဆက်သွယ် နိုင်ရန် မြင်သာသောနေရာများတွင် ကပ်ထားပေးပါသည်။	Supervisor	အစိမ်းရောင်အဆင့်
	၄	ကတ်ကြေးကဲ့သို့သောကိရိယာတန်ဆာပလာများကို ထားသင့်သည့်နေရာတွင်မထားဘဲ အသုံးပြုခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	6	3	18	ကတ်ကြေး၊ ဖောက်စူး စသည့်ချွန်ထက်သောပစ္စည်းများကို ကြိုးဖြင့် ချည်ထားရန် စည်းကမ်းချက်များထားရှိပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၅	စက်ကိရိယာများတွင် ပြီးပြည့်စုံသော၊ ယုံကြည်စိတ်ချ ရသော၊ ထိရောက် သော လုံခြုံရေးအတွက် အကာအကွယ် ပစ္စည်းများမပါရှိခြင်း၊ အပြန်အလှန် ချိတ်ဆက် ဆက်သွယ် မှုမရှိခြင်း၊ အချက်ပြမီး၊ အချက်ပေးခေါင်းလောင်း၊ အာမခံနှင့် အခြားလိုအပ်သော ကိရိယာများမပါရှိခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	0.5	6	3	9	စက်ရုံမှ စက်ပြင်ဝန်ထမ်းများခန့်အပ်ထားပြီး၊ စက်များ၏ အကာအကွယ် စနစ်များ၊ ဝန်ထမ်းများလုံခြုံရေးတို့ကို အဓိကထားဆောင်ရွက်စေပါသည်။	Management	အပြာရောင်အဆင့်
	၆	စက်လည်ပတ်မှုတွင် ဂီယာမှာကာကွယ်ရေးကိရိယာ မပါရှိခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	0.5	6	3	9	စက်ရုံမှ စက်ပြင်ဝန်ထမ်းများခန့်အပ်ထားပြီး၊ စက်များ၏ အကာအကွယ်စနစ်များ၊ ဝန်ထမ်းများလုံခြုံရေးတို့ကို အဓိကထားဆောင်ရွက်စေပါသည်။	Management	အပြာရောင်အဆင့်
	၇	လျှပ်စီးပတ်လမ်းကြောင်း ချို့ယွင်းခြင်းကြောင့် အပ်ကျိုးခြင်း၊ အပ်ချနေရာလွဲခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း	1	6	7	42	စက်ရုံမှ EP ဝန်ထမ်းများခန့်အပ်၍ လျှပ်စစ် ဘေးအန္တရာယ်ဖြစ်စေနိုင်ခြင်း ကို ကာကွယ် ရန် လျှပ်စစ်သွယ်တန်းမှုကို စနစ်တကျဖြစ်စေရန် စစ်ဆေး လုပ်ဆောင် စေပါသည်။	Electrical Technician	အပြာရောင်အဆင့်
	၈	အင်ဂျင်ဝိုင်ယိုစိမ့်မှုကြောင့် စက်မောင်းသူချော်လဲနိုင်ခြင်း၊ မီးလန့်ခြင်း၊ မီးလောင်ခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း၊ မီးလောင်ခြင်း	0.5	6	3	9	စက်ရုံမှ အင်ဂျင်ဝိုင်ပုံးများကို ယိုစိမ့်မှုမှ ကာကွယ်ရန် အောက်ခံပုံးများ ထားရှိပေး ပါသည်။	Mechanic	အပြာရောင်အဆင့်
	၉	အပူချိန်မြင့်မားလွန်းသောရာသီတွင် လေဝင်လေထွက် ကောင်းမွန်အောင် ဆောင်ရွက်ထားမှုမရှိခြင်း။	အပူရှပ်ခြင်း	1	6	3	18	လေအေးပေးစက်များ ကောင်းစွာထောက်ပံ့ပေးထားပါသည်။	Managemnt	အပြာရောင်အဆင့်
	၁၀	လုပ်ငန်းခွင်အတွင်းအလင်းရောင်အားနည်းမှုကြောင့် ဝန်ထမ်းများအမြင် အာရုံထိခိုက်စေနိုင်ခြင်း။	အဝေးမှုန်စေနိုင်ခြင်း	0.5	6	3	9	လျှပ်စစ်မီးကို လုံလောက်စွာထောက်ပံ့ထားပါသည်။	Management	အပြာရောင်အဆင့်
	၁၁	ကိရိယာတန်ဆာပလာများ၊ ထုတ်ကုန်ပစ္စည်းများ၊ ပစ္စည်း ပစ္စယများကို အဆင်ပြေသလို စုပြုံထပ်တင်ထားခြင်း၊ အရေးပေါ်ထွက်ပေါက်များပိတ်နေခြင်းတို့ကြောင့် မတော်တဆမှုများမှ ထွက်ပြေးလွတ်မြောက်နိုင်ရန် နှောင့်နှေးကြန့်ကြာခြင်း။	အခြားသောမတော်တဆမှု များ ဖြစ်စေနိုင်ခြင်း	1	0.5	40	20	Safety Officer မှ ကုန်ပစ္စည်းများထားရှိပုံ စနစ်ကျမှုရှိမရှိ၊ အရေးပေါ် ထွက်ပေါက် များ ပိတ်ဆို့မှုရှိမရှိကို ပုံမှန်စစ်ဆေးပါသည်။ ဝန်ထမ်းများကိုလည်း ကျန်းမာရေးနှင့် ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့် ပတ်သက်၍ လိုအပ်သလို သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၂	လုပ်ငန်းခွင်မှ မထွက်ခွာမီ မီးများ၊ ပါဝါခလုတ်များ မပိတ်ခဲ့ခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း	1	3	7	21	အလုပ်နားချိန်တွင် ပါဝါခလုတ်များပိတ်သွားရန်နှင့် မီးဘေးအန္တရာယ် သတိပြုကြ ရန် သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၃	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများပိတ်ထားခြင်း၊ အရေးပေါ်အချက်ပြမီး များကို ထားရှိရမည့်နေရာတွင် မထားခြင်းတို့ကြောင့် မတော်တဆမှု ဖြစ်ပွားစဉ် အချိန်မီ ထွက်ပြေးနိုင်ရန်ခက်ခဲခြင်း။	အသက်အန္တရာယ်နှင့် ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေး စေပါသည်။ ထွက်ပေါက်များပိတ်ဆို့မထားရန်လည်း ဝန်ထမ်းများ ကို သတိပေးထားပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၄	ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ် ကိရိယာ များအသုံးပြုပုံများကိုလည်း သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၅	လက်တွေ့မီးငြိမ်းသတ်ရေးကိရိယာများအလုံအလောက် မရှိခြင်း။	မီးလောင်ခြင်း	1	0.5	15	7.5	စက်ရုံမှ Safety Officer ခန့်အပ်၍ မီးသတ်ကိရိယာများလုံလောက်မှုရှိမရှိ စစ်ဆေး စေပါသည်။	Management Team	အပြာရောင်အဆင့်

ဌာန	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ		ဖြစ်နိုင်ခြေရှိသော	LEC ခွဲခြမ်းစိတ်ဖြာမှု				တာဝန်ယူဆောင်ရွက်ချက်များ	တာဝန်ရှိပုဂ္ဂိုလ်/	ဘေးအန္တရာယ်
	အမှတ်စဉ်	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ	မတော်တဆဖြစ်မှုပုံစံများ	L^2	E^3	C^4	D^5		အဖွဲ့အစည်း	အဆင့်သတ်မှတ်ချက်[1]
မီးပူတိုက်ဌာန	၁	မီးပူတိုက်ရာတွင် စည်းမျဉ်းစည်းကမ်းအတိုင်း မလုပ်ဆောင်ခြင်း။	အပူလောင်ခြင်း	1	6	3	18	စက်ရုံတွင် စက်များမောင်းနှင်မှုနှင့်ဆိုင်သော စည်းမျဉ်းစည်းကမ်းများ ထားရှိ ပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၂	မီးပူတိုက်ရာတွင် ရေနွေးငွေ့ယိုစိမ့်ခြင်း။	အပူလောင်ခြင်း	1	6	3	18	မတော်တဆဖြစ်ချိန်တွင် အလွယ်တကူအသုံးပြုနိုင်ရန် ဆေးပုံးများထားရှိ ပေးထား ပြီး၊ ရှေးဦးသူနာပြုသင်တန်းဆင်းသူများစာရင်းကိုလည်း မြင်သာ သောနေရာတွင် ကပ်ထားပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၃	မီးပူတိုက်သူမှ အလုပ်ထဲတွင် အာရုံမစိုက်ခြင်း၊ အိပ်ငိုက်နေခြင်း။	အပူလောင်ခြင်း	1	6	3	18	စက်ရုံတွင် အလုပ်ချိန်တွင် အိပ်ငိုက်ခြင်း၊ အရက်သေစာသောက်စားခြင်းတို့ကို တားမြစ်ထားသော စည်းကမ်းချက်များရှိပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၄	မီးပူကို အသုံးပြုပြီးနောက် ထားရမည့်နေရာ၊ ထားရမည့် အနေအထားတွင် မထားခြင်း။	အပူလောင်ခြင်း၊ မီးလောင်ခြင်း	1	6	3	18	မီးပူများကို အသုံးပြုပြီးနောက် သတ်မှတ်နေရာများတွင်သာ ထားရှိရန် သင်တန်းပေးထားပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၅	အပူချိန်မြင့်မားလွန်းသောရာသီတွင် လေဝင်လေထွက် ကောင်းမွန်အောင် ဆောင်ရွက်ထားမှုမရှိခြင်း။	အပူရှပ်ခြင်း	1	6	3	18	လေအေးပေးစက်များ ကောင်းစွာထောက်ပံ့ပေးထားပါသည်။	Management	အပြာရောင်အဆင့်
	၆	လုပ်ငန်းခွင်အတွင်းအလင်းရောင်အားနည်းမှုကြောင့် ဝန်ထမ်းများအမြင်အာရုံ ထိခိုက်စေနိုင်ခြင်း။	အဝေးမှုန်စေနိုင်ခြင်း	0.5	6	3	9	လျှပ်စစ်မီးကို လုံလောက်စွာထောက်ပံ့ထားပါသည်။	Management	အပြာရောင်အဆင့်
	၇	လုပ်ငန်းခွင်အတွင်း ပစ္စည်းများပိတ်နေခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	Safety Officer မှ ကုန်ပစ္စည်းများထားရှိပုံ စနစ်ကျမှုရှိမရှိ၊ အရေးပေါ်ထွက်ပေါက် များ ပိတ်ဆို့မှုရှိမရှိကို ပုံမှန်စစ်ဆေးပါသည်။ ဝန်ထမ်းများကိုလည်း ကျန်းမာရေးနှင့် ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့်ပတ်သက်၍ လိုအပ်သလို သင်တန်းပေးပါသည်။	Management team	အပြာရောင်အဆင့်
	၈	ပစ္စည်းများကို စနစ်တကျမထားမှုကြောင့် ပစ္စည်းများ စုပုံနေခြင်း။	ခလုတ်တိုက်မိတတ်ခြင်း	1	2	7	14	Safety Officer မှ ကုန်ပစ္စည်းများထားရှိပုံ စနစ်ကျမှုရှိမရှိ၊ အရေးပေါ် ထွက်ပေါက် များ ပိတ်ဆို့မှုရှိမရှိကို ပုံမှန်စစ်ဆေးပါသည်။ ဝန်ထမ်းများကိုလည်း ကျန်းမာရေးနှင့် ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့် ပတ်သက်၍ လိုအပ်သလို သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၉	လမ်းကြောင်းများပေါ်တွင် ပစ္စည်းများ ထားရှိခြင်း၊ လမ်းပိတ်နေခြင်း တို့ ကြောင့် မတော်တဆမှုတစ်ခုခုဖြစ်ပါကထွက်ပြေးရန် နှောင့်နှေး ကြန့်ကြာ ခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေး စေပါသည်။ ထွက်ပေါက်များပိတ်ဆို့မထားရန်လည်း ဝန်ထမ်းများ ကို သတိပေးထားပါသည်။	Management	အပြာရောင်အဆင့်
	၁၀	လုပ်ငန်းခွင်မှ မထွက်ခွာမီ မီးများ၊ ပါဝါခလုတ်များ မပိတ်ခဲ့ခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	အလုပ်နားချိန်တွင် ပါဝါခလုတ်များပိတ်သွားရန်နှင့် မီးဘေးအန္တရာယ် သတိပြုကြ ရန် သင်တန်းပေးပါသည်။	Management team	အစိမ်းရောင်အဆင့်
	၁၁	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများပိတ်ထားခြင်း၊ အရေးပေါ်အချက်ပြမီး များကို ထားရှိရမည့်နေရာတွင် မထားခြင်းတို့ကြောင့် မတော်တဆမှု ဖြစ်ပွားစဉ် အချိန်မီ ထွက်ပြေးနိုင်ရန်ခက်ခဲခြင်း။	အသက်အန္တရာယ်နှင့် ထိခိုက် ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေး စေပါသည်။ ထွက်ပေါက်များပိတ်ဆို့မထားရန်လည်း ဝန်ထမ်းများကို သတိပေးထားပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၂	ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ် ကိရိယာ များအသုံးပြုပုံများကိုလည်း သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၃	လက်တွေ့မီးငြိမ်းသတ်ရေးကိရိယာများအလုံအလောက် မရှိခြင်း။	မီးလောင်ခြင်း	1	0.5	15	7.5	စက်ရုံမှ Safety Officer ခန့်အပ်၍ မီးသတ်ကိရိယာများလုံလောက်မှုရှိမရှိ စစ်ဆေး စေပါသည်။	Management Team	အပြာရောင်အဆင့်
ရေလျှော်ဌာန	၁	စက်မောင်းနှင်ခြင်းဆိုင်ရာ စည်းမျဉ်းစည်းကမ်းမရှိခြင်း (သို့မဟုတ်) စက်မောင်းသူမှ စည်းမျဉ်းစည်းကမ်း မလိုက်နာခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	6	3	18	စက်ရုံတွင် စက်များမောင်းနှင်မှုနှင့်ဆိုင်သော စည်းမျဉ်းစည်းကမ်းများ ထားရှိ ပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၂	ရေလျှော်စက်၊ ရေစစ်စက်၊ အခြောက်ခံစက်များအတွက် ပြီးပြည့်စုံသော၊ ယုံကြည်စိတ်ချရသော၊ ထိရောက်သော အကာအကွယ်မရှိခြင်း၊ အပြန် အလှန် ချိတ်ဆက် ဆက်သွယ်မှု၊ အချက်ပြခြင်း၊ အချက်ပေးခြင်း၊ အာမခံမှုရှိသော စက်ကိရိယာမပါရှိခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	0.5	6	3	9	စက်ရုံမှ ရေလျှော်စက်၊ ရေစစ်စက်၊ အခြောက်ခံစက်များ၏ ကာကွယ်ရေးစနစ်၊ ကောင်းမွန်စွာချိတ်ဆက်ဆောင်ရွက်ထားမှု၊ အချက်ပြစနစ်များ၏ ကောင်းမွန်မှု တို့ကို ပုံမှန်စစ်ဆေးပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၃	ရေလျှော်စက်၊ ရေစစ်စက်၊ အခြောက်ခံစက်များတွင် အကာအကွယ်များမရှိခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	0.5	6	3	9	စက်ရုံမှ ရေလျှော်စက်၊ ရေစစ်စက်၊ အခြောက်ခံစက်များ၏ အကာအကွယ်များရှိမရှိ၊ ထိရောက်မှုရှိမရှိ ပုံမှန်စစ်ဆေးပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၄	ရေလျှော်စက်၊ ရေစစ်စက်၊ အခြောက်ခံစက်များ၏ လျှပ်စစ်စီးကူးမှုကာထား သောမော်တာစက်မကောင်းခြင်း၊ သွယ်ထားသောမီးကြိုးများဟောင်းနွမ်းနေခြင်း၊ ပေါက်ပြဲနေခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း	0.5	6	7	21	ရေလျှော်စက်၊ ရေစစ်စက်၊ အခြောက်ခံစက်များ၏ လျှပ်စစ်စီးကူးမှု၊ ကာထားသော မော်တာစက်ကောင်းမကောင်း၊ သွယ်ထားသောမီးကြိုးများ ဟောင်းနွမ်းနေခြင်း ရှိ မရှိ၊ ပေါက်ပြဲနေခြင်းရှိမရှိတို့ကို EP ဝန်ထမ်းများအား အချိန်မှန်စစ်ဆေးစေပါသည်။	Electrician	အစိမ်းရောင်အဆင့်
	၅	ရေလျှော်စက်၊ ရေစစ်စက်၊ အခြောက်ခံစက်များ၏ အခြေခံစနစ် အားနည်း ခြင်း၊ လျှပ်စစ်ဓါတ်အတက်အကျ ထိန်းသည့်စက်မှာ အားနည်းချက်ရှိခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း	1	6	7	42	စက်ရုံမှ ရေလျှော်စက်၊ ရေစစ်စက်၊ အခြောက်ခံစက်များ၏ အခြေခံစနစ်ကို ကောင်းစွာ ပြုလုပ်ပေးခြင်း၊ လျှပ်စစ်ဓါတ်အတက်အကျ ထိန်းသည့်စက်မှာ အားနည်း ချက်ရှိမရှိတို့ကို ပုံမှန်စစ်ဆေးပေးသည်။	Management Team	အဝါရောင်အဆင့်
	၆	စက်လည်ပတ်နေစဉ် စက်ပိုင်းဆိုင်ရာအားနည်းချက်များ ဖြစ်ပေါ်ခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	3	7	21	စက်များကို ပုံမှန်စစ်ဆေးပေးသည်။ မတော်တဆမှုဖြစ်လာပါက ဆောင်ရွက် ရမည့် အချက် များကို သင်တန်းပေးခြင်း၊ ဆေးပုံးများ၊ ရှေးဦးသူနာပြု သင်တန်းဆင်း သူများ စာရင်းများကို မြင်သာသည့်နေရာများ တွင် ထားရှိပါသည်။	Management Team	အပြာရောင်အဆင့်
	၇	အဝတ်ရေစစ်စက်လည်ပတ်နေစဉ် စက်မောင်းသူမှ အထည်များကို လက်ဖြင့်နှိုက်ယူခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	2	7	14	စက်လည်ပတ်နေစဉ် လိုက်နာရမည့်အချက်များ ကို သင်တန်းပေးထားပါသည်။ မတော်တဆမှုဖြစ်လာပါက ဆောင်ရွက်ရမည့် အချက်များကို သင်တန်းပေးခြင်း၊ ဆေးပုံးများ၊ ရှေးဦးသူနာပြုသင်တန်းဆင်းသူများစာရင်းများကို မြင်သာသည့် နေရာများတွင် ထားရှိပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၈	အထည်များရေလျှော်နေစဉ် ချောမွေ့ဆေး၊ ပျော့ဆေး၊ ချွတ်ဆေး၊ အနံ့ပျောက် ဆေး နှင့် အခြားသောဓာတုပစ္စည်း များ အသုံးပြုခြင်း။	အဆိပ်အတောက်ဖြစ်ခြင်း၊ အရေပြားစားခြင်း	1	6	3	18	Safety Officer မှ ဓာတုပစ္စည်းများအသုံးပြုရာတွင် လိုက်နာရမည့် အချက်များ ကို သင်တန်းပေး၍ MSDS ကို မြင်သာသောနေရာတွင် ချိတ်ဆွဲပေးထား သည်။ ဓာတုပစ္စည်းများအသုံးပြုရာတွင် PPE ဝတ်ဆင်ရန်နှင့် အရေးပေါ်အခြေအနေ တွင် မျက်စိဆေးကန်အသုံးပြုပုံကိုပါ သရုပ်ပြ၍ သင်တန်းပေးထားသည်။	Supervisor	အပြာရောင်အဆင့်
	၉	အပူချိန်မြင့်မားသော ရေနွေးငွေ့ယိုစိမ့်မှုဖြစ်ခြင်း။	အပူလောင်ခြင်း	1	6	3	18	စက်များကို ပုံမှန်စစ်ဆေးပေးသည်။ မတော်တဆမှုဖြစ်လာပါက ဆောင်ရွက်ရ မည့် အချက်များကို သင်တန်းပေးခြင်း၊ ဆေးပုံးများ၊ ရှေးဦး သူနာပြုသင်တန်း ဆင်းသူများစာရင်းများကို မြင်သာသည့်နေရာများတွင် ထားရှိပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၀	ကြမ်းပြင်ချောနေမှုကြောင့် စက်မောင်းသူ ချော်လဲနိုင်ခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	0.5	6	3	18	Safety Officer မှ ရေလျှော်ဌာနဝန်ထမ်းများကို ဘေးအန္တရာယ် ကာကွယ်သည့် ဖိနပ်များကို	Management	အပြာရောင်အဆင့်

ဌာန	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ		ဖြစ်နိုင်ခြေရှိသော	LEC ခွဲခြမ်းစိတ်ဖြာမှု				တာဝန်ယူဆောင်ရွက်ချက်များ	တာဝန်ရှိပုဂ္ဂိုလ်/	ဘေးအန္တရာယ်
	အမှတ်စဉ်	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ	မတော်တဆဖြစ်မှုပုံစံများ	L[2]	E[3]	C[4]	D[5]		အဖွဲ့အစည်း	အဆင့်သတ်မှတ်ချက်[1]
								ထောက်ပံ့ပေးထားပြီး၊ အလုပ်လုပ်နေချိန် များတွင် ထိုဖိနပ်များ ကိုစီးရန် အသိပညာပေးထားသည်။	Team	
	၁၁	ရေလျှော်စက်နှင့် အဝတ်ရေစစ်စက်များ စက်သံဆူညံခြင်း။	နားလေးစေနိုင်ခြင်း	0.5	6	3	9	ဝန်ထမ်းများအား PPE များ ထောက်ပံ့ပေးထားပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၂	အပူချိန်မြင့်မားလွန်းသောရာသီတွင် လေဝင်လေထွက် ကောင်းမွန်အောင် ဆောင်ရွက်ထားမှုမရှိခြင်း။	အပူရှပ်ခြင်း	1	6	3	18	လေအေးပေးစက်များ ကောင်းစွာထောက်ပံ့ပေးထားပါသည်။	Management	အပြာရောင်အဆင့်
	၁၃	လုပ်ငန်းခွင်အတွင်းအလင်းရောင်အားနည်းမှုကြောင့် ဝန်ထမ်းများအမြင်အာရုံ ထိခိုက်စေနိုင်ခြင်း။	အဝေးမှုန်စေနိုင်ခြင်း	0.5	6	3	9	လျှပ်စစ်မီးကို လုံလောက်စွာထောက်ပံ့ထားပါသည်။	Management	အပြာရောင်အဆင့်
	၁၄	လုပ်ငန်းခွင်အတွင်း ပစ္စည်းများပိတ်နေခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	Safety Officer မှ ကုန်ပစ္စည်းများထားရှိပုံ စနစ်ကျမှုရှိမရှိ၊ အရေးပေါ် ထွက်ပေါက် များ ပိတ်ဆို့မှုရှိမရှိကို ပုံမှန်စစ်ဆေးပါသည်။ ဝန်ထမ်းများကိုလည်း ကျန်းမာရေးနှင့် ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့်ပတ်သက်၍ လိုအပ်သလို သင်တန်းပေးပါသည်။	Management	အပြာရောင်အဆင့်
	၁၅	ပစ္စည်းများကို စနစ်တကျမထားမှုကြောင့် ပစ္စည်းများ စုပုံနေခြင်း။	ခလုတ်တိုက်မိတတ်ခြင်း	1	2	7	14	Safety Officer မှ ကုန်ပစ္စည်းများထားရှိပုံ စနစ်ကျမှုရှိမရှိ၊ အရေးပေါ် ထွက်ပေါက်များ ပိတ်ဆို့မှုရှိမရှိကို ပုံမှန်စစ်ဆေးပါသည်။ ဝန်ထမ်းများကိုလည်း ကျန်းမာရေးနှင့် ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့်ပတ်သက်၍ လိုအပ်သလို သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၆	ကိရိယာတန်ဆာပလာများ၊ ထုတ်ကုန်ပစ္စည်းများ၊ ပစ္စည်း ပစ္စယများကို အဆင်ပြေသလို စုပြုံထပ်တင်ထားခြင်း၊ အရေးပေါ်ထွက်ပေါက်များပိတ်နေခြင်းတို့ကြောင့် မတော်တဆမှုများမှ ထွက်ပြေးလွတ်မြောက်နိုင်ရန် နှောင့်နှေးကြန့်ကြာခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	Safety Officer မှ ကုန်ပစ္စည်းများထားရှိပုံ စနစ်ကျမှုရှိမရှိ၊ အရေးပေါ် ထွက်ပေါက်များ ပိတ်ဆို့မှုရှိမရှိကို ပုံမှန်စစ်ဆေးပါသည်။ ဝန်ထမ်းများကိုလည်း ကျန်းမာရေးနှင့် ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့် ပတ်သက်၍ လိုအပ်သလို သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၇	လုပ်ငန်းခွင်မှ မထွက်ခွာမီ မီးများ၊ ပါဝါခလုတ်များ မပိတ်ခဲ့ခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	အလုပ်နားချိန်တွင် ပါဝါခလုတ်များပိတ်သွားရန်နှင့် မီးဘေးအန္တရာယ် သတိ ပြု ကြရန် သင်တန်းပေးပါသည်။	Management Team	အစိမ်းရောင်အဆင့်
	၁၈	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများပိတ်ထားခြင်း၊ အရေးပေါ်အချက်ပြမီး များကို ထားရှိရမည့်နေရာတွင် မထားခြင်းတို့ကြောင့် မတော်တဆမှု ဖြစ်ပွားစဉ် အချိန်မီ ထွက်ပြေးနိုင်ရန်ခက်ခဲခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေးစေပါသည်။ ထွက်ပေါက်များပိတ်ဆို့မထားရန်လည်း ဝန်ထမ်း များ ကို သတိပေးထားပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၉	ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ်ကိရိယာ များအသုံးပြုပုံများကိုလည်း သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၂၀	လက်တွေ့မီးငြိ္မ်းသတ်ရေးကိရိယာများအလုံအလောက် မရှိခြင်း။	မီးလောင်ခြင်း	1	0.5	15	7.5	စက်ရုံမှ Safety Officer ခန့်အပ်၍ မီးသတ်ကိရိယာများလုံလောက်မှုရှိမရှိ စစ်ဆေးစေပါသည်။	Management Team	အပြာရောင်အဆင့်
နောက်ဆုံးစစ် ဆေးဌာန	၁	ကတ်ကြေးကဲ့သို့သောကိရိယာတန်ဆာပလာများကို ထားသင့်သည့်နေရာတွင် မထားဘဲ အသုံးပြုခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	6	3	18	ကတ်ကြေး၊ ဖောက်စူး စသည့်ချွန်ထက်သောပစ္စည်းများကို ကြိုးဖြင့်ချည် ထား ရန် စည်းကမ်းချက်များထားရှိပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၂	အပူချိန်မြင့်မားလွန်းသောရာသီတွင် လေဝင်လေထွက် ကောင်းမွန်အောင် ဆောင်ရွက်ထားမှုမရှိခြင်း။	အပူရှပ်ခြင်း	1	6	3	18	လေအေးပေးစက်များ ကောင်းစွာထောက်ပံ့ပေးထားပါသည်။	Management	အပြာရောင်အဆင့်
	၃	လုပ်ငန်းခွင်အတွင်းအလင်းရောင်အားနည်းမှုကြောင့် ဝန်ထမ်းများအမြင်အာရုံ ထိခိုက်စေနိုင်ခြင်း။	အဝေးမှုန်စေနိုင်ခြင်း	0.5	6	3	9	လျှပ်စစ်မီးကို လုံလောက်စွာထောက်ပံ့ထားပါသည်။	Management	အပြာရောင်အဆင့်
	၄	ထုတ်ကုန်များသိုလှောင်သောနေရာတွင် ဆေးလိပ်သောက်သူရှိနေခြင်း။	မီးလောင်ခြင်း	1	1	15	15	ထုတ်ကုန်များသိုလှောင်သောနေရာတွင် ဆေးလိပ်သောက်ခြင်း၊ မီးကစား ခြင်း ကို ခွင့်မပြုပါ။ သတိပေးသင်္ကေတများကို မြင်သာအောင် ကပ်ထားပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၅	ထုတ်ကုန်များသိုလှောင်သောနေရာတွင် လျှပ်စစ်သွယ်တန်းထားသည်မှာ အချိန်ကြာမြင့်နေခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	EP ဝန်ထမ်းများမှ ထုတ်ကုန်များသိုလှောင်သောနေရာတွင် လျှပ်စစ် သွယ်တန်း ထားမှုများကို ပုံမှန်စစ်ဆေးပေးသည်။ ဟောင်းနွမ်းပျက်ဆီးနေ သည် များကို အချိန်မီပြုပြင်ပေးသည်။	Management Team	အစိမ်းရောင်အဆင့်
	၆	လုပ်ငန်းခွင်မှ မထွက်ခွာမီ မီးများ၊ ပါဝါခလုတ်များ မပိတ်ခဲ့ခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	အလုပ်နားချိန်တွင် ပါဝါခလုတ်များပိတ်သွားရန်နှင့် မီးဘေးအန္တရာယ် သတိပြု ကြရန် သင်တန်းပေးပါသည်။	Management Team	အစိမ်းရောင်အဆင့်
	၇	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများပိတ်ထားခြင်း၊ အရေးပေါ်အချက်ပြမီး များ ကို ထားရှိရမည့်နေရာတွင် မထားခြင်းတို့ကြောင့် မတော်တဆမှု ဖြစ်ပွားစဉ် အချိန်မီ ထွက်ပြေးနိုင်ရန်ခက်ခဲခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေးစေပါသည်။ ထွက်ပေါက်များပိတ်ဆို့မထားရန်လည်း ဝန်ထမ်းများ ကို သတိပေးထားပါသည်။	Management Team	အပြာရောင်အဆင့်
	၈	ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ်ကိရိယာ များအသုံးပြုပုံများကိုလည်း သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၉	လက်တွေ့မီးငြိမ်းသတ်ရေးကိရိယာများအလုံအလောက် မရှိခြင်း။	မီးလောင်ခြင်း	1	0.5	15	7.5	စက်ရုံမှ Safety Officer ခန့်အပ်၍ မီးသတ်ကိရိယာများလုံလောက်မှုရှိမရှိ စစ်ဆေးစေပါသည်။	Management Team	အပြာရောင်အဆင့်
အထောက်အပံ့ ပစ္စည်းများထား သည့်နေရာ	၁	ကတ်ကြေးကဲ့သို့သောကိရိယာတန်ဆာပလာများကို ထားသင့်သည့်နေရာတွင် မထားဘဲ အသုံးပြုခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	6	3	18	ကတ်ကြေး၊ ဖောက်စူး စသည့်ချွန်ထက်သောပစ္စည်းများကို ကြိုးဖြင့်ချည်ထားရန် စည်းကမ်းချက်များထားရှိပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၂	အပူချိန်မြင့်မားလွန်းသောရာသီတွင် လေဝင်လေထွက် ကောင်းမွန်အောင် ဆောင်ရွက်ထားမှုမရှိခြင်း။	အပူရှပ်ခြင်း	1	6	3	18	လေအေးပေးစက်များ ကောင်းစွာထောက်ပံ့ပေးထားပါသည်။	Management	အပြာရောင်အဆင့်
	၃	လုပ်ငန်းခွင်အတွင်းအလင်းရောင်အားနည်းမှုကြောင့် ဝန်ထမ်းများအမြင်အာရုံ ထိခိုက်စေနိုင်ခြင်း။	အဝေးမှုန်စေနိုင်ခြင်း	0.5	6	3	9	လျှပ်စစ်မီးကို လုံလောက်စွာထောက်ပံ့ထားပါသည်။	Management	အပြာရောင်အဆင့်
	၄	ထုတ်ကုန်များသိုလှောင်သောနေရာတွင် ဆေးလိပ်သောက်သူရှိနေခြင်း။	မီးလောင်ခြင်း	1	1	15	15	ထုတ်ကုန်များသိုလှောင်သောနေရာတွင် ဆေးလိပ်သောက်ခြင်း၊ မီးကစားခြင်းကို ခွင့်မပြုပါ။ သတိပေးသင်္ကေတများကို မြင်သာအောင် ကပ်ထားပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၅	ထုတ်ကုန်များသိုလှောင်သောနေရာတွင် လျှပ်စစ်သွယ်တန်းထားသည်မှာ အချိန်ကြာမြင့်နေခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	EP ဝန်ထမ်းများမှ ထုတ်ကုန်များသိုလှောင်သောနေရာတွင် လျှပ်စစ်သွယ်တန်း ထားမှုများကို ပုံမှန်စစ်ဆေးပေးသည်။ ဟောင်းနွမ်းပျက်ဆီးနေသည်များကို အချိန်မီပြုပြင်ပေးသည်။	Management Team	အစိမ်းရောင်အဆင့်
	၆	လုပ်ငန်းခွင်မှ မထွက်ခွာမီ မီးများ၊ ပါဝါခလုတ်များ မပိတ်ခဲ့ခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	အလုပ်နားချိန်တွင် ပါဝါခလုတ်များပိတ်သွားရန်နှင့် မီးဘေးအန္တရာယ်သတိပြု ကြရန် သင်တန်းပေးပါသည်။	Management Team	အစိမ်းရောင်အဆင့်
	၇	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများပိတ်ထားခြင်း၊ အရေးပေါ်အချက်ပြမီး များ ကို	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေးစေပါသည်။	Management	အပြာရောင်အဆင့်

ဌာန	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ		ဖြစ်နိုင်ခြေရှိသော မတော်တဆဖြစ်မှုပုံစံများ	LEC ခွဲခြမ်းစိတ်ဖြာမှု				တာဝန်ယူဆောင်ရွက်ချက်များ	တာဝန်ရှိပုဂ္ဂိုလ်/ အဖွဲ့အစည်း	ဘေးအန္တရာယ် အဆင့်သတ်မှတ်ချက်[1]
	အမှတ်စဉ်	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ		L[2]	E[3]	C[4]	D[5]			
		ထားရှိရမည့်နေရာတွင် မထားခြင်းတို့ကြောင့် မတော်တဆမှု ဖြစ်ပွားစဉ် အချိန်မီ ထွက်ပြေးနိုင်ရန်ခက်ခဲခြင်း။						ထွက်ပေါက်များပိတ်ဆို့မထားရန်လည်း ဝန်ထမ်းများကို သတိပေးထားပါသည်။	Team	
	၈	ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ်ကိရိယာ များအသုံးပြုပုံများကိုလည်း သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၉	လက်တွေ့မီးငြိမ်းသတ်ရေးကိရိယာများအလုံအလောက် မရှိခြင်း။	မီးလောင်ခြင်း	1	0.5	15	7.5	စက်ရုံမှ Safety Officer ခန့်အပ်၍ မီးသတ်ကိရိယာများလုံလောက်မှုရှိမရှိ စစ်ဆေးစေပါသည်။	Management Team	အပြာရောင်အဆင့်
ယာယီပစ္စည်း များထားသည့် နေရာ	၁	ကတ်ကြေးကဲ့သို့သောကိရိယာတန်ဆာပလာများကို ထားသင့်သည့်နေရာ တွင်မထားဘဲ အသုံးပြုခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	6	3	18	ကတ်ကြေး၊ ဖောက်စူး စသည့်ချွန်ထက်သောပစ္စည်းများကို ကြိုးဖြင့်ချည်ထားရန် စည်းကမ်းချက်များထားရှိပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၂	အပူချိန်မြင့်မားလွန်းသောရာသီတွင် လေဝင်လေထွက် ကောင်းမွန်အောင် ဆောင်ရွက်ထားမှုမရှိခြင်း။	အပူရှပ်ခြင်း	1	6	3	18	လေအေးပေးစက်များ ကောင်းစွာထောက်ပံ့ပေးထားပါသည်။	Management	အပြာရောင်အဆင့်
	၃	လုပ်ငန်းခွင်အတွင်းအလင်းရောင်အားနည်းမှုကြောင့် ဝန်ထမ်းများအမြင်အာရုံ ထိခိုက်စေနိုင်ခြင်း။	အဝေးမှုန်စေနိုင်ခြင်း	0.5	6	3	9	လျှပ်စစ်မီးကို လုံလောက်စွာထောက်ပံ့ထားပါသည်။	Management	အပြာရောင်အဆင့်
	၄	ထုတ်ကုန်များသိုလှောင်သောနေရာတွင် ဆေးလိပ်သောက်သူရှိနေခြင်း။	မီးလောင်ခြင်း	1	1	15	15	ထုတ်ကုန်များသိုလှောင်သောနေရာတွင် ဆေးလိပ်သောက်ခြင်း၊ မီးကစားခြင်းကို ခွင့်မပြုပါ။ သတိပေးသင်္ကေတများကို မြင်သာအောင် ကပ်ထားပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၅	ထုတ်ကုန်များသိုလှောင်သောနေရာတွင် လျှပ်စစ်သွယ်တန်းထားသည်မှာ အချိန်ကြာမြင့်နေခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	EP ဝန်ထမ်းများမှ ထုတ်ကုန်များသိုလှောင်သောနေရာတွင် လျှပ်စစ်သွယ်တန်းထားမှု များကို ပုံမှန်စစ်ဆေးပေးသည်။ ဟောင်းနွမ်းပျက်ဆီးနေသည်များကို အချိန်မီပြုပြင် ပေးသည်။	Management Team	အစိမ်းရောင်အဆင့်
	၆	လုပ်ငန်းခွင်မှ မထွက်ခွာမီ မီးများ၊ ပါဝါခလုတ်များ မပိတ်ခဲ့ခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	အလုပ်နားချိန်တွင် ပါဝါခလုတ်များပိတ်သွားရန်နှင့် မီးဘေးအန္တရာယ်သတိပြုကြရန် သင်တန်းပေးပါသည်။	Management Team	အစိမ်းရောင်အဆင့်
	၇	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများပိတ်ထားခြင်း၊ အရေးပေါ်အချက်ပြ မီး များကို ထားရှိရမည့်နေရာတွင် မထားခြင်းတို့ကြောင့် မတော်တဆမှု ဖြစ်ပွားစဉ် အချိန်မီ ထွက်ပြေးနိုင်ရန်ခက်ခဲခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေးစေပါသည်။ ထွက်ပေါက်များပိတ်ဆို့မထားရန်လည်း ဝန်ထမ်းများကို သတိပေးထားပါသည်။	Management Team	အပြာရောင်အဆင့်
	၈	ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ်ကိရိယာ များအသုံးပြုပုံများကိုလည်း သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၉	လက်တွေ့မီးငြိမ်းသတ်ရေးကိရိယာများအလုံအလောက် မရှိခြင်း။	မီးလောင်ခြင်း	1	0.5	15	7.5	စက်ရုံမှ Safety Officer ခန့်အပ်၍ မီးသတ်ကိရိယာများလုံလောက်မှုရှိမရှိ စစ်ဆေးစေပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၀	သိုလှောင်ရာတွင် အထုတ်အပိုး၊ ပုံးများကို အမြင့်ဆုံးထားနိုင်သည့် အမြင့် အတိုင်းအတာထက် ကျော်လွန်၍ထားခြင်း။	အမြင့်မှလဲပြိုနိုင်ခြင်း	3	2	7	42	Safety Officer မှ ကုန်ပစ္စည်းများ သိုလှောင်ရာတွင် အမြင့်ဆုံးထားရမည့် အမြင့်အနေအထားထက် မကျော်လွန်နေစေရန် ပုံမှန်စစ်ဆေး၍၊ ထိုသို့ထားရှိသည်ကို တွေ့ရှိရပါက ချက်ချင်းပြင်ဆင်စေပြီး ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကင်းရှင်းရေးကို အသိပညာပေးခြင်းများကို ပြုလုပ်ပါသည်။	Management Team	အဝါရောင်အဆင့်
	၁၁	ဝန်ပိုသောပစ္စည်းများထားခြင်း၊ ကုန်ပစ္စည်းများကို လိုသည်ထက်ပို၍ ထပ်ဆင့် ထားခြင်း။	ခလုတ်တိုက်မိတတ်ခြင်း	1	3	7	21	Safety Officer မှ ကုန်ပစ္စည်းများ သိုလှောင်ရာတွင် အမြင့်ဆုံးထားရမည့် အမြင့်အနေအထားထက် မကျော်လွန်နေစေရန် ပုံမှန်စစ်ဆေး၍၊ ထိုသို့ထားရှိသည်ကို တွေ့ရှိရပါက ချက်ချင်းပြင်ဆင်စေပြီး ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကင်းရှင်းရေးကို အသိပညာပေးခြင်းများကို ပြုလုပ်ပါသည်။	Management Team	အစိမ်းရောင်အဆင့်
	၁၂	အမှိုက်များကို အချိန်မီ သန့်ရှင်းရေးလုပ်မထားခြင်း။	မီးလောင်နိုင်ခြင်း	1	6	7	42	သန့်ရှင်းရေးဝန်ထမ်းထားရှိ၍ ပုံမှန်သန့်ရှင်းရေးပြုလုပ်စေသည်။	Management	အဝါရောင်အဆင့်
	၁၃	မီးအသုံးပြုမှုကို တားမြစ်ခြင်း။	မီးလောင်နိုင်ခြင်း	1	1	15	15	ကုန်ပစ္စည်းများသိုလှောင်သည့်နေရာများတွင် မီးအသုံးပြုခြင်းကို စက်ရုံမှ ပြင်းထန်စွာတားမြစ်ထားပါသည်။	Management Team	အပြာရောင်အဆင့်
ပါကင်ထုတ်ပိုး သည့်နေရာ	၁	ထုတ်ပိုးနေချိန်တွင် ထုတ်ပိုးမှုနှင့်မသက်ဆိုင်သူက အလုပ်လုပ်နေသည့်နေရာ သို့ လာရောက်ခြင်း။	ထိခိုက်ရှနာဖြစ်တတ်ခြင်း	1	3	3	9	ထုတ်ပိုးနေချိန်တွင် ထုတ်ပိုးမှုနှင့်မသက်ဆိုင်သူ များ အလုပ်လုပ်နေသည့်နေရာသို့ လာရောက် ခြင်းကို စက်ရုံစည်းကမ်းတွင် တားမြစ်ထားပါ သည်။ ထိုသို့တားမြစ်ထားကြောင်းကိုလည်း ဝန်ထမ်းများအား အသိပေးထားပါသည်။	Management Team	အပြာရောင်အဆင့်
	၂	ထုတ်ပိုးရာတွင် မသင့်လျော်သောပုံစံဖြင့် ထုတ်ပိုးခြင်း။	ထိခိုက်ရှနာဖြစ်တတ်ခြင်း	1	3	3	9	စက်ရုံမှ ထုတ်ပိုးခြင်းဆိုင်ရာလိုက်နာဆောင်ရွက် ရမည့်အချက်များထားရှိပါသည်။ ဝန်ထမ်းများကို လည်း လိုက်နာဆောင်ရွက်နိုင်ရန် အသိပေးခြင်း များပြုလုပ်ပေးပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၃	ပစ္စည်းများကို သိုလှောင်ရာတွင် အမှိုက်ပုံကဲ့သို့ စုပြုံထားခြင်း။	ခလုတ်တိုက်မိတတ်ခြင်း	1	2	7	14	Safety Officer မှ ကုန်ပစ္စည်းများ သိုလှောင်ရာတွင် စနစ်တကျထပ်၍ထားရှိသင့်ကြောင်း အသိပညာပေးထားပါသည်။ ထိုသို့စနစ်တကျထားရှိခြင်း ရှိမရှိကိုလည်း ပုံမှန်စစ်ဆေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၄	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများပိတ်ထားခြင်း၊ အရေးပေါ်အချက်ပြမီး များကို ထားရှိရမည့်နေရာတွင် မထားခြင်းတို့ကြောင့် မတော်တဆမှု ဖြစ်ပွားစဉ် အချိန်မီ ထွက်ပြေးနိုင်ရန်ခက်ခဲခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေးစေပါသည်။ ထွက်ပေါက်များပိတ်ဆို့မထားရန်လည်း ဝန်ထမ်းများကို သတိပေးထားပါသည်။	Management Team	အပြာရောင်အဆင့်
	၅	ထုတ်ကုန်များသိုလှောင်သောနေရာတွင် ဆေးလိပ်သောက်သူရှိနေခြင်း။	မီးလောင်ခြင်း	1	1	15	15	စက်ရုံမှ ပါကင်ထုတ်ပိုးသည့်နေရာများတွင် ဆေးလိပ်သောက်ခြင်း၊ မီးကစားခြင်းကို ခွင့်မပြုပါ။ သတိပေးသင်္ကေတများကို မြင်သာအောင် ကပ်ထားပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၆	ထုတ်ပိုးသည့်ဌာနတွင် လျှပ်စစ်ဓါတ် သွယ်တန်းတပ်ဆင် ထားသည်မှာ အချိန် ကာလကြာမြင့်ခြင်း၊ အသုံးပြုထား သော မီးအိမ်၊ မီးသီး တို့မှာ လုပ်ထုံး လုပ်နည်း စည်းမျဉ်းစည်းကမ်းနှင့်အညီ တပ်ဆင်မထားခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	EP ဝန်ထမ်းများမှ ထုတ်ကုန်များထုတ်ပိုးသည့်နေရာတွင် လျှပ်စစ်သွယ်တန်း ထားမှု များကို ပုံမှန်စစ်ဆေးပေးသည်။ ဟောင်းနွမ်းပျက်ဆီးနေသည်များကို အချိန်မီပြုပြင်ပေးသည်။	Management Team	အစိမ်းရောင်အဆင့်
	၇	အမှိုက်များကို အချိန်မီ သန့်ရှင်းရေးလုပ်မထားခြင်း။	မီးလောင်နိုင်ခြင်း	1	6	7	42	သန့်ရှင်းရေးဝန်ထမ်းထားရှိ၍ ပုံမှန်သန့်ရှင်းရေးပြုလုပ်စေသည်။	Management	အပြာရောင်အဆင့်
	၈	မီးအသုံးပြုမှုကို တားမြစ်ခြင်း။	မီးလောင်နိုင်ခြင်း	1	1	15	15	ကုန်ပစ္စည်းများသိုလှောင်သည့်နေရာများတွင် မီးအသုံးပြုခြင်းကို စက်ရုံမှ ပြင်းထန်စွာ တားမြစ်ထားပါသည်။	Management Team	အပြာရောင်အဆင့်
	၉	အပူချိန်မြင့်မားလွန်းသောရာသီတွင် လေဝင်လေထွက် ကောင်းမွန်အောင် ဆောင်ရွက်ထားမှုမရှိခြင်း။	အပူရှပ်ခြင်း	1	6	3	18	လေအေးပေးစက်များ ကောင်းစွာထောက်ပံ့ပေးထားပါသည်။	Management	အပြာရောင်အဆင့်

ဌာန	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ		ဖြစ်နိုင်ခြေရှိသော မတော်တဆဖြစ်မှုပုံစံများ	LEC ခွဲခြမ်းစိတ်ဖြာမှု				တာဝန်ယူဆောင်ရွက်ချက်များ	တာဝန်ရှိပုဂ္ဂိုလ်/ အဖွဲ့အစည်း	ဘေးအန္တရာယ် အဆင့်သတ်မှတ်ချက်[1]
	အမှတ်စဉ်	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ		L[2]	E[3]	C[4]	D[5]			
	၁၀	မီးငြိမ်းသတ်ရေးပစ္စည်းကိရိယာများမလုံလောက်ခြင်း၊ ထိရောက်မှုမရှိခြင်း။	မီးလောင်ခြင်း	1	0.5	15	7.5	စက်ရုံမှ Safety Officer ခန့်အပ်၍ မီးသတ်ကိရိယာများလုံလောက်မှုရှိမရှိ စစ်ဆေးစေပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၁	ပစ္စည်းသိုလှောင်သည့်နေရာတွင် မီးအလင်းရောင် အားနည်းခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	0.5	6	3	9	လျှပ်စစ်မီးကို လုံလောက်စွာထောက်ပံ့ထားပါသည်။	Management	အပြာရောင်အဆင့်
	၁၂	လုပ်ငန်းခွင်မှ မထွက်ခွာမီ မီးများ၊ ပါဝါခလုတ်များ မပိတ်ခဲ့ခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	အလုပ်နားချိန်တွင် ပါဝါခလုတ်များပိတ်သွားရန် နှင့် မီးဘေးအန္တရာယ်သတိပြုကြရန် သင်တန်းပေးပါသည်။	Management Team	အစိမ်းရောင်အဆင့်
	၁၃	လမ်းကြောင်းများ၊ အရေးပေါ်ထွက်ပေါက်များပိတ်နေခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေးစေပါသည်။ ထွက်ပေါက်များပိတ်ဆို့မထားရန်လည်း ဝန်ထမ်းများကို သတိပေးထားပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၄	သိုလှောင်ရာတွင် အထုတ်အပိုး၊ ဖုံးများကို အမြင့်ဆုံးထားနိုင်သည့် အမြင့် အတိုင်းအတာထက် ကျော်လွန်၍ထားခြင်း။	အမြင့်မှလဲပြိုနိုင်ခြင်း	3	2	7	42	Safety Officer မှ ကုန်ပစ္စည်းများ သိုလှောင်ရာတွင် အမြင့်ဆုံးထားရမည့် အမြင့် အနေအထားထက် မကျော်လွန်နေစေရန် ပုံမှန်စစ်ဆေး၍၊ ထိုသို့ထားရှိသည်ကို တွေ့ရှိရပါက ချက်ချင်းပြင်ဆင်စေပြီး ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကင်းရှင်းရေး ကို အသိပညာပေးခြင်းများကို ပြုလုပ်ပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၅	ဝန်ပိုသောပစ္စည်းများထားခြင်း၊ ကုန်ပစ္စည်းများကို လိုသည်ထက်ပို၍ ထပ်ဆင် ထားခြင်း။	ခလုတ်တိုက်မိတတ်ခြင်း	1	3	7	21	Safety Officer မှ ကုန်ပစ္စည်းများ သိုလှောင်ရာတွင် အမြင့်ဆုံးထားရမည့် အမြင့် အနေအထားထက် မကျော်လွန်နေစေရန် ပုံမှန်စစ်ဆေး၍၊ ထိုသို့ထားရှိသည်ကို တွေ့ရှိရပါက ချက်ချင်းပြင်ဆင်စေပြီး ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကင်းရှင်းရေး ကို အသိပညာပေးခြင်းများကို ပြုလုပ်ပါသည်။	Management Team	အစိမ်းရောင်အဆင့်
	၁၆	ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ် ကိရိယာ များအသုံးပြုပုံများကိုလည်း သင်တန်းပေး ပါသည်။	Management Team	အပြာရောင်အဆင့်
ကုန်ကြမ်းများ ထားသည့် နေရာ	၁	ပစ္စည်းများကို စနစ်တကျမထားမှုကြောင့် ပစ္စည်းများ စုပုံနေခြင်း။	ခလုတ်တိုက်မိတတ်ခြင်း	1	2	7	14	Safety Officer မှ ကုန်ပစ္စည်းများထားရှိပုံ စနစ်ကျမှုရှိမရှိ၊ အရေးပေါ်ထွက်ပေါက် များ ပိတ်ဆို့မှုရှိမရှိကို ပုံမှန်စစ်ဆေးပါသည်။ ဝန်ထမ်းများကိုလည်း ကျန်းမာရေးနှင့် ဘေးအန္တရာယ်ကင်းရှင်းရေး နှင့်ပတ်သက်၍ လိုအပ်သလို သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၂	ပစ္စည်းများစုပုံနေခြင်း၊ လမ်းကြောင်းများတွင် ပိတ်နေခြင်းတို့ကြောင့် မတော် တဆမှုဖြစ်ပွားချိန်တွင် အချိန်မီထွက်ပြေးရာတွင် အခက်အခဲဖြစ်ခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	Safety Officer မှ ကုန်ပစ္စည်းများထားရှိပုံ စနစ်ကျမှုရှိမရှိ၊ အရေးပေါ်ထွက်ပေါက် များ ပိတ်ဆို့မှုရှိမရှိကို ပုံမှန်စစ်ဆေးပါသည်။ ဝန်ထမ်းများကိုလည်း ကျန်းမာရေးနှင့် ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့် ပတ်သက်၍ လိုအပ်သလို သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၃	ထုတ်ကုန်များသိုလှောင်သောနေရာတွင် ဆေးလိပ်သောက်သူရှိနေခြင်း။	မီးလောင်ခြင်း	1	1	15	15	ထုတ်ကုန်များသိုလှောင်သောနေရာတွင် ဆေးလိပ်သောက်ခြင်း၊ မီးကစားခြင်းကို ခွင့်မပြုပါ။ သတိပေးသင်္ကေတများကို မြင်သာအောင် ကပ်ထားပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
	၄	ကုန်ကြမ်းများထားသည့်နေရာတွင် လျှပ်စစ်ဓါတ် သွယ်တန်းတပ်ဆင် ထားသည် မှာ အချိန်ကာလကြာမြင့်ခြင်း၊ အသုံးပြုထား သော မီးအိမ်၊ မီးသီးတို့မှာလုပ်ထုံးလုပ်နည်း စည်းကမ်းနှင့်အညီတပ်ဆင်မထားခြင်း ။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	EP ဝန်ထမ်းများမှ ကုန်ကြမ်းများထားသည့် နေရာရှိ လျှပ်စစ်သွယ်တန်း ထားမှုများ၊ မီးအိမ်များ၊ မီးသီးများကို စည်းမျဉ်းစည်းကမ်း များနှင့်အညီ တပ်ဆင်ထားပါသည်။	Management Team	အစိမ်းရောင်အဆင့်
	၅	အပူချိန်မြင့်မားလွန်းသောရာသီတွင် လေဝင်လေထွက် ကောင်းမွန်အောင် ဆောင်ရွက်ထားမှုမရှိခြင်း။	အပူရှပ်ခြင်း	1	6	3	18	လေအေးပေးစက်များ ကောင်းစွာထောက်ပံ့ပေးထားပါသည်။	Management	အပြာရောင်အဆင့်
	၆	မီးငြိမ်းသတ်ရေးပစ္စည်းကိရိယာများမလုံလောက်ခြင်း၊ ထိရောက်မှုမရှိခြင်း။	မီးလောင်ခြင်း	1	0.5	15	7.5	စက်ရုံမှ Safety Officer ခန့်အပ်၍ မီးသတ်ကိရိယာများလုံလောက်မှုရှိမရှိ စစ်ဆေး စေပါသည်။	Management Team	အပြာရောင်အဆင့်
	၇	ပစ္စည်းသိုလှောင်သည့်နေရာတွင် မီးအလင်းရောင် အားနည်းခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	0.5	6	3	9	လျှပ်စစ်မီးကို လုံလောက်စွာထောက်ပံ့ထားပါသည်။	Management	အပြာရောင်အဆင့်
	၈	လုပ်ငန်းခွင်မှ မထွက်ခွာမီ မီးများ၊ ပါဝါခလုတ်များ မပိတ်ခဲ့ခြင်း။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	အလုပ်နားချိန်တွင် ပါဝါခလုတ်များပိတ်သွားရန်နှင့် မီးဘေးအန္တရာယ် သတိပြုကြ ရန် သင်တန်းပေးပါသည်။	Management Team	အစိမ်းရောင်အဆင့်
	၉	လမ်းကြောင်းများ၊ အရေးပေါ်ထွက်ပေါက်များပိတ်နေခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	0.5	40	20	အရေးပေါ်ထွက်ပေါက်သင်္ကေတများကို မီးလင်းမှုရှိမရှိ Safety Officer ကို စစ်ဆေး စေပါသည်။ ထွက်ပေါက်များပိတ်ဆို့မထားရန်လည်း ဝန်ထမ်းများ ကို သတိပေးထားပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၀	သိုလှောင်ရာတွင် အထုတ်အပိုး၊ ဖုံးများကို အမြင့်ဆုံးထားနိုင်သည့် အမြင့်အတိုင်းအတာထက် ကျော်လွန်၍ထားခြင်း။	အမြင့်မှလဲပြိုနိုင်ခြင်း	3	2	7	42	Safety Officer မှ ကုန်ပစ္စည်းများ သိုလှောင်ရာတွင် အမြင့်ဆုံးထားရမည့် အမြင့် အနေအထားထက် မကျော်လွန်နေစေရန် ပုံမှန်စစ်ဆေး၍၊ ထိုသို့ထားရှိသည်ကို တွေ့ရှိရပါက ချက်ချင်းပြင်ဆင်စေပြီး ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကင်းရှင်းရေး ကို အသိပညာပေးခြင်းများကို ပြုလုပ်ပါသည်။	Management Team	အဝါရောင်အဆင့်
	၁၁	ဝန်ပိုသောပစ္စည်းများထားခြင်း၊ ကုန်ပစ္စည်းများကို လိုသည်ထက်ပို၍ ထပ်ဆင့်ထားခြင်း။	ခလုတ်တိုက်မိတတ်ခြင်း	1	3	7	21	Safety Officer မှ ကုန်ပစ္စည်းများ သိုလှောင်ရာတွင် အမြင့်ဆုံးထားရမည့် အမြင့်အ နေအထားထက် မကျော်လွန်နေစေရန် ပုံမှန်စစ်ဆေး၍၊ ထိုသို့ထားရှိသည်ကို တွေ့ရှိရပါက ချက်ချင်းပြင်ဆင်စေပြီး ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကင်းရှင်းရေး ကို အသိပညာပေးခြင်းများကို ပြုလုပ်ပါသည်။	Management Team	အစိမ်းရောင်အဆင့်
	၁၂	မောင်းနေသော Forklift ပေါ်တွင် တက်စီးခြင်း၊ မတ်တပ်ရပ်လိုက်လာခြင်း။	ယာဉ်ပျက်ဆီးနိုင်ခြင်း	1	1	7	7	စက်ရုံ၏ စည်းမျဉ်းစည်းကမ်းတွင် Forklift ပေါ်တွင် တက်စီးခြင်း၊ မတ်တပ်ရပ်၍ လိုက်လာ ခြင်းများကို တားမြစ်ထားပါသည်။	Supervisor	အပြာရောင်အဆင့်
	၁၃	အမှိုက်များကို အချိန်မီ သန့်ရှင်းရေးလုပ်မထားခြင်း။	မီးလောင်နိုင်ခြင်း	1	6	7	42	သန့်ရှင်းရေးဝန်ထမ်းထားရှိ၍ ပုံမှန်သန့်ရှင်းရေးပြုလုပ်စေသည်။	Management	အဝါရောင်အဆင့်
	၁၄	မီးအသုံးပြုမှုကို တားမြစ်ခြင်း။	မီးလောင်နိုင်ခြင်း	1	1	15	15	ကုန်ပစ္စည်းများသိုလှောင်သည့်နေရာများတွင် မီးအသုံးပြုခြင်းကို စက်ရုံမှ ပြင်းထန် စွာ တားမြစ်ထားပါသည်။	Management Team	အပြာရောင်အဆင့်
	၁၅	ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ် ကိရိယာ များအသုံးပြုပုံများကိုလည်း သင်တန်းပေးပါသည်။	Management Team	အပြာရောင်အဆင့်
ရေနွေးငွေ့အပူပေးခြင်း	၁	အပူကာစနစ်မကောင်းခြင်း၊ အပူချိန်လွန်ကဲခြင်း၊ ပြာပူလောင်ခြင်း၊ ရေနွေးငွေ့ ဖိအားများခြင်း	ခန္ဓာကိုယ်နှင့်ခြေလက် အပူလောင် ခြင်း၊ မီးလောင်ပေါက်ကွဲခြင်း	1	6	7	42	ချို့ယွင်းမှုများကို ပြုပြင်ရန်၊ ကာကွယ်ရေးဝတ်စုံအပြည့်အစုံဝတ်ဆင်ရန်၊ ဖိအားထိန်းကိရိယာများကို အမြဲ စစ်ဆေးရန် သင်တန်းပေးပါသည်	Management Team	အဝါရောင်အဆင့်

ဌာန	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ		ဖြစ်နိုင်ခြေရှိသော	LEC ခွဲခြမ်းစိတ်ဖြာမှု				တာဝန်ယူဆောင်ရွက်ချက်များ	တာဝန်ရှိပုဂ္ဂိုလ်/ အဖွဲ့အစည်း	ဘေးအန္တရာယ်
	အမှတ်စဉ်	ဘေးအန္တရာယ်ဖြစ်စေနိုင်သောအကြောင်းအရာ	မတော်တဆဖြစ်မှုပုံစံများ	L[2]	E[3]	C[4]	D[5]			အဆင့်သတ်မှတ်ချက်[1]
	၂	လောင်စာ (ထင်း၊အဝတ်စများ)ကြောင့် မီးစွဲလောင်ခြင်း	ထိခိုက်ဒဏ်ရာရရှိခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	လောင်စာကို စနစ်တကျသုံးခ၍မီးဘေးအထူးဂရုစိုက်ရန်သင်တန်းပေးပါသည်	Management Team	အစိမ်းရောင်အဆင့်
		ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	အသက်အန္တရာယ်နှင့် ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ် ကိရိယာများအသုံးပြုပုံများကိုလည်း သင်တန်းပေးပါသည်။	Management Team	
လျှပ်စစ်အသုံးပြုခြင်း	၁	လျှပ်စစ်ဓါတ် သွယ်တန်းတပ်ဆင် ထားသည် မှာ အချိန်ကာလကြာမြင့်ခြင်း၊ အသုံးပြုထား သော မီးအိမ်၊ မီးသီးတို့မှာလုပ်ထုံးလုပ်နည်း စည်းကမ်းနှင့်အညီတပ်ဆင်မထားခြင်း ။	ဝါယာရှော့ခ်ဖြစ်ခြင်း၊ မီးလောင်ခြင်း	1	3	7	21	EP ဝန်ထမ်းများမှ လျှပ်စစ်သွယ်တန်း ထားမှုများ၊ မီးအိမ်များ၊ မီးသီးများကို စည်းမျဉ်းစည်းကမ်း များနှင့်အညီ တပ်ဆင်ထားပါသည်။	Management Team	
	၂	လျှပ်စီးပတ်လမ်းကြောင်း ချို့ယွင်းခြင်းကြောင့် လျှပ်စစ်ဘေးအန္တရာယ်ဖြစ်နိုင် ခြင်း	ဝါယာရှော့ခ်ဖြစ်ခြင်း	1	6	7	42	စက်ရုံမှ EP ဝန်ထမ်းများခန့်အပ်၍ လျှပ်စစ် ဘေးအန္တရာယ်ဖြစ်စေနိုင်ခြင်း ကို ကာကွယ် ရန် လျှပ်စစ်သွယ်တန်းမှုကို စနစ်တကျဖြစ်စေရန် စစ်ဆေး လုပ်ဆောင် စေပါသည်။	Management Team	
မီးစက်အသုံးပြုခြင်း	၁	စက်မောင်းနှင်ခြင်းဆိုင်ရာ စည်းမျဉ်းစည်းကမ်းမရှိခြင်း (သို့မဟုတ်) စက်မောင်းသူမှ စည်းမျဉ်းစည်းကမ်း မလိုက်နာခြင်း။	စက်အသုံးပြုနေစဉ် ထိခိုက် ဒဏ်ရာရရှိနိုင်ခြင်း	1	6	3	18	စက်ရုံတွင် စက်များမောင်းနှင်မှုနှင့်ဆိုင်သော စည်းမျဉ်းစည်းကမ်းများ ထားရှိ ပါသည်။	Management Team	
	၂	စက်မောင်းသူအိပ်ပျော်နေခြင်း (သို့မဟုတ်) အရက်သေစာသောက်စား ထားခြင်း။	စက်ချို့ယွင်းမှု	1	6	3	18	စက်ရုံတွင် အလုပ်ချိန်တွင် အိပ်ငိုက်ခြင်း၊ အရက်သေစာသောက်စား ခြင်း တို့ကို တားမြစ်ထားသော စည်းကမ်းချက်များရှိပါသည်။	Supervisor	
	၃	စက်မောင်းသူမှ နားကြပ်တပ်မထားခြင်း။	နားလေးစေနိုင်ခြင်း	0.5	6	7	21	ဝန်ထမ်းများကို PPE ဝတ်ဆင်မှု၏အရေးပါပုံကို သင်တန်းများပေးပါသည်။	Suervisor	
	၄	စက်သံဆူညံခြင်း။	နားလေးစေနိုင်ခြင်း	1	6	7	42	ဝန်ထမ်းများကို နားကြပ်များလုံလောက်စွာပေး၍ အလုပ်ချိန်တွင် နားကြပ်များ တပ်ဆင်စေပါသည်။	Management Team	
	၅	ဝန်ထမ်းများအရေးပေါ်ကယ်ဆယ်ရေးသင်တန်းများ ရရှိမထားခြင်း။	အသက်အန္တရာယ်နှင့် ထိခိုက်ဒဏ်ရာရရှိခြင်း	1	1	15	15	ဝန်ထမ်းများကို မီးသတ်လေ့ကျင့်ခန်းများ စဉ်ဆက်မပြတ် ပြုလုပ်ပေးပြီး၊ မီးသတ် ကိရိယာများအသုံးပြုပုံများကိုလည်း သင်တန်းပေးပါသည်။	Management Team	

<u>မှတ်ချက်</u>

အထက်ပါ စက်မှုဘေးအန္တရာယ်ဖြစ်စေနိုင်သော အချက်များအားတာဝန်ယူဖြေရှင်းမည့်စရိတ်မှာ ကုမ္ပဏီလည်ပတ်ခြင်းစရိတ်အတွင်းပါဝင်ပြီးဖြစ်ပါသည်။

Table 44: Risk Analysis Table (English Version)

Department	Cause of Risk		Potential Accident	LEC Analysis				Mitigation Measures	Responsible Person/ Organizsation	Risk Rating[6]
	Sr.	Cause of Risk		L[7]	E[8]	C[9]	D[10]			
computer Knitting	1	Lack of operating regulations or non–compliance by the operator.	Machine malfunction	1	6	3	18	The factory has rules and regulations regarding the operation of machines.	Supervisor	
	2	Operator is asleep or taken alcohol.	Machine malfunction	1	6	3	18	There are rules prohibiting sleeping during factory hours, and the consumption of alcohol.	Supervisor	
	3	Scissors and hole punching instrument are put in inappropriate places; roaming.	Machine malfunction	1	6	3	18	There are rules to tie scissors and sharp objects such as piercings.	Supervisor	
	4	Perfect Reliable Lack of protection for effective security; Reciprocal connections; Signal light Alarm bell Lack of warranty equipment	Machine malfunction	0.5	6	3	9	The factory employs mechanics, machine protection systems; and emphasis is placed on staff safety.	Supervisor	
	5	Ground–driving equipment does not have a protection system	Machine malfunction	0.5	6	3	9	The factory employs mechanics, machine protection systems; and emphasis is placed on staff safety.	Supervisor	
	6	Poor electrical protection system of computer spinning machine; The cables are worn out. Explosion	Wire shock	0.5	6	7	21	The factory employs EP staff to systematically inspect the electrical connections to prevent electrical hazards.	Electrical Technician	
	7	Poor basic instruction of computer spinning machine; Weakness of electrical leakage equipment.	Wire shock	1	6	7	42	The factory employs EP staff to systematically inspect the electrical connections to prevent electrical hazards.	Electrical Technician	
	8	Engine oil leakage can cause the operator to slip. Got fire	Engine oil leakage can cause the operator to slip. Got fire	0.5	6	3	9	The factory provides under – cage trays to prevent engine oil from leaking.	Mechanic	
	9	Noise Pollution	Hearing loss	0.5	6	3	9	Employees are provided with adequate headphones and installed during working hours.	Maintenance Section	
	10	The Operator is not wearing headphones.	Hearing loss	0.5	6	7	21	Employees are trained on the importance of wearing PPE.	Supervisor	
	11	Lack of good ventilation during the hot season.	Heat stroke	1	6	3	18	Air conditioners are well supplied.	Management Team	
	12	Low light in the workplace can affect the eyesight of employees.	Long–distance blurring	0.5	6	3	9	Adequate electricity supply.		
	13	Power buttons do not turn off during breaks.	Wire shock; Fire	1	3	7	21	Employees are trained to turn off the power switch during fire breaks and be aware of fire hazards.	Supervisor	
	14	Emergency exit signs are blocked; It is difficult to evacuate in time for an accident due to the lack of emergency lights.	Injury	1	0.5	40	20	The Emergency Officer is asked to check if the emergency exit signs are lit. Employees are also warned not to block exits.	Supervisor	
	15	Staff did not receive emergency rescue training.	Injury	1	1	15	15	Staff are trained in firefighting on a regular basis. They are also provided training on how to use fire extinguishers.	Management Team	
	16	Lack of practical firefighting equipment	got fire	1	0.5	15	7.5	The factory appoints a Safety Officer to inspect the firefighting equipment.	Safety Officer	
	1	Scissors and hole punching instrument are put in inappropriate places; roaming.	Machine malfunction	1	6	3	18	There are rules to tie scissors and sharp objects such as piercings.	Management Team	
	2	Lack of good ventilation during the hot season.	Heat stroke	1	6	3	18	Air conditioners are well supplied.	Management	
	3	Low light in the workplace can affect the eyesight of employees.	Long–distance blurring	0.5	6	3	9	Adequate electricity supply.		
	4	Power buttons do not turn off during breaks.	Wire shock; Fire	1	3	7	21	Employees are trained to turn off the power switch during fire breaks and be aware of fire hazards.	Supervisor	

[6] **Colour code for significant of Impact** Negligible, Low, Moderate, High

[7] L - **Likely hood** Improbable: 0.5, Probable: 1, Highly probable: 2, Definite: 4

[8] E - **Exposure** Short term: 1, Medium Term: 3, Long Term: 6, Permanent: 8

[9] C - **Criticality** Low 1 - 5, Medium 6, High 10 - 40

[10] D - **Dangerous** Sum (likelihood x exposure x criticality) negligible < 20, Low: < 40, Moderate: < 60, High: > 60

Department	Cause of Risk		Potential Accident	LEC Analysis				Mitigation Measures	Responsible Person/ Organization	Risk Rating[6]
	Sr.	Cause of Risk		L[7]	E[8]	C[9]	D[10]			
	5	Emergency exit signs are blocked; It is difficult to evacuate in time for an accident due to the lack of emergency lights.	Injury	1	0.5	40	20	The Emergency Officer is asked to check if the emergency exit signs are lit. Employees are also warned not to block exits.	Management	
	6	Staff did not receive emergency rescue training.	Injury	1	1	15	15	Staff are trained in firefighting on a regular basis. They are also provided training on how to use fire extinguishers.	Management Team	
	7	Lack of practical firefighting equipment	got fire	1	0.5	15	7.5	The factory appoints a Safety Officer to inspect the firefighting equipment.	Safety Officer	
Spinning Department	1	Lack of operating regulations or non-compliance by the operator.	Machine malfunction	1	6	3	18	The factory has rules and regulations regarding the operation of machines.	Supervisor	
	2	Spinning operator is asleep or taken alcohol.	Machine malfunction	1	6	3	18	There are rules prohibiting sleeping during factory hours, and the consumption of alcohol.	Supervisor	
	3	Scissors and hole punching instrument are put in inappropriate places; roaming.	Machine malfunction	1	6	3	18	There are rules to tie scissors and sharp objects such as piercings.	Management Team	
	4	Machine operation; Parts transported from one place to another are incomplete; Lack of trust; Lack of protective equipment	Injury while using the machine	0.5	6	3	9	The factory employs mechanics, machine protection systems; and emphasis is placed on staff safety.	Management Team	
	5	Poor electrical shielding system of the motor. Old power lines; Explosion Weaknesses in electricity consumption.	Wire shock	0.5	6	7	21	To prevent the risk of electric shock; The factory employs EP staff to ensure that the wiring is in order and that the wiring is regularly inspected.	Electrical Technician	
	6	Engine oil leakage can cause the operator to slip. Got fire	Engine oil leakage can cause the operator to slip. Got fire	1	6	7	42	The factory provides under – cage trays to prevent engine oil from leaking.	Maintenance	
	7	Noise Pollution	Hearing loss	1	6	7	42	Employees are provided with adequate headphones and installed during working hours.	Maintenance	
	8	The weaver has no equipment or headphones.	Hearing loss	1	6	7	42	Employees are trained on the importance of wearing PPE.	Supervisor	
	9	Lack of good ventilation during the hot season.	Heat stroke	1	6	3	18	Air conditioners are well supplied.	Management	
	10	Low light in the workplace can affect the eyesight of employees.	Long-distance blurring	0.5	6	3	9	Adequate electricity supply.	Management	
	11	Power buttons do not turn off during breaks.	Wire shock; Fire	1	3	7	21	Employees are trained to turn off the power switch during fire breaks and be aware of fire hazards.	Supervisor	
	12	Emergency exit signs are blocked; It is difficult to evacuate in time for an accident due to the lack of emergency lights.	Injury	1	0.5	40	20	The Emergency Officer is asked to check if the emergency exit signs are lit. Employees are also warned not to block exits.	Safety Officer	
	13	Staff did not receive emergency rescue training.	Injury	1	1	15	15	Staff are trained in firefighting on a regular basis. They are also provided training on how to use fire extinguishers.	Management Team	
	14	Lack of practical firefighting equipment	got fire	1	0.5	15	7.5	The factory appoints a Safety Officer to inspect the firefighting equipment.	Management Team	
Linking Department	1	Lack of operating regulations or non-compliance by the operator.	Injury while using the machine	1	6	3	18	The factory has rules and regulations regarding the operation of machines.	Supervisor	
	2	The operator does not pay attention at work, (or) sleepy while on duty.	Injury while using the machine	1	6	3	18	There are rules prohibiting sleeping during factory hours, and the consumption of alcohol.	Supervisor	
	3	Scissors and hole punching instrument are put in inappropriate places; roaming.	Machine malfunction	1	6	3	18	There are rules to tie scissors and sharp objects such as piercings.	Supervisor	
	4	Weak mechanical and electrical shielding system; The wiring is worn out. Explosion	Wire shock	0.5	6	7	21	To prevent the risk of electric shock; The factory employs EP staff to ensure that the wiring is in order and that the wiring is regularly inspected.	Electrical Technician	
	5	Weaknesses in the basic systems of the machines or weaknesses in the electrical equipment of the machines.	Wire shock	1	6	7	42	To prevent the risk of electric shock; The factory employs EP staff to ensure that the wiring is in order and that the wiring is regularly inspected.	Management and Electrical Technician	
	6	Lack of good ventilation during the hot season.	Heat stroke	1	6	3	18	Air conditioners are well supplied.	Management	
	7	Low light in the workplace can affect the eyesight of employees.	Long-distance blurring	0.5	6	3	9	Adequate electricity supply.	Management	

Department	Cause of Risk		Potential Accident	LEC Analysis				Mitigation Measures	Responsible Person/ Organizsation	Risk Rating[6]
	Sr.	Cause of Risk		L[7]	E[8]	C[9]	D[10]			
	8	Power buttons do not turn off during breaks.	Wire shock; Fire	1	3	7	21	Employees are trained to turn off the power switch during fire breaks and be aware of fire hazards.	Management	
	9	Emergency exit signs are not displayed; It is difficult to evacuate in time for an accident due to the lack of emergency lights.	Risk of life, and injury	1	0.5	40	20	The Emergency Officer is asked to check if the emergency exit signs are lit. Employees are also warned not to block exits.	Safety Officer	
	10	Staff did not receive emergency rescue training.	Risk of life, and injury	1	1	15	15	Staff are trained in firefighting on a regular basis. They are also provided training on how to use fire extinguishers.	Management Team	
	11	Lack of practical firefighting equipment	got fire	1	0.5	15	7.5	The factory appoints a Safety Officer to inspect the firefighting equipment.	Management Team	
Hang Tag Department	1	Scissors and hole punching instrument are put in inappropriate places; roaming.	Machine malfunction	1	6	3	18	There are rules to tie scissors and sharp objects such as piercings.	Supervisor	
	2	Lack of good ventilation during the hot season.	Heat stroke	1	6	3	18	Air conditioners are well supplied.	Management	
	3	Low light in the workplace can affect the eyesight of employees.	Long-distance blurring	0.5	6	3	9	Adequate electricity supply.	Management	
	4	Power buttons do not turn off during breaks.	Wire shock; Fire	1	3	7	21	Employees are trained to turn off the power switch during fire breaks and be aware of fire hazards.	Management	
	5	Lack of operating regulations or non-compliance by the operator.	Risk of life, and injury	1	6	3	18	The factory has rules and regulations regarding the operation of machines.	Supervisor	
	6	Staff did not receive emergency rescue training.	Risk of life, and injury	1	1	15	15	Staff are trained in firefighting on a regular basis. They are also provided training on how to use fire extinguishers.	Management Team	
	7	Lack of practical firefighting equipment	got fire	1	0.5	15	7.5	The factory appoints a Safety Officer to inspect the firefighting equipment.	Management Team	
QC	1	Scissors and hole punching instrument are put in inappropriate places; roaming.	Injury while using the machine	1	6	3	18	There are rules to tie scissors and sharp objects such as piercings.	Management Team	
	2	Lack of good ventilation during the hot season.	Heat stroke	1	6	3	18	Air conditioners are well supplied.	Management	
	3	Low light in the workplace can affect the eyesight of employees.	Long-distance blurring	0.5	6	3	9	Adequate electricity supply.	Management Team	
	4	Power buttons do not turn off during breaks.	Wire shock; Fire	1	3	7	21	Employees are trained to turn off the power switch during fire breaks and be aware of fire hazards.	Management Team	
	5	Emergency exit signs are blocked; It is difficult to evacuate in time for an accident due to the lack of emergency lights.	Injury	1	0.5	40	20	The Emergency Officer is asked to check if the emergency exit signs are lit. Employees are also warned not to block exits.	Management Team	
	6	Staff did not receive emergency rescue training.	Risk of life, and injury	1	1	15	15	Staff are trained in firefighting on a regular basis. They are also provided training on how to use fire extinguishers.	Management Team	
	7	Lack of practical firefighting equipment	got fire	1	0.5	15	7.5	The factory appoints a Safety Officer to inspect the firefighting equipment.	Management Team	
Motor Sewing	1	Lack of operating regulations or non-compliance by the operator.	Risk of life, and injury	1	6	3	18	The factory has rules and regulations regarding the operation of machines.	Supervisor	
	2	Motor sewing machine operator not paying attention at work,(or) sleepy while on duty	Injury while using the machine	1	6	3	18	There are rules prohibiting sleeping during factory hours, and the consumption of alcohol.	Supervisor	
	3	Motor sewing operator is not wearing gloves; Machine malfunctioning while using the equipment.	Injury while using the machine	1	3	7	21	The factory employs mechanics who regularly inspect the machines. First aid boxes are also available in each department to be used in the event of an accident. A list of first aid course certificates holders are also posted in a prominent place for easy communication.	Supervisor	
	4	Using sharp tools such as scissors, which are not placed at right place?	Injury while using the machine	1	6	3	18	There are rules to tie scissors and sharp objects such as piercings.	Supervisor	
	5	Complete equipment; Reliable Lack of protective equipment for effective security;	Injury while using the	0.5	6	3	9	The factory employs mechanics. Machine protection systems; Emphasis is placed on	Management	

Department	Cause of Risk		Potential Accident	LEC Analysis				Mitigation Measures	Responsible Person/ Organizsation	Risk Rating[6]
	Sr.	Cause of Risk		L[7]	E[8]	C[9]	D[10]			
		Lack of interconnection; Signal light Alarm bell Lack of warranty and other necessary equipment.	machine					staff safety.		
	6	The transmission does not have a protective gear during operation.	Injury while using the machine	0.5	6	3	9	The factory employs mechanics. Machine protection systems; Emphasis is placed on staff safety.	Management	
	7	Broken needle due to electrical circuit failure; Deposit misplacement	Wire Shock	1	6	7	42	The factory employs EP staff to inspect the electrical system to prevent electrical hazards.	Electrician	
	8	Engine oil leakage can cause the operator to slip. Got fire	Engine oil leakage can cause the operator to slip. Got fire	0.5	6	3	9	The factory provides under – cage trays to prevent engine oil from leaking.	Mechanic	
	9	Lack of good ventilation during the hot season.	Heat stroke	1	6	3	18	Air conditioners are well supplied.	Management	
	10	Low light in the workplace can affect the eyesight of employees.	Long-distance blurring	0.5	6	3	9	Adequate electricity supply.	Management Team	
	11	Tools and products are put step without in order none systematically. It may delays in escaping accidents due to closure of emergency exits.	May cause other accidents	1	0.5	40	20	Whether the Safety Officer arranges the products properly; Regular check-ups for emergency exits whether they are blocked or not. Staff are also trained on health and safety as needed.	Management Team	
	12	Power buttons do not turn off during breaks.	Wire shock; Fire	1	3	7	21	Employees are trained to turn off the power switch during fire breaks and be aware of fire hazards.	Management Team	
	13	Emergency exit signs are blocked; It is difficult to evacuate in time for an accident due to the lack of emergency lights.	Injury	1	0.5	40	20	The Emergency Officer is asked to check if the emergency exit signs are lit. Employees are also warned not to block exits.	Management Team	
	14	Staff did not receive emergency rescue training.	Injury	1	1	15	15	Staff are trained in firefighting on a regular basis. They are also provided training on how to use fire extinguishers.	Management Team	
	15	Lack of practical firefighting equipment	got fire	1	0.5	15	7.5	The factory appoints a Safety Officer to inspect the firefighting equipment.	Management Team	
Ironing Department	1	Failure to follow the rules of heat pressing by electric iron equipment.	Burning	1	6	3	18	The factory has rules and regulations regarding the operation of machines and equipment.	Supervisor	
	2	Leakage of steam during heating.	Burning	1	6	3	18	First aid boxes are provided for easy use in the event of an accident. A list of first aid certificates holder is also posted in a conspicuous place.	Supervisor	
	3	Heat pressing machine operator does not paying attention, at work (or) sleepy while on duty	Burning	1	6	3	18	There are rules prohibiting sleeping during factory hours, and the consumption of alcohol.	Management Team	
	4	After using the heat press machine, it is not put in right place and normal position.	Burning, Fire	1	6	3	18	After using the heaters, employees are trained to keep them in designated areas and right position.	Management Team	
	5	Lack of good ventilation during the hot season.	Heat stroke	1	6	3	18	Air conditioners are well supplied.	Management	
	6	Low light in the workplace can affect the eyesight of employees.	Long-distance blurring	0.5	6	3	9	Adequate electricity supply.	Management Team	
	7	Tools and products are block at working area	Injury	1	0.5	40	20	Whether the Safety Officer arranges the products properly; Regular check-ups for emergency exits whether they are blocked or not. Staff are also trained on health and safety as needed.	Management Team	
	8	Accumulation of items and products due to improper storage.	a narrowly avoided collision or other accident.	1	2	7	14	Whether the Safety Officer arranges the products properly; Regular check-ups for emergency exits whether they are blocked or not. Staff are also trained on health and safety as needed.	Management Team	
	9	Placing items on routes; Delay in fleeing in the event of an accident due to roadblocks.	Injury	1	0.5	40	20	The Emergency Officer is asked to check if the emergency exit signs are lit regularly. Employees are also warned not to block exits.	Management Team	

Department	Cause of Risk		Potential Accident	LEC Analysis				Mitigation Measures	Responsible Person/ Organizsation	Risk Rating[6]
	Sr.	Cause of Risk		L[7]	E[8]	C[9]	D[10]			
	10	Power buttons do not turn off during breaks.	Wire shock; Fire	1	3	7	21	Employees have been trained to turn off the power switch during breaks and be aware of fire hazards.	Management Team	
	11	Emergency exit signs are blocked; It is difficult to evacuate in time for an accident due to the lack of emergency lights.	Risk of life, and injury	1	0.5	40	20	The Emergency Officer is asked to check if the emergency exit signs are lit regularly. Employees are also warned not to block exits.	Management Team	
	12	Staff did not receive emergency rescue training.	Injury	1	1	15	15	Employees are trained in firefighting on a regular basis. We also provide training on how to use fire extinguishers.	Management Team	
	13	Lack of practical firefighting equipment	Fire	1	0.5	15	7.5	The factory appoints a Safety Officer to inspect the firefighting equipment.	Management Team	
Washing Department	1	Lack of operating regulations or non-compliance by the operator.	Injury while using the machine	1	6	3	18	The factory has rules and regulations regarding the operation of machines.	Supervisor	
	2	Washing machine Water filter Perfect for dryers. Reliable Lack of effective protection; Interconnection; Signaling Signaling Lack of warranty equipment.	Injury while using the machine	0.5	6	3	9	Washing machine from factory Water filter Protection system of dryers; Well-connected; quality of the alarm system is checked Regularly.	Management Team	
	3	Washing machine Water filter Dryers have no protection.	Injury while using the machine	0.5	6	3	9	Washing machine from factory Water filter Whether the dryers are protected; It is checked regularly for effectiveness.	Management Team	
	4	Washing machine Water filter The electric motor of the dryer is not working properly. The wiring is worn out. Explosion	Wire shock	0.5	6	7	21	Washing machine Water filter The electric motor of the dryers is good or bad. Are the wiring worn out? EP staff are asked to periodically check for leaks.	Electrician	
	5	Washing machine Water filter, weak system of dryers; and there's weaknesses in the voltage regulator.	Wire shock	1	6	7	42	Washing machine from factory Water filter Well-designed drier system; The voltage regulator regularly checks for defects.	Management Team	
	6	Mechanical vulnerabilities occur during operation.	Injury while using the machine	1	3	7	21	Machines are inspected regularly. Training on what to do in case of accident; Medicine boxes; The list of first aid graduates is kept in a visible place.	Management Team	
	7	Manual removal of clothes by the operator while the dryer is running.	Injury while using the machine	1	2	7	14	Machines are inspected regularly. Training on what to do in case of accident; Medicine boxes; The list of first aid graduates is kept in a visible place.	Supervisor	
	8	While washing clothes, apply a good moisturizer. Softener Cleanser Use of deodorants and other chemicals.	Toxicity; defection risk on skin	1	6	3	18	The Safety Officer provides training on the requirements for using chemicals and hangs the MSDS in a visible place. Demonstration of training on how to wear PPE when using chemicals and how to use eye drops in an emergency.	Supervisor	
	9	High temperature steam leakage.	Burning	1	6	3	18	Machines are inspected regularly. Training on what to do in case of accident; Medicine boxes; The list of first aid graduates is kept in a visible place.	Management Team	
	10	Slippery floor can cause the operator to slip.	Injury	0.5	6	3	18	The Safety Officer provided the related employee with safety shoes. Provided awareness training to wear these shoes while working.	Management Team	
	11	Washing machine and emission from washing machine noise	Hearing loss	0.5	6	3	9	PPEs are provided to employees.	Management	
	12	Lack of good ventilation during the hot season.	Heat stroke	1	6	3	18	Air conditioners are well supplied.	Management	
	13	Low light in the workplace can affect the eyesight of employees.	Long-distance blurring	0.5	6	3	9	Adequate electricity supply.	Management Team	
	14	Tools and products are block at working area	Injury	1	0.5	40	20	Whether the Safety Officer arranges the products properly; Regular check-ups for emergency exits whether they are blocked or not. Staff are also trained on health and safety as needed.	Management Team	
	15	Accumulation of items and products due to improper storage.	a narrowly avoided collision or other accident.	1	2	7	14	Whether the Safety Officer arranges the products properly; Regular check-ups for emergency exits whether they are blocked or not. Staff are also trained on health and safety as needed.	Management Team	
	16	Tools and products are put step without in order non systematically. It may delays in escaping accidents due to closure of emergency exits.	May cause other accidents	1	0.5	40	20	Whether the Safety Officer arranges the products properly; Regular check-ups for emergency exits whether they are blocked or not. Staff are also trained on health and safety as needed.	Management Team	
	17	Power buttons are not turned off before leaving from workplace	Wire shock, Fire	1	3	7	21	Employees are trained to turn off the power switch during fire breaks and be aware of	Management	

Department	Cause of Risk		Potential Accident	LEC Analysis				Mitigation Measures	Responsible Person/ Organizsation	Risk Rating[6]
	Sr.	Cause of Risk		L[7]	E[8]	C[9]	D[10]			
								fire hazards.	Team	
	18	Emergency exit signs are blocked; It is difficult to evacuate in time for an accident due to the lack of emergency lights.	Injury	1	0.5	40	20	The Emergency Officer is asked to check if the emergency exit signs are lit. Employees are also warned not to block exits.	Management Team	
	19	Staff did not receive emergency rescue training.	Injury	1	1	15	15	Staff are trained in firefighting on a regular basis. They are also provided training on how to use fire extinguishers.	Management Team	
	20	Lack of practical firefighting equipment	got fire	1	0.5	15	7.5	The factory appoints a Safety Officer to inspect the firefighting equipment.	Management Team	
Final Inspection	1	Such a scissors instrument are put in inappropriate places; roaming.	injury	1	6	3	18	There are rules to tie scissors and sharp objects such as piercings.	Supervisor	
	2	Lack of good ventilation during the hot season.	Heat stroke	1	6	3	18	Air conditioners are well supplied.	Management	
	3	Low light in the workplace can affect the eyesight of employees.	Long-distance blurring	0.5	6	3	9	Adequate electricity supply.	Management Team	
	4	Smoker in product storage	Fire	1	1	15	15	Smoking in product storage; Playing fire is not allowed, and strictly forbidden. Warning signs are placed at most visible place.	Management Team	
	5	The long time electrical wiring connection in the product warehouse	Wire shock, Fire	1	3	7	21	EP employee regularly inspect electrical wiring in product storage. Repairing old and damaged items in a timely manner is being done by EP employee.	Management Team	
	6	Power buttons are not turned off before leaving from workplace	Wire shock, Fire	1	3	7	21	Employees are trained to turn off the power switch during fire breaks and be aware of fire hazards.	Management Team	
	7	Emergency exit signs are not displayed; It is difficult to evacuate in time for an accident due to the lack of emergency lights.	Injury	1	0.5	40	20	The Emergency Officer is asked to check if the emergency exit signs are lit. Employees are also warned not to block exits.	Management Team	
	8	Staff did not receive emergency rescue training.	Risk of life, and injury	1	1	15	15	Staff are trained in firefighting on a regular basis. They are also provided training on how to use fire extinguishers.	Management Team	
	9	Lack of practical firefighting equipment	got fire	1	0.5	15	7.5	The factory appoints a Safety Officer to inspect the firefighting equipment.	Management Team	
Supporting Accessories	1	Scissors and hole punching instrument are put in inappropriate places; roaming.	Machine malfunction	1	6	3	18	There are rules to tie scissors and sharp objects such as piercings.	Supervisor	
	2	Lack of good ventilation during the hot season.	Heat stroke	1	6	3	18	Air conditioners are well supplied.	Management	
	3	Low light in the workplace can affect the eyesight of employees.	Long-distance blurring	0.5	6	3	9	Adequate electricity supply.	Management Team	
	4	Smoker in product storage	Fire	1	1	15	15	Smoking in product storage; Playing fire is not allowed, and strictly forbidden. Warning signs are placed at most visible place.		
	5	The long time electrical wiring connection in the product warehouse	Wire shock, Fire	1	3	7	21	EP employee regularly inspect electrical wiring in product storage. Repairing old and damaged items in a timely manner is being done by EP employee.	Management Team	
	6	Power buttons are not turned off before leaving from workplace	Wire shock, Fire	1	3	7	21	Employees are trained to turn off the power switch during fire breaks and be aware of fire hazards.	Management Team	
	7	Emergency exit signs are not displayed; It is difficult to evacuate in time for an accident due to the lack of emergency lights.	Injury	1	0.5	40	20	The Emergency Officer is asked to check if the emergency exit signs are lit. Employees are also warned not to block exits.	Management Team	
	8	Staff did not receive emergency rescue training.	Risk of life, and injury	1	1	15	15	Staff are trained in firefighting on a regular basis. They are also provided training on how to use fire extinguishers.	Management Team	
	9	Lack of practical firefighting equipment	got fire	1	0.5	15	7.5	The factory appoints a Safety Officer to inspect the firefighting equipment.	Management Team	
Temporaty Warehouse	1	Lack of practical firefighting equipment	got fire	1	0.5	15	7.5	The factory appoints a Safety Officer to inspect the firefighting equipment.	Supervisor	
	2	Scissors and hole punching instrument are put in inappropriate places; roaming.	Machine malfunction	1	6	3	18	There are rules to tie scissors and sharp objects such as piercings.	Management	
	3	Low light in the workplace can affect the eyesight of employees.	Long-distance blurring	0.5	6	3	9	Adequate electricity supply.	Management Team	

Department	Cause of Risk		Potential Accident	LEC Analysis				Mitigation Measures	Responsible Person/ Organizsation	Risk Rating[6]
	Sr.	Cause of Risk		L[7]	E[8]	C[9]	D[10]			
	4	Smoker in product storage	Fire	1	1	15	15	Smoking in product storage; Playing fire is not allowed, and strictly forbidden. Warning signs are placed at most visible place.	Management Team	
	5	The long time electrical wiring connection in the product warehouse	Wire shock, Fire	1	3	7	21	EP employee regularly inspect electrical wiring in product storage. Repairing old and damaged items in a timely manner is being done by EP employee.	Management Team	
	6	Power buttons are not turned off before leaving from workplace	Wire shock, Fire	1	3	7	21	Employees are trained to turn off the power switch during fire breaks and be aware of fire hazards.	Management Team	
	7	Emergency exit signs are not displayed; It is difficult to evacuate in time for an accident due to the lack of emergency lights.	Injury	1	0.5	40	20	The Emergency Officer is asked to check if the emergency exit signs are lit. Employees are also warned not to block exits.	Management Team	
	8	Staff did not receive emergency rescue training.	Injury	1	1	15	15	Employees are trained in firefighting on a regular basis. We also provide training on how to use fire extinguishers.	Management Team	
	9	Lack of practical firefighting equipment	Fire	1	0.5	15	7.5	The factory appoints a Safety Officer to inspect the firefighting equipment.	Management Team	
	10	In storage, packaging, containers are stored above the maximum allowable height.	Can collapse from a height	3	2	7	42	The Safety Officer regularly inspects the product to ensure that it does not exceed the maximum height required for storage. If it is found, it is immediately repaired and health and safety education is provided.	Management Team	
	11	Overloading; Adding products beyond the required steps;	collision	1	3	7	21	The Safety Officer regularly inspects the product to ensure that it does not exceed the maximum height required for storage. If it is found, it is immediately repaired and health and safety education is provided.	Management Team	
	12	Waste and dust is not cleaned in a timely manner.	Fire	1	6	7	42	Cleaning or housekeeping staffs are available to provide regular cleaning.	Management Team	
	13	Prohibition of using of fire.	Fire	1	1	15	15	The use of fire in warehouses is strictly prohibited by the factory.	Management	
Packing Place	1	Enter unauthorized persons to packing area while packing.	Injury	1	3	3	9	Factory rules prohibit unauthorized persons from entering the workplace while packing. Employees were also informed of the ban.	Supervisor	
	2	Improper packaging.	Injury	1	3	3	9	The factory has rules for packaging requirements. Employees are also notified to comply.	Management Team	
	3	Stacking items like garbage in storage	Collision	1	2	7	14	The Safety Officer advised that storage should be systematically added. It is also checked regularly	Management Team	
	4	Emergency exit signs are not displayed; It is difficult to evacuate in time for an accident due to the lack of emergency lights.	Injury	1	0.5	40	20	The Emergency Officer is asked to check if the emergency exit signs are lit. Employees are also warned not to block exits.	Management Team	
	5	Smoker in product storage	Fire	1	1	15	15	Smoking in product storage; Playing fire is not allowed, and strictly forbidden. Warning signs are placed at most visible place.	Management Team	
	6	The long time electrical wiring connection in the product warehouse The used of lamps and bulbs are not installed in accordance with the rules and regulations.	Wire shock, Fire	1	3	7	21	EP employee regularly inspect electrical wiring in product storage. Repairing old and damaged items in a timely manner is being done by EP employee.	Management Team	
	7	Waste and dust is not cleaned in a timely manner.	Fire	1	6	7	42	Cleaning or housekeeping staffs are available to provide regular cleaning.	Management Team	
	8	Prohibition of using of fire.	Fire	1	1	15	15	The use of fire in warehouses is strictly prohibited by the factory.	Management Team	
	9	Lack of good ventilation during the hot season.	Heat stroke	1	6	3	18	Air conditioners are well supplied.	Management Team	
	10	Lack of practical firefighting equipment, Lack of practical firefighting equipment	got fire	1	0.5	15	7.5	The factory appoints a Safety Officer to inspect the firefighting equipment.	Management Team	
	11	Low light in the workplace can affect the eyesight of employees.	Long-distance blurring	0.5	6	3	9	Adequate electricity supply.	Management Team	

Department	Cause of Risk		Potential Accident	LEC Analysis				Mitigation Measures	Responsible Person/ Organizsation	Risk Rating[6]
	Sr.	Cause of Risk		L[7]	E[8]	C[9]	D[10]			
	12	Power buttons are not turned off before leaving from workplace	Wire shock, Fire	1	3	7	21	Employees are trained to turn off the power switch during fire breaks and be aware of fire hazards.	Management Team	
	13	Route, Emergency exits are closed	Injury	1	0.5	40	20	The Emergency Officer is asked to check if the emergency exit signs are lit. Employees are also warned not to block exits.	Management Team	
	14	In storage, packaging, containers are stored above the maximum allowable height.	Can collapse from a height	3	2	7	42	The Safety Officer regularly inspects the product to ensure that it does not exceed the maximum height required for storage. If it is found, it is immediately repaired and health and safety education is provided.	Management Team	
	15	Overloading; Adding products beyond the required steps;	collision	1	3	7	21	The Safety Officer regularly inspects the product to ensure that it does not exceed the maximum height required for storage. If it is found, it is immediately repaired and health and safety education is provided.	Management Team	
	16	Staff did not receive emergency rescue training.	Injury	1	1	15	15	Employees are trained in firefighting on a regular basis. We also provide training on how to use fire extinguishers.	Management Team	
Raw Material Warehouse	1	Accumulation of items due to improper storage.	collision	1	2	7	14	Whether the Safety Officer arranges the products properly; Regular check-ups for emergency exits are blocked. Staff are also trained on health and safety as needed.	Management Team	
	2	Accumulation of materials; Route blocks make it difficult to escape in time for an accident	Injury	1	0.5	40	20	Whether the Safety Officer arranges the products properly; Regular check-ups for emergency exits are blocked. Staff are also trained on health and safety as needed.	Management Team	
	3	Smoker in product storage	Fire	1	1	15	15	Smoking in product storage; Playing fire is not allowed, and strictly forbidden. Warning signs are placed at most visible place.	Management Team	
	4	The long time electrical wiring connection in the product warehouse The used of lamps and bulbs are not installed in accordance with the rules and regulations.	Wire shock, Fire	1	3	7	21	EP employee regularly inspect electrical wiring in product storage. Repairing old and damaged items in a timely manner is being done by EP employee.	Management Team	
	5	Lack of good ventilation during the hot season.	Heat stroke	1	6	3	18	Air conditioners are well supplied.	Management	
	6	Lack of practical firefighting equipment, Lack of practical firefighting equipment	got fire	1	0.5	15	7.5	The factory appoints a Safety Officer to inspect the firefighting equipment.	Management Team	
	7	Low light in the workplace can affect the eyesight of employees.	Long-distance blurring	0.5	6	3	9	Adequate electricity supply.	Management Team	
	8	Power buttons are not turned off before leaving from workplace	Wire shock, Fire	1	3	7	21	Employees are trained to turn off the power switch during fire breaks and be aware of fire hazards.	Management Team	
	9	Route, Emergency exits are closed	Injury	1	0.5	40	20	The Emergency Officer is asked to check if the emergency exit signs are lit. Employees are also warned not to block exits.	Management Team	
	10	In storage, packaging, containers are stored above the maximum allowable height.	Can collapse from a height	3	2	7	42	The Safety Officer regularly inspects the product to ensure that it does not exceed the maximum height required for storage. If it is found, it is immediately repaired and health and safety education is provided.	Management Team	
	11	Overloading; Adding products beyond the required steps;	collision	1	3	7	21	The Safety Officer regularly inspects the product to ensure that it does not exceed the maximum height required for storage. If it is found, it is immediately repaired and health and safety education is provided.	Management Team	
	12	Riding on a moving forklift by standing up.	Vehicle damage	1	1	7	7	The factory rules and regulations include riding on a forklift and Standing and following are not allowed.	Management Team	
	13	Waste and dust is not cleaned in a timely manner.	Fire	1	6	7	42	Cleaning or housekeeping staffs are available to provide regular cleaning.	Management Team	
	14	Prohibition of using of fire.	Fire	1	1	15	15	The use of fire in warehouses is strictly prohibited by the factory.	Management	
	15	Staff did not receive emergency rescue training.	Injury	1	1	15	15	Employees are trained in firefighting on a regular basis. We also provide training on how to use fire extinguishers.	Managment	
Heat and Steam		Poor heating prevention system. Overheating; Heat stroke of ashes; Increased	Body and limb burns;	1	6	7	42	To fix any defective parts ; To wear sufficient protective clothing; Training to regularly	Management	

Department	Cause of Risk		Potential Accident	LEC Analysis				Mitigation Measures	Responsible Person/ Organizsation	Risk Rating[6]
	Sr.	Cause of Risk		L[7]	E[8]	C[9]	D[10]			
Department		steam pressure	Explosion					inspect pressure regulators	Team	
		Burning due to fuel (firewood, clothes)	Injuries; Fire	1	3	7	21	Train to pay special attention to fire by using fuel properly	Management Team	
		Staff did not receive emergency rescue training.	Injury	1	1	15	15	Employees are trained in firefighting on a regular basis. We also provide training on how to use fire extinguishers.	Management Team	
Electrical using		The long time electrical wiring connection in the product warehouse The used of lamps and bulbs are not installed in accordance with the rules and regulations.	Wire shock, fire	1	3	7	21	The EP service runs the power transmission system. Lanterns; The bulb connection is already installed along the lines.	Management Team	
		Electrical hazard occur due to Electrical circuit malfunction		1	6	7	42	The factory employs EP staff to inspect the electrical system to prevent electrical hazards.	Management Team	
Generator Section		Lack of operating regulations or non–compliance by the operator.	Machine malfunction	1	6	3	18	The factory has rules and regulations regarding the operation of machines.	Supervisor	
		Operator is asleep or taken alcohol.	Machine malfunction	1	6	3	18	There are rules prohibiting sleeping during factory hours, and the consumption of alcohol.	Supervisor	
		The operator is not wearing headphones	. Hearing loss	0.5	6	7	21	Employees are trained on the importance of PPE wear.	Management	
		Staff did not receive emergency rescue training.	Risk of life and injury	1	1	15	15	Staff are trained in firefighting on a regular basis. We also provide training on how to use fire extinguishers.	Team	

Remarks

The cost of dealing with the above industrial hazards is included in the operating costs of the company.

CHAPTER 4: OVERALL BUDGET FOR IMPLEMENTATION ON THE EMP

4.1 Estimated Cost for Environmental and Social Management Plan

The estimated cost for beneficial augmentation measures will be covered in the project cost. The design and cost estimate for most of the suggested mitigation measures shall be incorporated in the design and cost estimates. Therefore, most of the mitigation measures suggested would be a part of project design and construction without additional cost. All proposed mitigation measures will be integrated in the project design so that these measures may automatically form part of the construction and operational phases of the project.

Estimated Budget for EMP Implementation

The project has been launched environmental enhancement and protection measures in a phased manner since construction stage. The cost for environmental protection measures has been estimated and included in the project cost, the proponent assures that adequate cost of the implementation of the environmental protection measures and environmental monitoring will be included in the project cost.

The Project will implement the environmental benefits augmentation and mitigation measures. The SPRING RIVER KNITTING (MYANMAR) Company Limited's Project will be responsible for overall mitigation measures for all environmental impact. Many of cost for the mitigation measures are included in project cost. Beside this, tentative cost for other benefit augmentation measures and adverse impact mitigation measures is 2% profit of the project per year.

For the first implemention period, SPRING RIVER KNITTING (MYANMAR)

SPRING RIVER KNITTING (MYANMAR) has been involved in planning and management, drill and awareness training for environmental management implementation. Also for holding meetings, demonstration of the environmental managementplan awareness training, monitoring and evaluation, environmental impact initiatives are included in above implementation plan. The initial capital expenditure for the provision of support and environmental conservation activities will be approximately MMK 612 lekh as shown in the Table 45 and some expense has been already use which are included in this table. The estimated costs for annual environmental monitoring, and annual environmental and social mitigation are shown in below tables.

Implementation of Mitigation Measures

The mitigation measures should be integrated into project design. Using this approach, the mitigation measures has been automatically become part of the project construction and operation phase. By including mitigation measures in specific items, monitoring and supervision of mitigation implementation could be covered under the envionmental engineering supervision provisions.

Project Design

The mitigation measures should be integrated in the design of the project itself. Such a step will enhance the mitigation measures in terms of specific mitigation design, cost estimation of the mitigation measure, and specific implementation criteria. The mitigation measure integration in the design phase will also help in strengthening the benefits and sustainability of the project.

Supervision and Monitoring

The purpose of supervision is to make sure that specific mitigation parameters identified in the environmental assessment and it is satisfactorily implemented. Likewise, monitoring is necessary such that the mitigation measures are actually put into practice.

Table 45: Estimated Cost for Environmental and Social management plan (for First implementation period)

Sr	Description	Kyats
1.	Planning and Administration	2,000,000
2.	Awareness and Training	2,000,000
3.	Meeting Cost	1,500,000
4.	Implementatin cost for EMP	6,000,000
5.	Demonstratin and Drill	2,400,000
6.	Air Quality Noise, Water testing	3,700,000
7.	Monitoring and Evaluation	3,600,000
8.	Mitigation Measures	3,000,000
9.	Donation for Environmental Activities	10,000,000
10.	General	5,000,000
		61,200,000

4.2 Annual Estimated budget for environmental management expenditure

4.2.1 Impacts, Mitigation Measures, Frequency and Responsible Party

Source	Impacts	Mitigation Measure	Frequency	Responsible Party	Annual Budget in USD
Air pollution					
Boiler	Air pollution	Proper design for complete burning potential	Annually	Factory management with the help of technicians	
		Researching for maximum burning and heat generation together with containing the heat generated	Annually	Factory management with the help of technicians	
		Record keeping the volume of boiler ash captured	Monthly	Factory management	
		Monitoring air quality from stack	Annually	Independent contractor	200
Vehicles for transportation	Air pollution	Requirements for regular vehicle maintenance and record keeping	Quarterly	Logistic department supervisor	
		Prohibiting idling	Regularly	Security team	
		Awareness raising training for the drivers and workers	Quarterly	Independent contractor	
Diesel generators	Air pollution	Proper maintenance of diesel engines	Quarterly	Maintenance team	
		Regular cleaning for diesel engine exhausts	Quarterly	Maintenance team	
Noise	Noise pollution	Not anticipated			
Vibration	Noise pollution	Not anticipated			
Odor	Aesthetic disturbance	Not anticipated			
Water contamination					
Wastewater from washing machine	water contamination	Separated the print machine wastewater and dried in a shallow pond	Whenever machine use	Department supervisor	
		Grey water from mass hall and washing (discharge into the creep after oil and grease separation)	Monthly	Department supervisor	
		Septic pumping and disposal from septic tank	As required	YCDC	
		Water quality monitoring	Semi annually	Independent contractor	150
Excessive water consumption	Groundwater depletion	Record keeping of daily water consumption and improving water conservation	Annually	Independent contractor	
		Boiler and steam line inspection and improvement	Annually	Department supervisor / Maintenance Engineer	
		Recycling condensate for boiler feed water	Regularly	Boiler supervisor / Maintenance Engineer	
Solid Waste					
Cardboard pieces from store	Solid waste	Collected and sold to contractors for recycling	Monthly	Supervisor	
Domestic solid waste	Solid waste	Properly collected, managed, and disposed (Mostly organic waste / Hazard waste)	Monthly	YCDC	
Various spent containers/ production waste	Solid waste	Collected and returned to providers for recycle	Monthly	Factory manager	
		Sustainable environmental conservation training	Annually	Independent contractor / reuse, recycle	100
Soil degradation					
top soil interruption	Top soil degradation and	No anticipated			
		Encouragement for seasonal plantation	Seasonally	Factory management	300

Source	Impacts	Mitigation Measure	Frequency	Responsible Party	Annual Budget in USD
	loss	Soil quality monitoring	Annually	Independent contractor	150
		Limiting vehicles from going over pavement areas	Regularly	Security team	
Spills of fuel and chemicals	Soil degradation	Spill prevention mechanism and regular inspection	Regularly	Department supervisors	
		Spill control procedures to clean up	When occurred	Department supervisors	
Drainage	soil erosion	Inspection and maintenance of drainage networks	Quarterly	Department supervisors	200
Social and Occupational					
Migration	Social conflicts	No anticipated			
		Employment opportunities for local workers	As required	Factory management	
		Grievance redress mechanism	As required	Factory management	
		CSR and activities for the local communities	Annually	Factory management	
Working conditions	Social and health impacts	Provision of safety equipment, training, and inspection	Monthly	Department supervisors	
		Minimizing exposure to risks	Monthly	Department supervisors	
		Inspection of safety equipment	Monthly	Department supervisors	
Gender issues, sexual harassment, and favorers	Social inequality	Promoting gender equality, anti-sexual harassment policy, and fair and transparent merit based evaluation program	Quarterly	Factory management	
		Relevant gender, sexual harassment, and anti-favorers training	Quarterly	Factory management	
		Independent assessment of the working conditions, health and safety, and gender equality			

4.2.2 Annual Social Impacts and Benefit Augmentation / Adverse Impact Mitigation Measure Cost

Domain	Impacts	Benefit Augmentation/Adverse Impact and Mitigation Measures	Mitigation Cost
Construction stage			
Socio Economics	Employment opportunity to local people	• Maximize the use of local labor force • Maximize public participation about project related activities • Keep the public informed about project related activities	No extra cost
	Impact on local economy due to increased economic activities Enhancement of technical skill	• Maximize the use of local labor force • Provide training on income generating activities • Orientation program to VDC officials and other local people. • Training program for local people for skill augmentation • Training program on entrepreneurship development • Extension of agricultural support programs • Maximize the use of local labor force • Provide training on income generating activities	500,000 No extra cost
	Other enhancement issues	• No mitigation measures suggested	No extra cost
Physical	Protection of river bank and adjacent command area from erosion by Hlaing river and local drains causing loss of agricultural land and settlement	• Watershed management — prepare and implement watershed management programs • Develop and implement measures for water conservation and soil erosion control in the bank of Hlaing river • Develop and implement land use plan in the project area	1,000,000

Domain	Impacts	Benefit Augmentation/Adverse Impact and Mitigation Measures	Mitigation Cost
Adverse Impacts			
Socio- Economic Environment	Possible impact on law and order	• Frequent Consultation and interaction with local people Coordinate with local security agencies	No extra cost
	Possible impact on social, cultural and religious	• Awareness development and quality improvement of social services	No extra cost
	Impact on social/cultural norms values and rituals	• Awareness development and quality improvement of social services	No extra cost
	Impact on gender	• Ensure the equal daily wages of women and men workers	No extra cost
	Possible impact on existing facility and resources such as health, education resources, drinking water resources etc.	• Coordinate with local authorities and agencies working in the area • maximizing the employment of local labors; • discouraging the labors from outside to bring their dependencies to the project site; and • encourage the local traders to start their business in the project area	No extra cost
	Impacts on occupational health, safety and sanitation	• Restriction in access to construction sites to the public by fencing and using guards. In order to prevent gathering and crowding of local people near the construction sites, guided tours shall be provided • whenever required to inform the people about the construction activities, • informing local people time to time about potentially dangerous areas and activities, • provision of adequate training to all construction workers, • provision warning signs near to the potentially dangerous areas such as quarry site, • provision of protective clothing such as helmets, boots, gloves and mask to construction workers, supervisors and visitors, • Operation of machinery and other heavy equipment by authorized personnel only. Construction of adequate temporary support structures to avoid rock falls or landslides during construction, • provision of adequate lighting and at all construction sites,	200,000
		• provision of emergency equipment such as first-aid kits, flash lights, fire extinguishers, audible warning • devices such as a siren, water rescue equipment, emergency vehicle and phone on site at all times with workers well informed about the proper use of such equipment, • provision of a health care facility managed by qualified doctors, • nurses and other personnel on site • and also strengthen the existing health post at the site, • having an emergency response contingency plan and make sure all are aware of it, and implementation of the "Occupational Health and Safety Act" of their respective countries and act accordingly to it at the construction site	
	Possibility of air and noise quality degradation due to construction activities (movement of vehicle, use of machines equipment etc.) of intake canal and canal structures	• Water sprinkling on dry dust surfaces • Proper maintenance of all vehicles • Closed areas for batching & crushing facilities .• Closed area for attaching and crushing facilities • Minimize the use of heavy vehicles, drilling machines, vibrator, in order to maintain the level of noise pollution less than 65 dB at a time. • Installment of crushing plant should be 60 m away from the settlement, • Ear mufflers should be provided to labors operating with high dB construction equipment, and • All equipment and machinery will be maintained to manufacturer's specifications to minimize unnecessary noise emission. • Use of face mask by the workers to minimize air pollution due to dust generation	400,000

Domain	Impacts	Benefit Augmentation/Adverse Impact and Mitigation Measures	Mitigation Cost
		• Avoiding the disposal of excavated materials in the water bodies	
	construction labor and work force in camps	• Provide drinking water and sanitation facilities to workers • Discourage haphazard disposal of solid waste	100,000
	Impact on groundwater	• Use spoil to reclaim lowland and waste places and cover them by at least one meter of top soil to use it as agriculture land • All the lubricants and oil should be collected and recycled or disposed • off site in appropriate manner by not causing environmental degradation • Contaminated runoff from storage areas shall be captured in ditches or ponds with an oil trap as the outlet	No extra cost
	Provision of fuel for workers	• Provide alternative source of energy for cooking and lighting purpose	500,000
	Impacts on cultural, religious and archeological sites if any	• Requesting people to use other Ghats nearby	No extra cost
	Other issues if any	• Various public utilities such as drinking water supply system; bus stand etc. along the road alignment will be repaired and enhanced to provide better services to its users.	200,000
Chemical Environment	Change in water quality and soil quality due to use of oil, chemicals etc.	• Use spoil to reclaim lowland and waste places and cover them by at least one meter of top soil to use it as agriculture land • All the lubricants and oil should be collected and recycled or disposed off site in appropriate manner by not causing environmental degradation • Contaminated runoff from storage areas shall be captured in ditches or ponds with an oil trap as the outlet	No extra cost
Biological Environment	not expected due project is in Industrial zone		
Operation Stage			
Socio-Economic Environment	Employment opportunity to local people	• Involvement of women, dalit and ethnic minority poor people and providing life skill training for income generation activities and skill development	No extra cost
	Impact on local economy	• Providing support to local entrepreneurs	No extra cost
	Enhancement of technical skill	• Skill enhancement training in factory activities • Additional knowledge in waste management, material handling, and general application of environmental, health and social precautionary measures. • Local people involved in the project will find easier to find jobs in similar nature of projects as a skilled labor	No extra cost
Adverse Impact			
Cultural and Physical Environment	Population pressure and impact due to new settlement along the factory development	• Incorporate physical barriers in zones of potential/prospected encroachment risks, • Put in place appropriate mechanisms for grievance resolution to settle disputes between new squatters and local communities.	No extra cost
	Impact on road safety measures	• Enforcement of road safety measures like speed limit and erecting road signs of road crossing • Incorporate physical barriers in the road design to reduce speed at sensitive sections	100,000
	Changes in social behavior	• facilitate awareness raising programmes to the communities about negative social behavior like gambling, excess use of alcohol	No extra cost
	Impact on water resources and water sharing	• Give due consideration in spoil disposals to avoid secondary impacts on soils and aquatic systems • Do not wash vehicle	No extra cost
	Cross drainage and water logging/flooding	• Provide adequate and appropriate numbers of drainage structures in order to have minimum interference with and impact on natural drainage pattern of the area, • Avoid surface water discharge into risky locations, • Do not divert water away from natural water course unless it is absolutely necessary	1,000,000

Domain	Impacts	Benefit Augmentation/Adverse Impact and Mitigation Measures	Mitigation Cost
		• Avoid blockage or diversion of natural channels due to disposal of spoils.	
	Impact due to air pollution	• Ensure proper maintenance status of vehicles with respect to emissions • Generator shall be also fitted with air pollution control devices that are operating correctly	100,000
	Impact on cultural and religious activities	• No mitigation measure are recommended **(not expected)**	No extra cost
	Other issues if any	• No mitigation measure are recommended	No extra cost
Chemical Environment	Change in water quality and soil quality due to use of chemical for spot cleaning.	• Hazardous materials shall not be stored near surface waters • Hazardous materials should be stored only on impervious floor with drainage and collection sump so as to retain leak and spills • Contaminated and worn plastic sheeting shall be packed into drums and disposed off site;	No extra cost
Biological Environment	No impact expected within industrial zone	•	No extra cost
Enhancement Issues	Maintenance and enhancement of public utilities (i.e. drinking water supply etc.)	• Consultation will be made with public	500,000
Decommission Stage			
Socio-Economic Environment	Employees resignation	• Recommend employees who have an experience to other factories which is same nature of job opportunities.	No extra cost
Chemical Environment	Residual of used spot remover	• Liaise with YCDC and disposed systematically	
Residual Environment	Cutting pieces, empty drum, office material, electrical wire and phone cable	• Sell or give by FOC to the reuse/recycle contractor, Systematically remove electrical wire and phone cable	No extra cost
Total Benefit Augmentation/Mitigation Cost			

Remarks: **Responsible group in factory is HSE Management Group. HSE management Group is formed by Spring River Knitting (Myanmar) Limited, Maintenance Engineer and Housekeeping Group**

4.2.3 Recommended Social Mitigation Measures, Timescales & Costs

Activity/Source of Impact	**Method of impact**	**Nature of Impact**	**Mitigation Measures**	Timeline	Cost Estimate
Factory Operations	Inward Migration	Pressure on local Services and Infrastructure	Contribution to local community development fund	Within 3 months	Discretionary
Factory Operations	Smoke and Odors	Public Health	Ambient Air Quality Monitoring	Bi-yearly at four locations	$ 1 0,00
Factory Operations	No H&S Risk Assessment conducted	Health & Safety	Assessment (H&S Risk Assessment (H&S RA) to identify hazardous activities	Within 1 month	Company Expenses
Factory Operations	Inadequate PPE	Health & Safety	Provide appropriate PPE to all staff based on findings of H&S E	Within 2 months	Company Expenses
Factory Operations	No Health & Safety Training	Health & Safety	Provide regular H&S training to all workers	Immediately and On- going	Company Expenses
Factory Operations	**Inadequate Health and** Safety Policy	Health & Safety	Prepare detailed **Health** and Safety Policy for the Facility	Within 2 months	Company Expenses
Factory Operations	No **Emergency** Response Plan (ERP)	Health & Safety	Prepare detailed ERP in consultation with all Stakeholders	Within 2 months	Company Expenses
Factory Operations	Working Hours and Holidays	Worker Wellbeing	Comply fully with the requirements of the Factories Act	Immediately and On- going	Company Expenses
Factory Operations	No Employment Contracts	Job Security Worker Wellbeing	Put all staff on written Employment Contracts	Within 2 months	Company Expenses

4.3 Annual Environmental Monitoring Parameters, Frequency, Responsibilities and Estimated Cost

Discharge source	Phase	Parameter	Monitoring frequency	Proposed monitoring locations	Responsibility	Estimated cost/year
Air pollution	Operation	No_X, SO_2, PM, ozone, Xylence	Once or twice per every year	1. Within the factory premises 2. Stack monitoring of flue gas from time to time 3. Work place monitoring of volatile Organic carbon, coal dust. 4. Chimney of Generators and Boiler	Company thorough registered third party monitoring agency	1000 USD
Noise	Operation	Noise level in dB (A)	Monthly	1. At work place 2. At nearest residents / factory 3. At downwind residents/ factory	Company thorough registered third party monitoring agency	500 USD
Solid Waste	Operation	Flux, paint residue, welding fluctuation when necessary	Daily Daily To be updated daily	1. Generation of used drum, bags and their dispatch to approved vendors 2. Generation of waste oils and their treatment 3. Generation, handling, storage, transportation and disposal of solid and aqueous waste	Company together with monitoring team	100 USD
Water pollution	Operation	pH, BOD, COD, Oil & grease, TSS, TDS, Fe, Mg	Daily and Lab test twice per year	1. Inside drainage 2. In tube well 3. At discharge to near river	Company together with monitoring team	300 USD
Soil condition	Operation	Copper, Pb, Zn, Cd, Fe	Lab test – once per year	1. Around log yard water / spraying rinsing area	Company together with monitoring team	120 USD
Energy consumption	Operation	Electricity used from MEPE and diesel used from diesel generator and vehicle	Monthly	1. Monthly power consumption record book 2. Monthly diesel consumption book	Company through external consultants and internal audit	200 USD
Green belt development	Operation	Fencing, watering, keeping watch	Weekly for three years	1. Around the green belt area	Company with the suggestion from ECD	50 USD
Ground Water	**Decommission**	pH, Color, Turbidity, iron, Fluoride, lead, Arsenic, Zinc, copper	Twice per year up to one year	1. At ground water reservoir (tube well outlet)	Company thorough registered third party monitoring agency (must be prepayment)	30 USD
Surface Water	**Decommission**	pH, Color, Turbidity, iron, Fluoride, lead, Arsenic, Zinc, copper	Twice per year up to one year	1. At ground water reservoir (tube well outlet)	Company thorough registered third party monitoring agency (must be prepayment)	30 USD

- **Results of Air Quality Monitoring and smoke from chimney will be monitored and reported to ECD once in every 6 month as per EIA procedure Article 108 or as stipulate by Ministry. Air pollution is less in raining season than other seasons. Measurement should be once a year minimum at March to May as costed 1000 USD per one time measurement.**
- **Results of Waters quality monitoring and laboratory testing will also be monitored monthly and will also be reported to ECD minimum twice a year or as stipulate by ministry and will cost 140 – 150 USD per / frequency according to ECD standard for Effluent Levels for 2.3.2.1 Textiles Manufacturing[36]**

Above Budget for Monitoring is not sufficient, Spring River Knitting (Myanmar) fulfill the required budget by Operation Cost

Budget for Provision PPE Annually

Section / Health & Safety Guidelines	PPE use	Annual Estimated Budget	Remarks
First Aid	Gloves, CPR barrier, Eye Protection	1000	
Chemical Safety Management (if)the factory's scope is extended for dyeing) Currently no dyeing process	Eye protection, gloves, faces masks and footwear.	500	
Machine Safety and Noise	Eye protection, Gloves, foot protection, hearing protection	1000	(mechanical and Thermal Hazard),
Sanitation and Hygiene: Toilets, Dining and Kitchen Facilities	Waterproof & slip-resistant footwear	1000	
Material Storage Areas and Ladder Safety	Fall protection devices	500	
Ergonomic Considerations in Equipment Purchases and Work Station Design	As Necessary	500	

4.4 Plan and Budget for the local people affected by the impacts of the Project Operations

According to the Report of state holder consultation survey shown in 5.9 Result of the Public Consultation, there would not be negative effects for residents near the project environment, region's natural resources, health, and the local people (stake holders) expected for better socio-economic projects as well as they are expecting for the purpose on especially job opportunity as this area is within Shwe Lin Ban Industrial Area.

However, for the such impacts if which could possibly be effected on local people and surrounding area, the mitigation measures, time scales & cost as well as monitoring parameters, frequency, responsibilities and estimated cost has been planned to cost by Spring River Knitting (Myanmar).

Using of Extra Expenditures

As per the company's decision, more programs for Environmental Management, Mitigation, and Monitoring program will be done by company operation expense and if the proposed budget will be needed with inadequate funding for above programs, the management and monitoring procedure, the company will spend more by company expense.

And for the regional development for the local community and environment plan, Spring River Knitting (Myanmar)will be the one who would like to participate a part of them as CSR Policy of Spring River Knitting (Myanmar)which is shown below;

Community Relation and Development Policy (CSR Plan)

Commitment

We recognize that good relations with our community is fundamental element in the successful operation of the company and the long term prosperity of the people, particularly those from the immediate surrounding area of factory in Hlaing Tharyar Township, Yangon Division.

Through our company values of honesty, fairness and genuine good will in all interactions with all stakeholders, community and residence in township; we seek to continue the development of a mutually beneficial partnership with the community to maximize the sustainable benefits of social, education, Health for all stakeholders.

We are committed to our principle of making a positive contribution to our community.

Our Approach

In meeting the above commitment, we will

- **Establish a sound community relation policy framework which meets best practice standards and all applicable aspects of the Myanmar institutional framework of law, rule and regulation, directives relating to Environmental concern.**
- **Respect the culture, values and traditions of the communities in which we operate.**
- **Openly and transparently share information regarding the impacts of operational activities in accordance with the applicable law, rule and emission standard from factory.**
- **Continue to evaluate the social impact of our business activities and strive to improve the performance while increasing our positive impact on society.**
- **Constantly reassess whether our activities are responding adequately to the demands and exceptions of society through proactive stakeholder engagement with our stakeholders.**
- **Information of this project will be disclosure to community when public consultation meeting (which will be held at least one time per year)**

CSR Program has been planned for the development of Surrounding Social Community from 2% of profit on the factory revenue and profit to 30% of the Health, 30% for Social and Philanthropy, 20% for other activities are also planned to be used. Especially for the Road damage caused by heavy trucks' transportation of raw materials, finished products in the Shwe Lin Ban Industrial Zone liaised with Industrial Zone Administration Committee, working with the relevant government departments , and the adjustment plans in Spring River Knitting (Myanmar)Garment Company Limited and to be included as part of this program.

CHAPTER 5: MANAGEMENT AND MONITORING SUB-PLANS FOR EACH IDENTIFIED IMPACT

5.1 Objective and Development of EMP

The principal objective of the EMP is to develop and effective management tool that will ensure which the diverse range of management and monitoring tasks and activities originally defined in EMP can be systematically and efficiently performed.

The outcome is to be:

- To assure conformance with the Environmental Policy.
- To ensure the efficient and effective Environmental Management.
- To demonstration such conformance to others
- To seek certification of its EMP by External organization should this be deemed desirable?

The stage of EMP focuses on activities that were initiates during the production phase and those operational activities that can be managed. These can be summarized as:

- Waste Management (water and solid waste, general waste)
- Storage and handling of 0il and Lubricant, and 0il spill Management
- Monitoring of air quality (Inside/Outside)
- Monitoring for good working environment
- Work safety and health
- Fire prevention

Sub-sequent stages will provide additional detail and allow greater external scrutiny and public disclosure.

The structure and hence by elements of this document conform to the IS0 14001. The EMP describes herein therefore forms the base upon which an internationally certificate EMP can he developed.

The following table summarizes the areas where additional detail and resources will need to be applied to achieve this international status, should this be desired.

Table 46: Corporative Assessment: Spring River Knitting (Myanmar) Limited and 1S014001

Element of the Environmental Management System	Specific requirement under ISO -14001	FHL EMP (Mar 2017)
Policy		
	Commitment to compliance with legislation Provides framework for objectives and targets Documented and communicated to all employees Publicly available	Yes No
Planning		
Environmental Aspects	Maintain procedures for identifying environmental aspects of activities Ensure aspects related to significant impacts are considered in setting environmental objectives	Yes
Legal and Other Requirements	Maintaining a procedure to identify applicable requirements	Yes
Objectives and Targets	Document environmental objectives Review objectives and targets Must be consistent with Policy (Local/corporate)	Yes No Yes
Environmental Management Programmed	Establish and maintain programmed for achieving objectives and targets, designating (a) Responsibilities, (b) Method and time frame	Yes
Implementation and operation		
Structure and Responsibility	Document and communicate roles and responsibilities Management to provide resources required for implementation of EMP Appoint specific representative(s) responsible for ensuring implementation, and reporting on performance	No Partial Yes
Training awareness and complete	Identify training needs Ensure appropriate training received Make employees aware of environmental impacts, and their roles and responsibilities Ensure their Competency	Yes No Yes No

Communications	System for internal communication on environmental issues System for external communication on environmental issues Consider and document whether to communicate environmental impacts to external parties	Yes Yes No
Environmental Management System Documentation	Maintain documentation of the core elements of the EMP, and related documents	No
Document Control	Maintain procedures for document control to ensure that documents: (a) can be located (b) are periodically reviewed (c) are, readily available (d) obsolete documents removed (e) are dated, identifiable, and maintained for a specified period	No
Operational Control	Identify general associated with significant environmental aspects Establish and maintain procedures for general which could result in significant impact Stipulate operating criteria Establish procedures relating to the use of goods and services by FHL, which have associated significant environmental impacts, and communicate these procedures to suppliers	Yes Yes Yes NA
Emergency Preparedness and response	Establish procedures to respond to accidents and emergencies Review and revise procedures Periodically test procedure	Yes No No
Checking and Corrective Action		
Monitoring and measurement	Maintain monitoring procedure and Record results Calibrate monitoring equipment and maintain records Establish documented procedure to evaluate compliance with environmental legislation	Yes No Yes
Non-conformance and corrective and preventive action	Establish procedures for investigating non- conformance and undertaking corrective action Ensure corrective action is of the appropriate scale Implement and record changes required to the procedure	Yes Subject to audit Yes
Record	Maintain procedures for the identification, maintenance and storage of environmental records Establish and record retention times for environmental records	No No
EMP audit	Establish a programmed and periodic EMP audits	Not yet
Management Review	Management to address the need for change to the EMP, based on the findings of the audit Conduct and document periodic EMP audits by top management	Not yet Not yet

Environmental Management Plan includes excessive working hours, non-payment of overtime premiums or contracted wages, non-provision of required government benefits, documentation on important labor issues such as age, hours, wages; proper disciplinary processes, discrimination, infringements on freedom of association, violations of local law, non-functioning water treatment facility and life safety violations (emergency exits, fire prevention). Labor, health & safety, and environmental issues will be provided essentially that can be improved in the factory for the well-being of workers and/or betterment of the factory's reputation or management practice. For proposed and existing suppliers with issues, a reasonable corrective action plan can be proposed over a 6 month period.

5.2 Environmental Management in Spring River Knitting (Myanmar) Factory for Identified Impact

During impact assessment for this factory, some adverse impact has been identified and mentioned in 3.3 Impact Identification and Impact Assessment and this chapter will be described sub management and monitoring Plan for those each identified impact. Also other required Sub management plan has been descriped as addition in this chapter.

5.2.1 Chemical and Hazardous Material Safety Management Sub - Plan

As some chemicals has been used by this factory as washing and wastewater treatment operations. Related with using the chemical materials in this factory, it has to be considered for chemical managed plan.

Information on the Hazards Associated with Chemical Materials

Virtually all of the chemical materials that are used in production by factories are associated with one or more health or physical hazards. These hazards present potential adverse impacts on the workers, the work

environment, the general public and the environment beyond the factory. The Environmental Guidelines outline further information on the environmental impacts due to chemical use, storage and disposal.

Health Hazards

A variety of health hazards are associated with chemicals in factories. The risk posed by any particular material is a function of:

- Severity of the Hazard – that is, the inherent toxicity of the chemical, or its "power" to cause adverse health effects.
- Exposure – the likelihood, duration and intensity of exposure (inhalation, dermal, ingestion) to the various forms of the chemical (gas or vapor liquid, airborne dust or solid powders, etc.).
- Individual susceptibility or sensitization – generally, there may be a range of individual susceptibilities to exposure to the various chemical agents. In addition, some individuals may become sensitized to certain chemicals after past exposures, and thereafter will exhibit adverse health effects at exposure levels that do not affect the majority of individuals.

The particular health hazards associated with different chemicals may vary. In general, there are two categories of adverse health effects: acute (those occurring during or soon after exposure) and chronic (those occurring after a long period of regular exposure, e.g. months or years). Within these two categories, chemicals may impact humans in a variety of ways:

- Carcinogenicity – exposure to some chemicals can lead to the development of cancer in one or more organs or body systems.
- Corrosively – exposure can cause acute burns, ulceration and tissue damage in the eyes, skin and respiratory tract.
- Irritation – exposure can lead to skin, eye and respiratory irritation and dermatitis (but which is generally reversible).
- Target Organ Toxicity – some chemicals exhibit their toxicity at a specific organ (or "target") such as the liver, kidneys, lungs, blood, eyes, ears, or the nervous system, including the reproductive system and the developing fetus.
- Sensitization – exposure can lead to allergic reactions of the skin or the respiratory system (usually mediated by the immune system).

It is not feasible to eliminate all risk from activities involving chemical materials, but risk can be managed to an acceptable minimum.

Physical Hazards

Chemical materials may present physical hazards as well as health hazards. The more common of these include: flammability, oxidizing capacity, water reactivity, pressurized or compressed gases and liquids, and incompatibility and possible reactivity with other chemicals. When these potential hazards are present, awareness is critical for the proper storage and use of the relevant chemical materials.

Flammability (or combustibility) is the most common physical hazard that is associated with chemical materials in factories. An understanding of the Flash Point, a unique characteristic of flammable liquids, and of its distinction from the Ignition Point, another unique characteristic, is important for the awareness of the risk of flammability from chemical materials. Both Flash Point and Ignition Point are temperatures, and they are both related to the likelihood of ignition. At the Flash Point temperature, there is sufficient vapor in the air immediately above an open container of the liquid that combustion will occur in the presence of an ignition source. At the Ignition Point temperature (much greater than the Flash Point), the heat from the local environment is sufficient to ignite the material. **As a practical matter, chemical liquids with Flash Points which are less than typical factory temperatures (e.g. <35°C) warrant considerable attention in their storage and use**

Hazardous Materials and Chemicals Management

In order to ensure chemical safety in the workplace, information must be available about the identities and hazards of the chemicals.

Chemical manufacturers and importers are required to evaluate the hazards of the chemicals they produce or import. They also prepare labels and material safety data sheets (MSDSs) to convey the hazard information to their downstream users.

All employers with hazardous chemicals in their workplaces must have labels and MSDSs for their exposed workers, and train them to handle the chemicals appropriately.(Work place- Boiler, ETP, Generator, washing machine)

Management systems

- The facility should have appropriate systems in place for the management of hazardous materials including the following:
  - An up-to-date inventory of all hazardous wastes including the types of wastes present in the facility, the health and safety and environmental impact of every hazardous substance and storage times
  - Proper storage facilities including secondary containment
  - Compressed air cylinders are stored upright
  - Clear labeling (in English and local languages) on all hazardous substances and their health and safety and environmental dangers (such as flammable, toxic etc.)
  - An action plan in case of any spills and accidents
  - Security measures are in place
  - Weekly inspections and stock counts
  - Training for relevant employees on all of the above
- In terms of hazardous waste storage the facility should ensure:
  - Only authorized personnel should have access to the storage sites
  - Storage areas should be secure and protected and sheltered from the elements -
  - Incompatible substances should be separated
  - Responsible employees should undertake weekly inspections of the storage facilities as a minimum
  - Hazardous materials and hazardous waste should be stored in secondary containers where applicable
  - Fire hazards and the impacts of freak weather events should be considered
- In terms of the disposal of hazardous waste:
  - The facility should have documentation showing the transportation and final destination of hazardous waste and ensure appropriate licenses are in place for transportation and reception

Hazardous Material Storage, Handling and Transportation

Spills and leaks

- Areas should be kept free from spills and leaks (stains, corrosion, cover-ups)
- If any spills or leaks do occur the facility should document and report what happened and how the problem was rectified.
- The facility should have in place a spill response plan including how a spill would be cleaned up, using what equipment and the specification of roles of individuals including who is responsible for evaluating the consequences of a spill.
- The factory should ensure that it meets all permit and other legal requirements (content, heat, quantity etc.).

Storage Tanks

- Above ground storage tanks should be in good condition with no signs of damage or leakage.
- Evidence of leakage includes discoloration, stains or dead plants around the tank.
- All tanks must have proper signage and labels and if needed some for hazard identification (flammable, toxic etc.).
- An inventory of all tanks should be kept.
- Tanks should be examined for dents, corrosion, and oxidization (indicating possible poor structural integrity).
- Weekly inspections of the storage tanks should undertake.
- Chemical and fuel storage tanks should have secondary containment.
- Underground storage tanks should be in good condition and have leak detection devices fitted to all tanks
- Vapor and ground water monitoring should be place

- Devices to prevent over-filling and subsequent spills should be installed

Standard

Handling, storage and transportation of all hazardous material (ex: fuel, chemical additives) at factory must comply with all permit from Government, applicable law and regulations in Myanmar.

Material data sheet must be on file at factory store for each and every chemical, chemical product used and stored at factory. The MSDC must be available for review by concerned workers and they understand do and don't.

Factory management group or HSE officer must have in place procedure to safely receive and handle hazardous materials that are delivered to store and fuel tank at factory.

At this place of factory must have in place appropriate and adequate spill response equipment and procedure, in order that hazardous material spill or release can be safely ad adequately responded to in a timely manner.

For fuel tank, HSE officer and their group must operate above ground storage tank system in a manner that minimized the risk for impact to the environment. This group must maintain in a current list including size, content, location and secondary contamination prevention, fire safety arrangement.

This tank is inspected regularly for integrity and ignition, for evidence of leaks.

Records of any spill, leaks including corrective action taken must be kept on file of the factory.

This management group and HSE office must have in place procedure for safe filling of above ground storage tank (fuel tank – AST) and other containers.

The procedure includes best practice for preventing and responding to leak, spill and accident.

Regular training, checking and refuel system to tank must be provided to concerned workers covering all of the standards in this work area and records of the inventory, training must be maintained in factory.

Establish a system to properly notify third party emergency response organization of chemical store, fuel tanks in factory for planning purpose.

Secondary containment and prevention should be provided in factory and other hazardous material container in order to minimize chance a spill from reaching the environment.

Solid Waste and Hazardous Waste Management

Standard

- Handling and disposal of solid and hazardous waste generated by garment factory must comply with all permits and applicable law and regulation from ECD, YCDC and Ministry of Industry.
- HSE officer and group must quality and maintain records the amounts and type of all solid and hazardous waste generated from actives for garment factory. The important thing is disposal method for each waste based on reuse, recycle and reduce. When dispose of hazardous waste including use oil, light tubes, used batteries, empty container must be attached with label of hazardous and dispose at designated area by YCDC.

  Solid waste from this garment factory must quantify and maintain records of the amounts and, type of materials including fabric waste, yarn waste, cardboard, paper, wooden pallet etc.

  From this record, it can be classified reuse, recycle contractor, reuse contractor.
- HSE officer and group must maintain good housekeeping in all solid and hazardous waste collection and storage areas such that risk for impact to the environment from waste is minimized.
- Hazardous waste must be stored so as to prevent from the accident release to air, soil or water resource, working area.
- Hazardous waste, solid waste storage and handling areas must be inspected regularly to detect potential leak, release or other problem.
- HSE officer and Management group develop and implement waste minimization and source reduction procedures in order to minimize the amount of solid and hazardous waste generated by factory operation.
- Factory energy management and conservation is controlled by engineering management and their procedure is addressing the monitoring and review of energy efficiency. This program includes all

processing line, lighting, compressed air system, ventilation, air conditioning system as well as fuel usage in generator, some combustion equipment.

Awareness Training to Employee

- Personal Hygiene

There are four routes of entry (inhalation, ingestion, injection and eye & skin contact) limit the chemical ability to contact the employee. If it properly protects ourselves, we can eliminate the chemical's ability to do harm. That's why it needs to educate to employee the good personal hygiene practice.

  - Wash promptly if skin contact is made with any chemical
  - Wear appropriate eye protection at all times, heat resistant cloth, mask for protection of respiration
  - Don't wash the hand with solvent, use soap before having food.
  - Don't drink, eat, smoke near the manufacturing machine, store.
  - There should be dining room far from machine, chemical and raw material store because chemical vapors can be absorbed by foodstuff and tobacco.

- Factory Hygiene

Housekeeping group take care on cleaning the inside and outside are drainage, toilet and wash room and fuel spill near generator house and fuel storage area, cleaning the solid waste from dining room, scrap plastic piece and rejected material and keep them compactor bin daily.

Employee Training

Employee training is an integral part of the hazard communication program and must he provided at the time of initial assignment, whenever a new hazard is introduced into the workplace, and when employees may be exposed to other employers' workplace hazards. Employees need to know ahead of time the identity and hazards of all chemicals to which they may be exposed, so they will understand the need to protect themselves and are more likely to observe the company's safety rules.

- Employees working with hazardous materials should be fully briefed about their health and safety and environmental impacts so that they have a good understanding of the materials they are working with and the risks involved. The training should cover the following elements:
  - The health and safety and environmental impacts and risks of the hazardous materials
  - Row to properly use and dispose of the materials
  - What to do in the event of an accident or a spill

5.2.2 Air Pollution Control Management Sub-Plan

All discharges to air from the factory must comply with permits, applicable laws and regulation, emission standard from ECD, Government's department and communities.

Type and quantities of fuels used for generator, boiler, must be summarized and stack height for generator is under specification.

Any waste or effluents from air pollution control equipment must be managed and disposed of in accordance with ECD; s applicable rules and regulation.

Open burning of solid waste in factory is not considered a good practice and should be avoided.

Technician from factory should identify opportunities to reduce pollutants, toxic chemical in air discharges product selection, product substitution, and process modification.

Humidity and room temperature in factory will be controlled through duct line from air compressor.

Air Emissions Management Sub - program

- Fumes, dust, vapor, smoke and anything that enters the atmosphere that could harm the environment should not be released unchecked from the factory facility.
- The factory should develop an inventory for the following air emissions where relevant:
  - Sulfur dioxide
  - Particulate matter
  - Volatile organic compounds
  - Other relevant vapor or gases
- The inventory should cover type, amount and source of emissions.

- Air emissions sources should be equipped with pollution control devices such as fume hoods, scrubbers, filtration screens or water baths etc.

5.2.3 Noise Management Sub- plan

HSE group checks regularly generator, and maintain noisy equipment whenever HSE group can check with noise meter in these rooms weekly, 65 dB or not.

Danger from Noise

Factory workers do not operate many medium and noisy machines. But if possible, noise should be controlled at the source by enclosing and insulating the machine. Well-maintained machines make less noise.

Corrective Action / Mitigation

- Ask the Management to measure noise at different places around the factory.
- Where it is too loud, workers should wear earplugs or earmuffs.

5.2.4 Solid Waste Management Plan at Factory

In factory, housekeeping group understand the classification of waste, source of waste, how to clean and sort them at production line, store, fuel tank, office rooms, toilets and canteen, all includes in factory compound. Production on supervisor and manager control the raw materials and process to reduce waste generation and disposal with quality control method, and admin control.

Housekeeping group sell the reuse contractor some disposal (ex: plastic, wood, industrial waste) and some debris (ex: wet, flood waste, used material) removal with YCDC on call basis or disposed of by a licensed waste contractor, ash from boiler is provided to nursery group near factory free of charge with their own transportation.

In this factory, there is designated waste yard for this waste before removal.

All the waste categories has been mentioned at Table 12 and according to that record, it can be said that industrial waste as cutting piece and fabric piece is approximated daily up to 0.5 ton and annual 177.3 ton Also these cutting pieces and fabric piece has been provided to some small recycle factory such as pillow manufacturing with free of charge weekly. They have brought these by themselves from this factory.

Domestic waste such as empty drinking water bottles and from dining room and kitchen has been disposed to nearby waste landfill area daily as it's close to factory by schedule, which has been liased with YCDC since project started.

Other solid waste such as packing box and cupboard are about 26.3 ton per year. They are systematically stored and use as recycle when necessary.

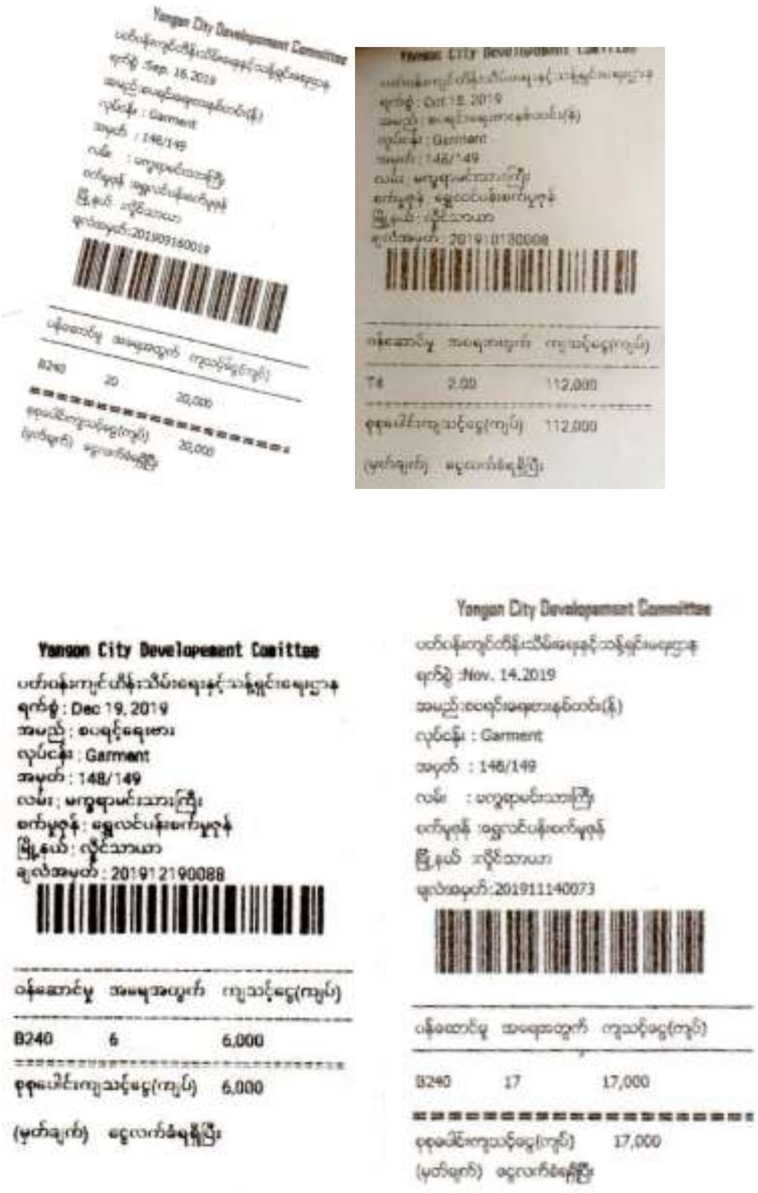

Figure 50: Solid Waste disposed system cooperated with YCDC

Other solid waste such as packing box and cupboard are about 26.3 ton per year. They are systematically stored and use as recycle when necessary.

- All solid waste is been properly stored and managed. Facilities ensured:
  - All solid waste storage is well managed, tidy and not likely to create a hazard
  - Waste is securely stored
  - General waste is kept separate to hazardous waste
  - Documentation is kept on where waste goes and why that location is chosen
  - Systems are in place to ensure hazardous waste is not shipped/transported as regular waste
  - Education and training amongst workers to minimize waste
  - The identification of waste selling opportunities
  - Initiatives are in place to reduce, reuse or recycle waste
  - Records and measurement of waste and its disposal

Minimize waste through source reduction and recycling. The waste audit is one of the first steps in starting a recycling program. Elements of a good waste audit are as follows:

- Composition of the Waste Stream
  - The first step in the audit process is to look at what materials you are currently disposing of and in what quantities. In developing your program concentrate on the high volume materials (in retail it would be cardboard and with offices it would be paper). Also look at high value materials such as toner cartridges and aluminum cans.

- Determine Weight/Volume
  - Look at the weight and volume of the materials you currently dispose of that could be recycled. Retailers generate large volumes of cardboard that can quickly fill dumpsters. If the establishment generates a high volume of cardboard that can quickly fill dumpsters. If the establishment generates a high volume of cardboard it may pay to look at baling the material, this can also help increase the marketability of the cardboard.
- Sources of Waste
  - Look at your overall operation and determine where the waste is being generated and if this material can be:
    - Reduced (e.g. make 2 sided copies)
    - Reused (e.g. reuse packing material)
    - Recycled (e.g. collect and recycle office paper)
- Collection System
  - Always locate collection containers where the recyclables are being generated. The easier it is to recycle the higher the participation rate will be. Clearly mark all collection containers and make it as hard as possible to contaminate the recyclables. For example use lids with only a hole in the top for the collection aluminum cans. Locating the recycling containers near trash cans can cut down on contamination.
- Current and Projected Costs
  - The main reason for starting a recycling program is to reduce waste collection costs. After implementing your recycling program you need to conduct a second waste audit to see if your program has significantly reduced the amount of waste generated. If it has, you may want to reduce your collection schedule or size of your container, which will save you money.
- Recycling
  - Common Recycle Options
    - Paper
    - Plastic
    - Glass
    - Aluminum
    - Cardboard
    - Compost
    - Print double sided
    - Re-use the back of single sided print jobs Purchase recycled paper

In Spring River Knitting (Myanmar) factory, Management Team has been well communicate with YCDC for waste Management (both solid waste, chemical waste (not using at this factory), and sewage waste) by on call system.

House Keeping Management Plan

Common housekeeping practices contribute to improving factory hygiene and safety.

A clean, organized working area, store area, toilets and fuel storage area is much safer than dirty one. Some appropriate housekeeping measures include

- keep all aisles, hallways, walk ways and stair clear of all materials
- keep all work areas clear of obstruction
- all working surfaces and floors should be cleaned regularly
- all of waste from operation should be kept in the proper containers
- Access to emergency equipment, fire extinguisher and exist should never be blocked by anything.
- Never store chemicals on the floor, at working area, even temporarily.
- Store and management staff should be considerate and aware of the house keeping staff, define their duty, safety and health care
- All scrap material (cloth, debris, machine, glass is safety disposed of separately with proper container and send to waste yard by the end of each work day.
- All spills are promptly cleaned up and the spilled fuel, chemical is properly disposed of.

YCDC 污水處理 Ltd

မြို့နယ်စည်ပင်သာယာအုပ်ချုပ်ရေးမှူးရုံး
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ရက်စွဲ ၊ ၂၀၁၉ ခုနှစ်၊ ဇွန် လ၊ (၃)ရက်

သို့

သက်ဆိုင်ရာ

အကြောင်းအရာ။ **ထောက်ခံချက်ပေးပို့ခြင်း**

အထက်အကြောင်းအရာပါကိစ္စနှင့်ပတ်သက်၍ လှိုင်သာယာမြို့နယ်၊ ရွှေလင်ပန်းဇုန်၊ မက္ခရာမင်းသားကြီးလမ်းနှင့် တွင်းသင်းတိုက်ဝန်ဦးထွန်းညိုလမ်းထောင့်၊ အမှတ်–၁၄၈/၁၄၉ ရှိ Spring River Knitting (Myanmar) Co.,Ltd မှနေ့စဉ်ထွက်ရှိသော စွန့်ပစ်အမှိုက်များကိုသက်ဆိုင်ရာ စည်ပင်သာယာသန့်ရှင်းရေးဌာနမှ အမှိုက်သိမ်းဆည်းယာဉ်များနှင့် သတ်မှတ်အမှိုက်ကန်သို့ စနစ်တကျစွန့်ပစ်သည်မှာ မှန်ကန်ကြောင်း ထောက်ခံအပ်ပါသည်။

အုပ်ချုပ်ရေးမှူး ( )

မိတ္တူကို
ရုံးလက်ခံ
မျှောစာတွဲ

ရန်ကုန်မြို့တော်

ကျန်းမာရေးဘေးအန္တရာယ်ကင်းရှင်းကြောင်း ထောက်ခံချက်လက်မှတ်

၂၀၁၃ ခုနှစ်၊ ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးဥပဒေပုဒ်မ–၅၇(စ)၊ (ဃ) နှင့် (ဈ) တို့အရ အများပြည်သူတို့အား ကျန်းမာရေးဘေးအန္တရာယ်ဖြစ်စေတတ်သော လုပ်ငန်းကို စစ်ဆေးရာတွင် ဥပဒေပါစည်းကမ်းချက်များနှင့် ကိုက်ညီကြောင်း စစ်ဆေးတွေ့ရှိရသဖြင့် အောက်ဖော်ပြပါ လုပ်ငန်းအား အများပြည်သူအတွက် ကျန်းမာရေး ဘေးအန္တရာယ်ကင်းရှင်းကြောင်း ထောက်ခံချက်လက်မှတ်ကို ထုတ်ပေးလိုက်သည် --

လုပ်ငန်းအမျိုးအစား : Spring River Knitting - [illegible]

လုပ်ငန်းပိုင်ရှင်အမည် : Mr. Tian Liangming

လုပ်ငန်းလိပ်စာ : [illegible]

ထောက်ခံချက်အမှတ် : [illegible]

ထောက်ခံချက်လက်မှတ် :

ထုတ်ပေးသည့်ရက်စွဲ : ၂၀၂၀ ခုနှစ်၊ [illegible] လ [illegible] ရက်

ထောက်ခံချက်လက်မှတ်သက်တမ်း : ဘဏ္ဍာရေးနှစ် (၁) အတွက်သာ

(၁-၁၀-၂၀၁၉)မှ (၃၀-၉-၂၀၂၀)အထိ

No. 0204177

ဌာနမှူး (ကိုယ်စား)

ကျန်းမာရေးဌာန

ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးကော်မတီ

ထောက်ခံချက်

ရက်စွဲ၊ ၂၀၂၂ ခုနှစ်၊ [illegible] လ (၂၄) ရက်

အထက်အကြောင်းအရာပါကိစ္စနှင့်ပတ်သက်၍ လှိုင်သာယာ(အရှေ့ပိုင်း)မြို့နယ်၊ အမှတ်([illegible]) [illegible] လမ်း၊ [illegible] ရပ်ကွက်တွင် ဖွင့်လှစ် လုပ်ကိုင်နေလျှက်ရှိသော လုပ်ငန်းရှင်အမည် ဦး/ဒေါ် Mr. Tian Liang-ming ၏ 'Spring River Knitting' လုပ်ငန်းအား ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးကော်မတီ ကျန်းမာရေးဌာနမှ စည်းမျဉ်းစည်းကမ်းများနှင့်အညီ လိုက်နာဆောင်ရွက်မည်ဆိုပါက ကန့်ကွက်ရန် မရှိ ထောက်ခံအပ်ပါသည်။

ရင်းလုပ်ငန်းသည် (၂၀၂၁ -၂၀၂၂) ဘဏ္ဍာရေးနှစ် ကြားခံကာလ(၆)လအတွက် ကျန်းမာရေး ဘေးအန္တရာယ်ကင်းရှင်းကြောင်း ထောက်ခံချက် လိုင်စင်သက်တမ်းတိုး/အသစ်လျှောက်ထားခြင်း မှန်ကန်ပါသည်။

တာဝန်ခံ
ကျန်းမာရေးမှူး
ကျန်းမာရေးဌာန
ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးကော်မတီ
လှိုင်သာယာမြို့နယ်

မိတ္တူကို-

- ရုံးလက်ခံ

5.2.5 Industrial Waste Water, Domestic Sewage, Storm Water Control Management

Standard

- All discharge from this factory must meet the recommended effluent standards limits applicable law and regulation, emissions standard from ECD whichever is more protective.
- Untreated wastewater or sewage discharge to the environment is prohibited.
- Factory must have all current permits, required limit for discharge, applicable law, regulation and standard must be on file at factory at all times.

Practice:

- Septic systems are used for the disposal of domestic sewage, HSE group must ensure that the septic system are proper designed and installed, are well maintained. Sludge is removed by authorized contractor monthly, leaks is always checked everyday
- Testing of domestic wastewater, oil water and effluent discharge must be performed by capable and properly certified laboratories and expert. The result is checked, kept on file at factory.

- Management group and HSE officer should develop and implement a program designed to maximize the water use efficiency at the factory.
- HSE officer should identify opportunities to reduce pollutant loading and toxic chemical loading in discharge by recycle reduce and reuse.
- HSE officer should develop a water balance across the factory in order to ensure the resource conservation.

(Toilet, Domestic,)

Conserving water ensures that necessary supplies are available year round to meet the needs of the people, farms, fish and businesses. More water is left in-stream to provide water and electricity for people; farms and industry during dry summer months. More water is left in-stream to support critical fish runs and protect aquatic life.

A Water Conservation program will:

- Quantify volume of water used per mass of first quality product produced
- Identify Usage Locations
- Set targets for Reduction
- Look for simple savings. (E.g. are there any leaking faucets?)

Water usage:

- All water usage (liter/unit) in the factory has been recorded.
- Drinking water and service water sources has been clearly labeled.
- Where appropriate metering has been used to monitor the energy use of different processes or activities.
- The factory has been put initiatives in place to reduce water usage such as:
  - Use signs and educational initiatives to reduce water wastage and consumption amongst workers
  - Regulate water pressure
  - Check for leaks
  - Installed appropriate technological solutions to reduce water consumption o- Reuse and recycle water as much as possible
  - Collect rain water where feasible

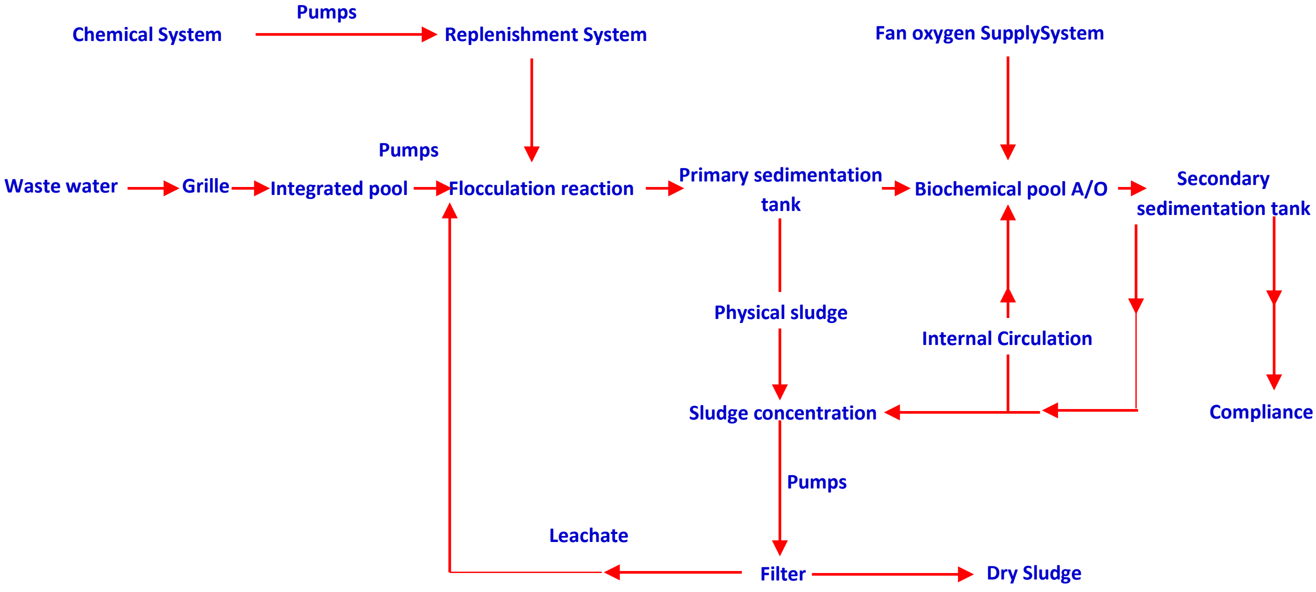
Waste water:

- Waste water can be divided up into:
  - Sanitary waste water - those waters generated by restrooms, showers, food preparation areas, non-industrial processes
  - Wastewater from industrial processes from washing room
- All wastewater (generated from domestic use only) should be sent to public drain located at in front of the factory. This factory has been used of Effluent Treatment Plant as washing operation of this factory
- Appropriate output wastewater includes physical, chemical and biological processes to reduce the environmental impact of wastewater.
- The factory should document the approach taken by the facility, monitor waste water and keep all records onsite
- The factory should ensure that it meets all permit and other legal requirements (content, heat, quality etc.)

5.2.6 Wastewater Treatment System at Spring River Knitting (Myanmar) Factory

Wastewater Treatment System

Sewage treatment system has been constructed in this factory since establishment and flow chart of sewage treatment process has been shown below figure;



Technical Plan for treatment of washing Wastewater

Design principle

1. Conscientiously implement the relevant laws, standards and regulations of the state, and adopt feasible plans according to the actual situation of the enterprise.
2. Under the premise of ensuring the effluent quality, the treatment process with low energy consumption, high efficiency and practical feasibility should be adopted.
3. The waste water treatment project is based on the principle of low investment, low operating cost and small area.
4. Advanced processing system, stable and reliable operation of equipment, simple maintenance and convenient operation.
5. The facility has more flexibility to adapt to the change of water quality and quantity.
6. To avoid the secondary pollution to the environment, we should take full account of the shock absorption, noise reduction and deodorization of the treatment system.

Design water quantity

The influent quantity of the project is 100m^3 / d, the reserved production capacity is 10m^3/ d, the total design influent quantity is 110 m^3 / d, according to the operation of 20 hours per day, the maximum average treatment water quantity is 5.5m^3/h.

This project designed the influent water quality, and the effluent quality is as follows;

serial number	Pollutant species	influent water quality (mg/l)	the effluent quality (mg/l)
1	pH	5-7	6-9
2	TSS	420	50
3	COD	1000	150
4	BOD5	280	30
5	T	40°C	37°C

Treatment process selection

There are some pollutants in the wastewater discharged in the production process of sweaters washing industry. The washing wastewater mainly includes the former washing wastewater, the back washing wastewater and the drying wastewater.

The wastewater contains surfactant, sodium tripolyphosphate, carboxymethyl cellulose, oil stain, dust

particles and various microbes. The appearance of the wastewater is cloudy, the pH is 5.5 - 7.5, and the content of suspended solids is high. When phosphate enters the water body, it will cause eutrophication. When the surfactant enters the water body, it will make the water vivid and the plants poisoned to death, and make some micro-pollutants in the water solubilized. Cleaning waste water is large, there is a small amount of foam, and the content of suspended solids is less COD is also smaller, more transparent. The quantity of waste water is small and the water quality is better than that of cleaning wastewater.

According to the actual situation of water quality, this project adopts flocculation precipitation separation + biochemical treatment + secondary precipitation treatment process to achieve the purpose of treatment.

Removal efficiency prediction

Process steps	COD	BOD	TSS	PH	WATER TEMP
Production wastewater	1000	280	420	5-6	40
Integrated regulating pool	1000	280	400	5-6	38
Flocculation sedimentation tank	650	230	120	7-8	35
A/O Biochemical pool	150	30	100	7-8	35
Secondary sedimentation tank	120	25	50	7-8	35

Technological process description

The production wastewater enters the grid tank through the pipeline, and the large particle suspension material is removed through the grid to enter the comprehensive regulating tank. The regulating pool mainly plays the role of balancing the water quality and water quantity, and then the pump is lifted into the flocculation reaction tank. Adding PAC and pam to realize the demulsification process of sewage, flocculation sludge was formed in the flocculation reactor, the sludge mixture was separated in the primary sedimentation tank, the organic colloids and fine suspended matter in the water were adsorbed and co-settled. The water-soluble organic matter enters the A / O biochemical tank with the supernatant self-flowing. In the A / O biochemical tank, the oxygen supply system of the fan provides oxygen, and the microorganisms in the water use the organic matter as food to decompose the organic matter, and at the same time, form a new ecological sludge. The aged sludge was separated with.

Structural Design parameters and supporting equipment

Grid pool

Structure : steel concrete
Size : LXBXH=1mX0.5mX05m
Ancillary equipment : grille 2 adopt semi-automatic lifting

Integrated wastewater regulating tank

Structure : reinforced concrete
Size : LXBXH=14.75mX5mX1.5m
Ancillary equipment : sewage lifting pump 2 units, with one spare type:

Flocculation reactor

Structure : Steel anti-corrosion treatment
Size : LXBXH=2.0mX1.0mX2.0m
Accessory equipment : 1 set of PH automatic control system, Chemical drug system 3 sets of V=0.5m3, Pharmaceutical lifting pumpJWM-120, Pneumatic diaphragm pump brand: reaction mixer 2 sets of BLD2-35-1.5 KW

Primary sedimentation tank

Structure : Steel anti-corrosion treatment
Size : LxBxH=3.0mx2.5mx3.5m
Ancillary equipment : 1 slabs
1 set of water distribution system,
1 set of effluent collection system,
PH callback automatic control system 1 set.

Biochemistry pool

Structure : Steel anti-corrosion treatment
Size : LxBxH=9mx3mx3.5m
Number: 1, internal partition
Ancillary equipment : 1 aeration system, 90 dissolved oxygen release units, 90underwater pipe networks Biofilm support 4 sets, galvanized anticorrosive, non-standard custom Biochemical

filler80m3, PP Biochemical Fan 2 sets MFSR-65 N=3.0KW,

Secondary sedimentation tank

Structure : Steel anti-corrosion treatment

Size : LxBxH=3.0mx2.5mx3.5m

Ancillary equipment : 1slabs
1 set of water distribution system,
1 set of effluent collection system, Plate and frame press one XMY20 / 630 / UB N =1.5KW, Pneumatic sludge diaphragm pump 2units QBY3-40

List of structural parameters

serial number	Name of the structure.	Size	Number	Structure
1	Grid pool.	1m x 0.5m x 0.5m	One	
2	Integrated adjustment pool.	14.75m x 5m x 1.5m	One	Reinforced concrete
3	Flocculation reactor.	2.0m x 1.0m x 2.0m	One	Steel anti-corrosion treatment
4	Primary sedimentation tank.	3.0m x 2.5m x 3.5m	One	Steel anti-corrosion treatment
5	Biochemistry pool.	9m x 3.0m x 3.5m	One	Steel anti-corrosion treatment
6	Secondary sedimentation tank	3.0m x 2.5m x 3.5m	One	Steel anti-corrosion treatment

serial number	Name of the equipment	Model, parameter	Number
1	grilled / grating / grid gridgrid	coordinate	Two sets
2	Sewage lift pump	25ZW8-15 N=1.5KW	Two sets
3	Flocculating mixer	BLD2-35-1.5 KW	Two sets
4	Ph automatic control system.	1-14.A动IRfA控9	Two sets
5	Medicament allocation slot.	V=0.5 m^3	Three sets
6	Potion lift pump	JWM-120	Three sets
7	Triangular overflow plate	coordinate	One sets
8	Microporous aerator	FT-215	90 sets
9	Aeration pipe network	PVC	90sets
10	Biological filler	Ø200 ,PP	80cubic meterse
11	Packing bracket	anticorrosive treatment	4sets
12	Biochemical Fan	MFSR-65 N=3.0KW	Two sets
13	Triangular overflow plate	coordinate	One sets
14	Plate and frame press	XMY20 / 630 / UB	One sets
15	Sludge pump	QBY3-40	Two sets
16	Air compressor	V=0.45	One sets
17	Storage tanks	0.3m^3	One sets
18	Wires and cables	coordinate	One sets
19	Turbine butterfly valve		One sets
20	Gate valves		One sets
21	Flange piece		One sets
22	The welding elbow		One sets

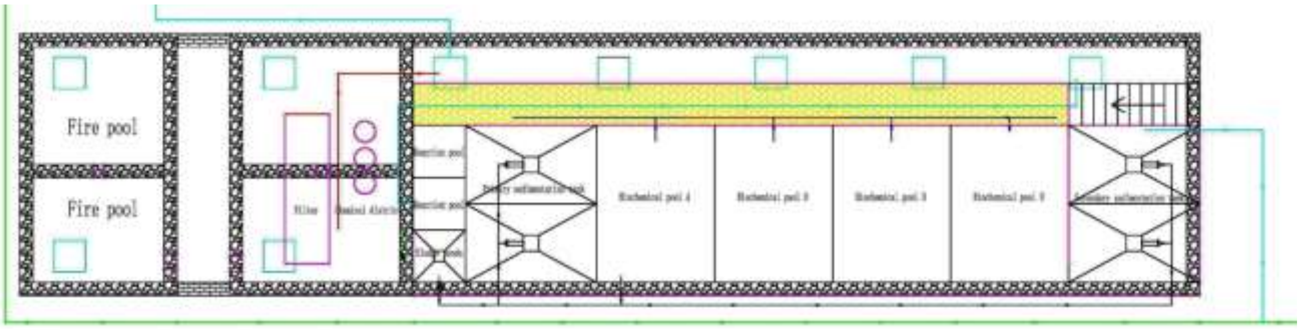


Figure 51: Wastewater treatment chart

Dosing Equipment and layout

Wastewater Inlet

Wastewater treatment equipment

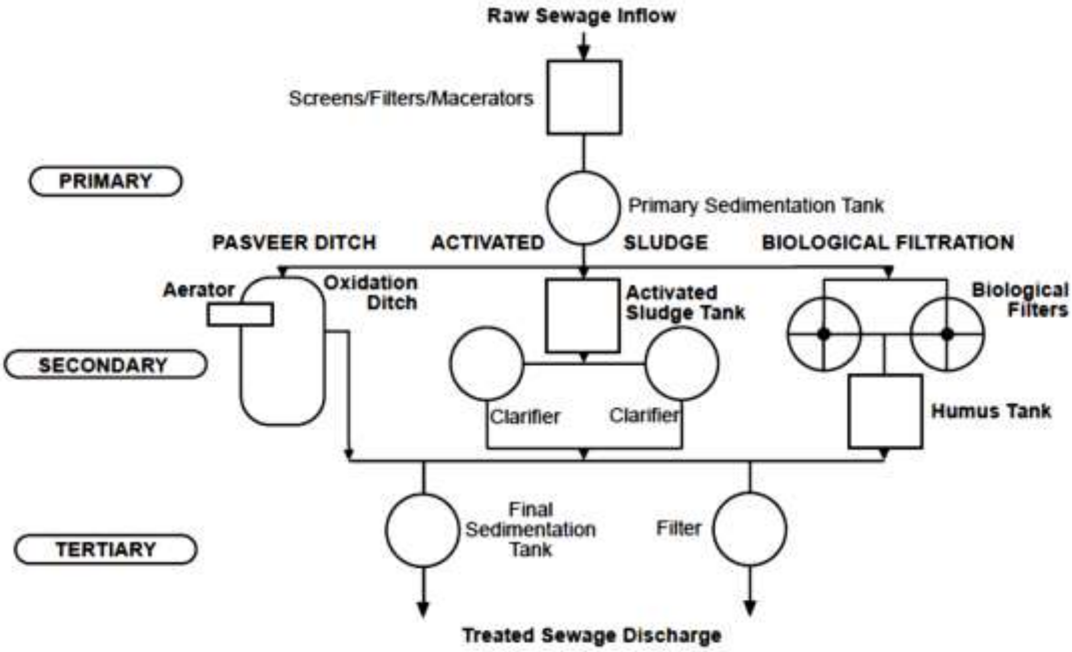
Treatment in progress

Sludge

Treated Wastewater out let

Typical Layout of Sewage Treatment System at factory

1. Collection ⇒ Equalization Sump in Septic Tank
2. Extended Aeration plant
   Secondary clarifier
3. Sludge drying beds
4. Clear water Sump (pressure sand filter / activated carbon filter)
5. Checking of overflow from septic tank



Treated sewage discharge has been disposed by liasing with YCDC according to the schedule (once every 6 month)

Storm Water Management

There are storm water drains in factory compound and connect to public drain with standard specification (length, width, height) in these drain, settlement area, sieve area in place to protect sedimentation and plastic and other debris. The storm water drains near the factory should be cleaned for free of pollution (metal, plastic bags, paper bag / box and solid waste etc.). Factory housekeeping groups always clean the drains inside the factory to stop all waste, spillage from entering the storm water drains outside or public drain.

In this factory, chemical store, fuel store, generator house, boiler house, waste yard are kept under the roof and stored on concrete bunded and floored areas.

In this area, factory operation group has provided containment booms, absorbent, and sand bags for preventing spill.

Drainage and water line layout at this factory has been mentioned in Figure 20 of this report.

5.3 Environmental Monitoring Sub-Plan for each Identified Impact

The environmental monitoring plan includes information on environmental parameters to be monitored, location, time and frequency, cost of sampling and stage of project during which monitoring should be conducted. EMoP will be a useful tool to monitor implementation of mitigation measures included in EMP.

5.3.1 Environmental Monitoring Program

Formation of the Environmental Management team

In order to implement the environmental management program and according to company officials following structure Environmental Management Group is going to be formed organized by one or two persons from near by factories, local administratives, Shwe Lin Ban Industrial Zones' officials and necessary government Departments such as YCDC, Health, Firefighting etc. , cooperate with the officials at the township level, Environmental management measures as a private fund set up production (5%) of the target will be placed on promoting the Environmental Affairs and monitoring programs are scheduled to be implemented for the structure and personnel practices.

Environmental Monitoring Group

About the project in order to implement the Environmental Management Plan's surveillance to monitor the group's observation and finding of environmental condition has to be reported to representatives.

The emergence of the Environmental conditions has to be reported to residents, Shwe Lin Ban Industrial Zone's personnel and thoughly discuss with Environment technicians from industrial businesses, Local government agencies, Township Administrator, Education, Health professionals, who are appointed to set the factories in the Hlaing Thar for right of ways of negotiating solutions, good methods to reduce the solution must be undertaken.

Table 47: Environmental Audit Check List

ENVIRONMENTAL AUDIT CHECK LIST

DATE:

AUDITOR: ---

Tick "Yes" or "No" for each of the following:

1. Inspection storage area and Disposal of soil waste (piece of small **cut cloth)**	Yes	No
1. Are there proper stored the waste. Are there material label. Are there suspect able for fire. Are there waste fully used for reused/recycle. Are properly discharge the waste (No= Non-conformance)		
2. Random inspect working area in the factory Are there any small particulate material found on the factory floor before work start. Are the air quality in the factory was acceptable. Are the exhaust fans properly work Are there enough waste bin in the factory (No=Non-conformance)		

1. Inspection storage area and Disposal of soil waste (piece of small **cut cloth)**	Yes	No
3. Inspect storage area for hazardous materials and general waste, plastic, bottle, water pot medical equipment and tools etc. Are the material labelled? Are the material segregated? Are any waste found outside of waste bin? Are the bin fall of waste inside? (No-Non-conformance)		
4. Are the waste properly discharged.		
5. Check the appearance of drains. Are there any waste in the drain? Are there any waste/oil in the drain? Are there any domestic waste water discharged. Are there any conforms in the factory's drain Are the sewage tank worked not in order (Yes= Non-conformance)		
6. Talk to the persons responsible for managing waste.		
Do they have records in the files of the tracking manifests? Do they have an up to date waste Inventory, showing the date, nature and quantity leaving from factory? (No= Non-conformance)		
7. Checking Oil storage area. Are there any spills in the area? Are there any precaution for fire? Are they check the balance monthly?		
8. To check the generator running Are there too much carbon emission from generator? (Yes= Non-conformance)		
To check work environment Are there acceptable room temperature? Are there in the acceptable noise limit? Are there in the acceptable vibration limit? Are there canteen cleaned and enough drinking water and space etc? (No=Non-conformance)		
Check Safe and Security 1. Are there proper electrical systems running? 2. Are there any fire precaution and drills in the factory 3. Are there any alarm systems for safety and fire? 4. Are there no serious accident occurred in the factory? (No=Non- conformance)		

Table 48: Corrective Action Request (C.A.R) Form

CORRECTIVE ACTION REQUEST (C.A.R)

1. DESCRIPTION OF INCIDENT

CAR Completed by: DATE: --------------------------

Describe incident/Circumstance Requiring Corrective Action:

Describe Corrective Action Taken

Describe any further Corrective or Preventive Action Required:

Identify Person Responsible for Conducting Corrective/Preventive Action: Date by which

Corrective/Preventive Action will be Completed:

Proposed Environmental Management Group

Environmental Monitoring Group has to be formed for this factory is including mainly by the relevant government departments, this garment factory project officials, local representatives of the respective district ward who are elected have to be formed. The proportion of the representatives proposed as follows.

Sr.	Representative	No.s of personnel
Government Department		
1.	General Administration Department of Hlaing Thar Yar Township	1
2.	Township Health Department	1
3.	YCDC of Township Municipal / Medic	1
4.	Townshp Fire Department	1
From Spring River Knitting (Myanmar)Garment Factory		
5.	Administration Director	1
6.	Factory Manager	1
7.	HSE Manager	1
Local Representative		
8.	Shwe Lin Ban Industrial Zone administration Department	1
9.	Administrator of Apyin Padan Village Tract	1

Monitoring System

It is necessary for monitoring to be undertaken to determine whether operation activities are impacting on the environment. Preparation of a monitoring plan as part of EMP ensures the monitoring is conducted effectively and consistently, will deliver reliable, good quality data, monitoring can also include evidence as well as a complaints register. It is the method, frequency of monitoring to waste water, treated waste water, quality of ground water, air pollution, solid waste removal management and frequency, checking and provision of firefighting equipment, emergency response sensors and PPE, including budget of these works and management of HSE Group.

Monitoring and guide line standard

The factory owner group proposes guidelines for their plant mentioned in IFC and World Bank Environmental, health, and safety guidelines of ECD, World Bank and ILO etc.

Environmental issues of concern arising from the manufacturing of garment products primarily include the following.

- Air Emission
- Waste water
- Solid waste
- Resource and Energy consumption

Monitoring Sub–Plan for Spring River Knitting (Myanmar) Factory

Ground Water (Tube Well)

Duration - Operation Phase
Location - Tube well inside factory 16°54'48.69"N, 96° 3'34.48"E
Frequency and parameters - Once every 6 months, pH, Color, Turbidity, Suspended Solid, iron, Arsenic, Zinc, Mercury, BOD, COD
Responsible - Factory Management Group
Report to - Administration director, periodically if necessary, Report to ECD for every 6 month

Air Quality

Duration - Operation Phase
Location - Near Boiler 16°54'50.11"N, 96° 3'31.06"E, Near Generator 16°54'51.52"N, 96° 3'34.29"E
Frequency and parameters - Twice per year, NO_2, O_3, PM_{10}, $PM_{2.5}$, SO_2, CO, CO_2, VOC
Responsible - Factory Management Group
Report to - MONREC, periodically if necessary

Noise

Duration - Operation Phase
Location - (Near Generator) 16°54'51.62"N, 96° 3'38.68"E, Main Gate 16°54'51.68"N,96° 3'34.99"E, Boiler Area - 16°54'50.11"N, 96° 3'31.06"E, Production Area- 16°54'50.80"N, 96° 3'31.74"E
Frequency and parameters - Weekly

Responsible	-	Factory Management Group
Report to	-	MONREC, periodically if necessary

Liquid Effluent (inlet and outlet of WWTP)

Duration	-	Operation Phase
Location	-	WWTP inlet 16°54'49.19"N, 96° 3'34.67"E, outlet WWTP 16°54'50.33"N, 96° 3'35.25"E
Frequency and parameters	-	Once every 6 monthsBOD, COD, Ammonia, Mercury, Oil & Grease, pH, Total Nitrogen, Total Suspended Solid
Responsible	-	Factory Management Group
Report to	-	MONREC, periodically if necessary, Report to ECD for every 6 month

The monitioing report from Spring River Knitting (Myanmar) Manufacturing factory to MONREC must include the following -

- **workplace monitoring and inspection**
- **minor events, To report the accident and emergency cases**
- **performance indicators set by measurement and according to these indicators and take action**

For effective implementation of environmental management plan, factory management group will have the Environmental Monitoring Group comprising of maintenance engineers, store group, housekeeping staff under the overall supervision of the factory in charge who will have to learn from Environmental Consulting Experts as third party inspection as training. The quality of air has to monitored by third party inspector (expert), water, and soil sample collection has to be taken by factory management group (as trained by expert) and send to laboratory, and noise level will be monitored as per specific norms and the report will be submitted to concerned government department and regular basis.

(For monitoring plan, the standard and result of exiting physical environmental parameters of Ambient air quality, Noise level; water quality etc. has been conducted)

Monitoring programs will be described by relevant parameter types which is going to be examined in accordance with national environmental quality (emissions) Guidelines (2015),

5.3.2 Scope of the Environmental Monitoring Program

The scope of the EMP shall include;

- To identify and resolve environmental issues and other functions that may arise during the construction and operational phases;
- To implement water quality , air quality and noise impact monitoring programme during the operational phase;
- To check and quantity the Construction Contractor's as well as the Operator's overall environmental performance, implement action plans and recommend and implement remedial action;
- To conduct regular reviews of monitored data as the basis for assessing compliance with defined criteria and to ensure that necessary mitigation measures are identified, designed and implemented;
- To assess and interpret all environmental monitoring data to ascertain whether environmental control measures and practices are functioning in accordance to specifications;
- To manage and liaise with all stake holders (residents of the surrounding areas, local authorities, business operators etc.) concerning any environmental issues during the construction phase;
- Conduct formal and informal visits during the construction and operation phases to assess adherence of the concerned parties to the mitigation measures as set out in the EMP report.

Should be analyzed and reviewed of regular intervals, compared with the operation standards. Methods for emission and effluent are guideline from MONRE, Ministry of Industry.

Internal Environmental Monitoring Team

Internal Environmental Monitoring Team has been formed for Spring River Knitting (Myanmar) Co., Ltd since 11.1.2020 as show below;

Table 49: Experiences, educational qualification and responsibilities of monitoring team members

Sr.	Name	Designation	Educational Qualification	Experience duration	Responsibility
1.	Mr. Teng Jiniang	Managing Director		30 years	Overall incharge for Environmental Monitoring
2.	Mr. Yao Dong Liang	Deputy GM	-	6 years	Coordinator for cooperation with external organization for Environmental Activities with local communities
3.	Mr. Chen Zheng Li	Factory Manager	-	5 years	Liaison officer to discuss with External Organizations for Environmental Evaluation
4.	Mr.Xie Jin Yin	HR & CSR	-	6 years	Checking around factory for Environmental Conservation especially solid waste management
5.	D Myo Myint Aye	HR Assistant	B.Sc	6 years	Internal Environmental Monitoring In-charge
6.	D Moe Pyint Phyu	Translator	10th Standard	3 years	Checking around factory for Environmental Conservation
7.	U Htet Aung	Boiler Operator	10th Standard	3 years	Checking around factory for Environmental Conservation especially solid waste management

- The main task of the monitoring team is to monitor and control for actual air pollution, noise pollution, solid waste / waste management condition. And also responsible to monitor and control of fuel storage condition and green belt situation.
- This team will implement Environmental activities by cooperation with Township General Administration Department, Township Electricity Department as well as township fire department and Industrial Zone Management Committee.
- From time to time, environmental management implementation plans will be reviewed for progress.

Periodical monitoring of the ambient air quality, emission, noise level in and around the factory site at least twice in a year, water once 6 months in a year and soil quality once in a season has to be undertaken in order to MoNREC, ECD's forth coming norms. It has to be appointed or hired external agencies necessary for the measuring of air quality monitoring, collection of soil samples, water samples for ground water, inlet effluent of wastewater treatment plant, and outlet wastewater quality and analytical testing etc. For the measuring of noise level for the related areas, it will be performed by factory management team theirselves, and occassionally, measured by Factories and General labor law inspection Department.

Stake holder participation and Involvement in Environmental Monitoring

The developer should appoint qualified scientists (or) engineers for Environmental and safety (HSE) officer with full-fledged environmental in geotechnical. Continuous monitoring instruments for stack emission, ambient air quality and waste water quality shall be installed to check the environmental quality. This group under IPP developer management team will be responsible for the following functions.

1. Monitoring of stack emissions and work environment and report any abnormalities for immediate corrective measures.
2. Ambient air quality monitoring at upwind and down wind direction. At 3 locations 120° to each other)
3. Collecting of meteorological parameters from weather station like wind speed, wind direction.
4. Monitoring of treated waste water quality at the outlet of guard pond for flow, pH, conductivity, BOD and temperature using by contractor service, own instrument.
5. Monitoring and testing of groundwater quality inside the working area or factory area and nearly communities’ quarter.
6. Monitoring and testing of water quality of water well
7. Noise monitoring at the factory boundary work areas and surrounding areas on quarterly basis.
8. Quantity and quality of spent oil and lubricants would be disposed and records kept as per authorization obtained from source (oil spill / Waste)

Required attached documents are described in appendix and procedures are referred;

- The concerning government departments are chief minister from Yangon Division, Firefighting department, Environmental Control and maintenance Department from Yangon Division, Environmental Conservation Department, and Electrical Inspection Department from Ministry of

Industry, Electrical Control and Supply-inspection from MOEP.

- Required approval for construction of factory in Yangon.

  By law

  - Land clearance and C/map, D/map
  - Comments from fire fighting department
  - Size of ground water tank, septic tank, location, water and electricity requirement and consumption
  - How to control sewage and domestic waste water
  - Car parking (8' x 16') for one car
  - Acceptable lighting and ventilation for workers
  - Reasonable disposal removal system

Performance Indicators

For effective implementations of Environmental Management Plan, the environment monitoring should comprise of engineers, chemists and Horticulturist under overall supervision of the Environmental Manager. The quality of air, water, soil and noise levels will be monitored as per specified norms and the reports will be submitted to Head of the companies on regular basis.

5.4 Management Plan for Factory Operation and Production Process

5.4.1 Engineering Management Plan

Engineering management plan is implemented by the activities relating to factory operation. This engineering management plan is based on common elements of health, safety and environmental management such as waste management, accident prevention, health monitoring and communicable disease reporting, engineering management, hazardous material handling, community disturbance,. This engineering management plan can cover / integrate the EMP's four major elements namely, commitment and policy, planning, implementation and measurement and evaluation.

Engineering control Design for operation which has been established at Spring River Knitting (Myanmar)'s factory are as follow.

1. Electrical Design

- building a main transformer
- Diesel Generator set with low voltage power distribution panel
- Total power capacity (11 kVA Transformer for YESC and 1 x 400 volt Generator as standby)
- Annual power consumption 40 x 10^4 kWH
- Complete factory floor plan / elect plan

2. Water supply and Drainage Design

- **Water Supply**
  - 10 m^3 water supply tank (G.T) and 800 gals overhead tank
  - 1 no. of pressurized pump room
  - Water Drainage
  - Rain water and sewage water in separation
  - Protect clean domestic waste water without contamination
  - Septic tank is built on common system and check overflow
  - Water daily requirement 1000 gals
  - 1 No.s of tube well (4", 300 ft depth , 200 gph)

3. Ventilation Design

- Natural ventilation by installation of wall windows and roof windows (monitors)
- Use fan and blowers mounted on the wall and roof in the work shop, store
- Mount air conditioner and fans at workshop, office, store, canteen etc.

- Use exhaust fan at toilet, dining room, and store.

4. **Dust Collecting Design**
   - Mount bag filter type dust collector near to the dusty equipment
   - Provide air to inside factory through air compressor setting at outside of factory. (to control temperature and humidity)

5. **Environment protection, safety and fire control**

   Environmental protection
   - Waste management control, provision of waste bin and designated waste tank, reuse, recycle, and reduce method education to housekeeping group, separation garbage tank an clean daily.
   - Noise control
   - Water contamination control
   - Fuel spill control
   - Hazard material handling and storage with standard design
   - Health and safety plan
   - Provision of first aid, preparing contact person and telecommunication for emergency case.
   - Daily cleaning for work place and store, waste bin for industrial hygiene.
   - Fire Control
   - According to Fire Department Instruction
   - Design reference:

   Comply with government law, rule and regulation, directives relating to environmental concern, factory act, labor law, electrical law, industrial law, YCDC

6. **Energy Conservation**
   - Use high efficiency electrical material panel, wire, switch, transformer
   - Use of frequency inverter for all fans, florescence,
   - Use insulating material at roof, brick wall,
   - Use air compressor, standard window reducing heat, humidity
   - Select proper cable / wire to reduce power loss
   - Select energy saving type equipment
   - Water supply with standard PVC pipe, fitting and socket, plug.

7. Provision of required equipment and gear, maintenance plan for machine
   - Provision of cleaning kit, spill kit,
   - Maintenance of machine regularly
   - Checking up consumption of raw material resources, energy, water consumption, discharge and air emission, solid waste

5.4.2 Machine Injuries Prevention and Health Management Plan

Machinery Safety Plan

The guards at machinery are in place, key warning are declares on machinery readable. All machines are free of jagged metal. The factory management committee developed a policy and insured compliance of safety PPE should be worn. (ex: head cover in cloth)

Defective and worn parts are replaced as soon as possible and according to maintenance schedule of machine, generator, compressor are regularly checked. Before servicing machinery, the power is turned off, lock out machine as per safety regulation. There are no moveable components in processing line. Most of machines are operated by motor – drive, and computerized.

Health Measure Plan

Depending on the finding of the first aid needs assessment and health measure plan, more than on first aid container will be required at factory and small clinic has been developed with skilled nurse.

First aid containers should be easily accessible, and preferably placed near to working area.

As assessment this health measure work activities only involve low hazards a minimum stock of first aid items (such as Gauze pads, split, scissor, handy plaster etc.)

First aid containers should be stocked with items useful for giving first aid and should protect them from dust and damp, a leaflet giving general guidance on first aid.

Some of the disease such as cold, ill, stomach with workers occurs in factory, nurse from clinic had been taken care of their fever and problem since garment factory operation started.

Hazard	Cause of Accidents	Example of injury requiring first aid
Chemical	Exposure during handling spillage, splashing, leaks	Poising, loss of consciousness, burns eye injuries
Electricity	Failure to securely isolate electrical systems and equipment during work on them, poorly maintained electrical equipment. Contact with cables or main electricity supplies using unsuitable electrical equipment in factory	Electrical shock burns
Machinery	Loose hair or clothing becoming tangled in machinery, being hit by moving parts or material throw from machinery, contact with sharp edges	Crush injuries eye injuries amputation fracture spill and slip
Manual Handling	Repetitive and / or minor heavy lifting and handover exerting too much force handling bulky or unstable loads, handling in un comfortable working position	Fracture lacerations sprains strains
Slip and trip hazards	Uneven floor, trailing cables obstructions, slippery surface due to spillages, worn carpet, steps-slip, oil spill floor	Fracture sprains strains laceration
Work place transport	Hit by – hit against by packing falling material in store being injured as a result of packages collapse	Injuries, fracture sprain strain

First Aid Training

In this Spring River Knitting (Myanmar) factory, Health Management Plan has been established since project started as (Fengyi Knitting Factory) and now carring out in progress. For this purpose, first aid training has been provided to employees regularly. Below is one of the first aid training records.

SPRING RIVER KNITTING （MYANMAR) CO.LTD

Training Record

员工培训记录表 Employee Training Record

培训部门 Training Department		计划时间 Planned Time		培训时间 Training Time	18.11.2019 2 20.11.2019
培训方式 Training Methods	Face to Face [illegible]	授课人 Instructor	Than Than Myint	培训地点 Training Place	Meeting Room [illegible]
培训目的 Training Purpose	Master first aid Knowledge [illegible]				
培训性质 Training Nature		年度annual(　)适时timing(　)其他other(✓)		负责部门 Responsible Department	
考核方式 Evaluation Mode	Exam [illegible]				
培训内容 Training Content	- Introduction to the red cross movement [illegible] - First aid concept [illegible] - Victim Assessment & Triage [illegible] - Burns & Scalds [illegible] - Wounds and bleeding Control [illegible] - Shock [illegible] - Basic Life Support & Checking [illegible] - Dressing and Bandaging [illegible] - Musculoskeletal Injuries & price procedure [illegible] - poisoning [illegible] - Animal Bites & stings [illegible] - Head injuries & spinal injuries [illegible] - Care of unconscious recovery position [illegible] - Handling & Transportation [illegible] - Completion Test [illegible]				
签名 Signature	[illegible] Pan Ei Phyu Aye Thuzar Pan Ei San, Sandar [illegible] [illegible]				
记录人 Recorder	Myo Myint Aye	日期 Date	18.11.19 ~ 20.11.19	审核人 Auditor	[signature]
日期 Date					

First Aid Training Record

Electrical Hazard Management Plan

In readymade garment factory, major hazard is electrical hazards. Due to the electrical layout plan, installation panel board, generator setting up and some welding work, ironing work, it can be necessary to protect this hazard in factory.

All the power lines, switch, electrical hard ware, main switch at factory are in a good state and installed by electrician. There are warning systems for fire, firefighting equipment connection to manual safe guard when electricity is blackout. Technician in factory always check for utilities, electrical motor and machine before use every day and lock out procedure should be taught to machine operator when working on any powered equipment.

Major control and mitigation of this hazard is as follow;

a. Plan the electric system according to floor plan and plan for safety.
b. Avoid wet working conditions and other dangers
c. Avoid overhead power lines in factory.
d. Use proper wiring and connectors.
e. Use and maintain tools properly
f. Lock out and tag out circuits and machine
g. Prevent exposure to live electrical parts by isolating them, by using insulation
h. Prevent shocking currents from electrical systems and tools by grounding them
i. Prevent overload current in circuits by using over current protection devices

Fire Hazard Safety Management Plan

In garment factory, there are there hazards, namely electrical hazard, fire hazard, and machine hazard.

The fire hazard safety mitigation management plan is under mentioned.

a. Causes of fire hazard

Electricity
- Neglect and misuse of wiring and electrical appliance (motor, heater)

Reuse rubbish
- Accumulating in work / storage areas

Smoking
- Discarded cigarettes, oil spill

Heater
- All ironing heaters could overheat if obstructed

Hazardous goods

- Materials such as chemical, fuel and adhesives

Specific hazards

- Machinery in dusty environment, heated equipment, cutting motor, sewing motor, flammable liquid.

b. Fire Extinguishers

1. Fire extinguishers are divided into four categories based on different types of fires.

   Each fire extinguishers also has a numerical relating that serves as a guide for the amount of fire, the fire extinguishers can handle
   The higher the number, the more fire fighting power
2. Class A,

   Extinguishers are for ordinary combustible materials such as paper, wood, cardboard and most plastics
   The numerical rating on these types of extinguisher indicates the amount of water it holds ad the amount of fire it can extinguish
3. Class B

   Fires involve flammable or combustible liquids such as gasoline, kerosene, grease and oil.
   The numerical rating for this extinguisher indicates the approximate square feet of storage area / fire.
4. Class C involve electrical equipment

   Such as appliances, wiring, circuit breakers and outlets
   Never use water to extinguisher class C
   The risk of electrical shock is for too great
   The C classification means the extinguishing agent is non - conductive
5. Class D are commonly mounted in a chemical storage area, they are for fires that involve combustible metals such as Mg, Na, K. These types of extinguishers also have no numerical rating.

   Some fires may involve a combination of these classifications. At most of factories, fire extinguishers should have ABCD rating on them.

5.4.3 Energy Consumption Management Plan

- All energy use (Kw/unit) in the factory should be recorded on a monthly basis
  - Where appropriate metering should be used to monitor the energy use of different processes or activities
  - Meters should be placed in an appropriate location and be checked regularly
  - The factory should have a record system in place for measuring and analyzing energy use
  - All types, sources, uses and costs of energy should be recorded
  - Maintain a practice to calculate the energy consumed to produce an amount of products (e.g. dozen or hundred units) for energy consumption monitoring.
  - If any energy is being generated onsite then the factory should record the fuel source and the amount of energy being generated
  - The factory should identify any opportunities for cost reductions in its energy use and make a record of what these reductions would be
- Initiatives to reduce energy consumption:
  - The factory should identify all areas within the facility where energy is being wasted
  - All equipment and installations should be regularly monitored and serviced for efficiency
  - All machinery, equipment and lighting not in use should be switched off and no machinery and equipment should be left on stand-by mode (short periods with the power on may be acceptable if start-up is energy intensive)
    - Turn off all electronics when not in use
    - Unplug all electronics when not in use
    - Turn off lights when not in use
  - The factory should identify opportunities to reduce energy use and long term costs. Examples of some initiatives include:
    - Installing energy efficient lighting

- Use motion sensor lights for low use areas
- Use compact florescent light bulbs
- Installing energy efficient equipment
- Use energy efficient printers, computers or monitors etc. Setting air-conditioning to a minimum level recommended by local Governments (e.g. 25.5 degrees Celsius)
- Education initiatives for its employees
- Poster campaigns on why and how to reduce energy use Insulation to minimize the need for heaters and air conditioners Identify opportunities to develop renewable energy sources where appropriate (e.g. solar panels, small-scale wind turbines) Dress down and wrap-up initiatives — allow employees to wear appropriate and comfortable clothes suited to the weather conditions to minimize the need for heating or cooling
- Energy recovery (installing a combined heat and power plant) Use natural resources as much as possible at any consideration or environmental concerns.

- Energy Saving Basics:
  Facility Energy Checklist to Reduce Fuel Costs
  - For factory buildings
    - Check /Adjust combustion efficiency of fuel-fired equipment ex: generator.
    - Lower thermostat settings to exhaust fan at factory.
    - Lower setback temperatures
    - Optimize day-time warm-up and night setback controls
    - Reduce/eliminate major sources of infiltration
    - Minimize use of outside air for process ventilation Modify work activities
    - Minimize the use of fired refrigeration equipment
  - In Central Heating Plants (Boiler)
    - Conduct boiler efficiency test
    - Optimize combustion efficiency
    - Perform boiler maintenance
    - Minimize boiler blow down
    - Optimize steam plant heat balance
    - Minimize de-aerator steam venting
    - Optimize boiler loading
  - With Thermal Distribution (Ironing)
    - Inspect / replace steam traps
    - Inspect/repair condensate return equipment Locate/repair steam leaks
    - Repair insulation
    - Isolate non-essential distribution piping Reduce distribution pressure

5.4.4 Warehouse Storage and Good housekeeping Management Sub - Plan

All of these warehouse are labeled, with signs and declared to indicate special storage area with firefighting equipment, extinguisher ventilated, fuel storage area are provided with material safety Data sheet and handling procedure.

Some of new workers at each section are taught about hazardous material (Glue) and how to use it with PPE, tools. MSDS sheets are available to them to read in Myanmar language. Workers in factory are aware of the emergency response plan for hazardous material used, fire, explosion from fuel storage and generator house.

Good housekeeping

Good housekeeping is a number of practical measures based on common sense that factory management can undertake to improve their production, workplace safety, obtain cost saving and reduce the environmental impact of factory operations.

Good practice of housekeeping in factory is as follow

- Rationalizing the use of raw material, water, and energy output
- Reducing the volume and/or toxicity of waste, waste water and emissions related to production rate
- Reusing and / or recycling a maximum of primary inputs and packaging material

- Improving working condition and skill, occupational safety, hygiene in factory
- Implementation of Housekeeping, providing ash to YCDC township nursery plantation

There are some needs for housekeeping

Organization

This organization can control reducing waste which is related to changing behavior and creating the productivity, waste minimization among workers at all level of factory

Problem awareness

It is important for factory to draw the attention of their workers to the problem and identify opportunities for them to take action.

Information on disclosure

Relevant information and directives relating to good housekeeping procedure are developed and enhanced in workers. Workers followed these guidelines and action is integrated into the daily operation of factory.

<u>Reducing the loss / use of raw material and supplies is as follow</u>

- Preventing unnecessary waste
- Undertaking preventive maintenance
- Establishing plans and effective procedure in case of emergency
- Managing waste responsibility
    - It is separating waste into different categories
    - It can identify the waste reusing / recycling wastes as primary materials
    - It plan to dispose of waste in and efficient and environmentally sound manner
- Effectively handling and transferring materials and finished product

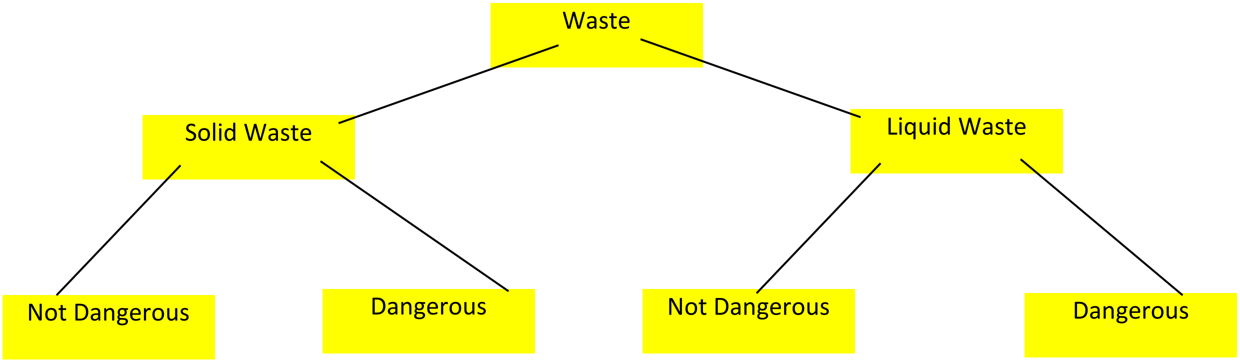
Work plan for the above mentioned

Work is;

- ensuring proper handling and stocking
- undertaking effective inventory control
- planning and optimizing production
- keeping good records

- Saving water plan

  Reasonable daily operation is preventing leakage / spillage, reusing water (condensate water), monitoring water usage
- Saving energy requirement
    - Providing for proper insulation
    - Monitoring energy use
    - Recuperating and reusing energy
- Analyzing inputs and outs of the production process
    - Optimizing the operation process
    - Using resource more efficiently
    - Closing flows of materials and substance (through reuse / recycling
    - Estimating the cost (resource use, allocating environmental cost to the operation, waste management cost)
- Flow chart for separating solid and liquid waste



Waste fraction

- **reduce**
- **reuse**
- **recycle**
- **dispose**

Waste water

- **reduce**
- **reuse**
- **recycle**
- **Treat / dispose**

The objective of waste management in factory is to identify to reduce, reuse, recycle and finally treat and dispose of waste

The identification and separation of the different waste is needed to identify the possibilities

- Leading to the identification of valuable materials in waste

Reusing recycling waste by identifying and extracting waste

5.4.5 Human Resources and Management Plan

According to the labor intensive manufacturing industry, the H.R department is preparing the following policies and procedure for workers in this factory.

1. H.R related policies, procedure and program
2. HR related documents are as follow;
    - Code of conduct
    - Program and duties to manage relation with employees.
    - Operational job training in working area
    - Technical course in cutting, making, packing for jacket - garment
3. H.R management plan is complying with Government Department, Ministry of labor, Immigration and Population, Factory Inspection Department, Industrial Law and Factory Law (2015)
4. General Standard for Employee
    (a). Probation

    The maximum probation period under the labor law is 3 months. The employee under probation is entitled to the same statutory benefits and rights accorded to a confirmed employee.

    (b). Hours of Work

    More than 4 consecutive hours without a rest period of 30 minutes

    More than 8 hours in one day and more than 48 hours a week without the payment of overtime

    More than 11 hours in a day. Applicable to factory workers 44 hours in a week according to the labor law

    (c). Overtime pay, public holiday, weekly rest day, leaves minimum wages.

    (d). Employment contract, hiring and termination, employee social benefits.

    (e). Work permit – stay permit, for foreign supervisors can be applied to immigration with MIC Permit

(f). Social security law, labor dispute resolution and labor employment policy are adopted by factory.

(g). Attached the purpose of labor inspection at factory.

(h). The purpose of labor Inspection

- Employment contract
- Labor wages and salaries
- Overtime
- Medical care
- Work site safety
- Accident handling
- Welfare
- Leave allowance
- Holiday allowance
- Working hours
- Shift

Labor Control Management

- According to in house factory discipline, all of workers in factory obey this
- At some of the work such as boiler section, generator house, manufacturing process line and supervisor such as store manager, cutting section, machine maintenance and electrical section, (skill workers and certified technician must be appointed
- Workers and equipment interface is to be convenient and work regularly
- Working time, salary, overtime, piece rate is under Myanmar labor law.
- Work load for workers is acceptable
- Noise, temperature, ventilation, lighting and ergonomics for working condition is as per government labor law, building code, firefighting law, factory act and social welfare to workers.
- Operation manual, health safety and environmental management system relating to work are in place at their concerned area
- Process safety information and provision of personal protective equipment committer periodically
- Some technician in factory check relief valves at boiler, generator, ironing section, fire alarms and extinguishers, machine maintenance, drainage, waste storage area, septic tank-flush over and water leakage along water supply line for preventive maintenance and health, safety, environmental control, cargo lift maintenance, exhaust fan regular check, waste removal system and hygiene to toilet.
- Relative permit to work, YCDC license, factory operation permit, labor contract, company registration and MIC permit, (Boiler / transformer, fire department approval) are in place at factory – every time
- Other operating in loading area should be non-smoking area and acceptable area

5.4.6 Emergency Management Plan

Purpose

Such as fires, "floods, thefts, violations of personal: Safety incidents, fire incidents, staff fights, staff injuries, sudden illness, etc. to ensure that the frequency of accidents and accidents Negative impact.

Emergency Response Plan

(a). Type of emergency

1.	Fire	Electrical, fuel, chemical, near miss
2.	Chemical release	Vapor cloud, liquid spill
3.	Utility failure	Gas, electricity, raw material, process equipment
4.	Natural Disaster	Earthquake, Hurricane, Flood

(b). Emergency Equipment list

1. System Water, gas, electrical portable fire extinguisher
2. Control electrical shut offs, water valves, fire hydrant, ground tank fuel tank
3. Personnel Protective Equipment
   Fire shields, body protection, gloves, boots, goggles respiratory, oxygen kit, and first aid kit

(c). ***Summary OF THE EMERGENCY RESPONSE PROCEDURE***

- To control, localize and eliminate the hazards in minimum time
- To minimize damage to property and environment
- To render medical treatment to the injured quickly
- To speed up the rescue and head count operation
- To safe guard others by timely evacuation
- To ensure safety of the installation and persons before they re-enter and resume the work.
- To restore normalcy as quickly as possible.

(d). ***First Aid and Notification***

Spring River (Myanmar) has been already provided one minic clinic room for first aids box and a rest room of sickness persons.

The project manager will notify the employer immediately when accidents occur whether on site or offsite in which the contractor, his personnel or factory / machinery, of those for this project are directly/ indirectly involved and which result in any injuries to any persons. Such initial investigation may be verbal and will be followed by written comprehensive report within 24 hours of the accident.

Safety meeting, safety instruction shall be carried out and given to all workers and staff clearly based on management level, once a month, work progress meeting, tool box meeting , and training.

If some incident is happened, its cause shall be investigated and counter measure of prevention for re-occurrence shall be considered.

(e). ***Impact of emergency and health (hospital) service***

In a project site the lack of emergency and health service can have an impact on the operation of the project. If an accident that effect many people occurs the available service at Hlaing Thar Yar Township Hospitals and other clinic cannot solve such a serious problem. The hospital at Yangon General Hospital should be taken into deep considerations. The condition may be worse if there is no emergency plan or contingency plan to mitigate the impact.

Natural disasters such as violent storms and great floods are ruled out for this area; there is almost no precedent of such a disaster within memory. But there can be potential for accidents at the work place, particularly at the factory site.

For the mitigation, careful planning of emergency procedures must be formulated and implemented. Spring River (Myanmar) has provided training at least two workers for first aid training while another three to five workers for firefighting.

Also has already provided adequate First Aid Kits, Fire extinguishers (cylinder) and water jet pumps. Most of all provide Personnel Protective Equipment (PPE) to workers exposed to dust, smokes, heat, vibration etc.

Spring River (Myanmar) management always try to prevent or reduce incidence and severity of injuries during factory operation. It has been tried to respond immediately and adequately in case of a serious

accident.

For emergency response, has been organized regular mock drills for first aid works and also drills for firefighting.

Already has displayed phone numbers and addresses of nearest Red Cross Society, Ambulance Service, Fire Brigade, Police Station, Shwe Pyi Thar Township Hospital, Hlaing Thar Yar Township Hospitals on the wall so that every worker can see easily at some significant places of the factory.

(f). Responsibilities

Administration	:	Received an incident after the news, organized and rescued in an orderly and alarm.
Departments	:	Crisis, or sudden danger immediately report to the Department of Administration.
Safety responsible person	:	the overall responsibility for the company's security work, to quickly organize the exclusion of emergencies.

<u>Roll of Emergency Response Plan and Security Services</u>

1.	Safety Officer	Contact member of Emergency Task Force for service. Arrange safety equipments Assist evacuation.
2.	Security Officer	Take control of entry gates. Don't allow visitors to enter site till emergency exists. Allow free movement of emergency vehicles like external fire brigade etc. Tackle gathering of outsiders at gates.
3.	Emergency Task Force	Fire fighting Rescue First aid. They should be given adequate training in their respective field and will perform in case of emergency.
4.	Medical Officer	Ensure that an ambulance is rushed to incident area. Ascertain nature/number of casualties. Received and treat casualties, arrange quick transfer to outside hospitals, if required. Inform on magnitude of injury and their identity. obtain assistance for Managerial supervision. It will be assisted by trained first aiders.
5.	Personnel Function	Assess and organize nature of assistance required from Civic Authorities, Police. Standby with Factory Manager and assist him in contacting Civic Authorities, external emergency services and Communicating to surrounding residents through police force. Extend administrative support to medical team.

(g). Implementation of Emergency action plan

- The description of the routes for workers is to use and procedures to follow.
- Accounting for all evacuated workers has to be performed
- It has to be included procedures for evacuating accident employee
- It has to be addressed evacuation of employees who stay behind to shut down critical plant equipment
- It has to be provided for an employee alarm system through the work place
- It is required an alarm system that includes
- Voice communication or sound signals such as bells, whistles, or horns are necessary

- It has to be made the evacuation signal, emergency exist to employees
- It is to be ensured emergency training
- It is required HSE officer review of the plan with new workers and with all employees whenever the plan is changed.

(h). List of Emergency Services

1.	A	Fire	191,192
	B.	Central Fire Station	01-252-011,01-252022
	C.	Hlaing Thar Yar Fire Station	01-645-017
	D	Shwe Lin Ban Fire Station	09-420293713
2.	A.	Ambulance	192
	B.	Yangon General Hospital	01-256-122, 256-131
	C.	Red Cross Ambulance	01-295-133
	D.	Central Women's Hospital	01-222-811,222-804
	E.	Emergency Ambulance	01-500005
3.	A.	Police	199
	B.	Head Quarter	01-549-309
	C.	Traffic Investigation	01-20-779, 640-668
	D.	Traffic Control	01-291-285
	E.	Yangon Division	01-245-455
	F.	Hlaing Thar Yar Police Station	+095-1 645-016
4.		Hospital	
	A.	Eyes, ear, nose, and throat Hospital	01-549-171
	B.	People Hospital (East Yangon)	01-292-835, 292-836
	C.	People Hospital (West Yangon)	01-222-860, 222-861
	D.	Workers Hospital	01-550-455, 550-444
	E.	Hlaing Thar Yar General Hospital	01 640 814
	F.	Infectious Diseases Hospital	01-272-497
	G.	Children Hospital	01-222-807, 222-808
5.		Other	
	A.	Railway	01-274-027
	B.	Airport	01-662-811, 662-692
	C.	Telephone Enquiry (inland)	100
	D.	Enquiry & complaint cellular	01-277-209
	E.	Telephone complaint	102

Estimated Cost for Emergency Response Plan

Most of the preparedness for the Emergency Response Plan has been already designated in this Spring River (Myanmar) Factory. They are such as Emergency procedure, emergency equipment (firefighting, natural hazard), first aid kits, and role of responsible persons for ERP, and ambulance, etc.

Estimated cost for above purpose, it has been designated maximum 100 lekh or may be more than this amount and it has to be consumed when only in emergency.

Security Management Plan

Objective:

This security management plan is to protect the property of factory, security of working area and safety of workers, theft problem to factory.

Organization

- There are 2 shifts with 10 person for 24 hours security
- Their duty is to check employee, material checking, fire watch
- Their organization is 1 squad leader and security 4 people per shift from morning 6 AM and evening 6 PM, evening 6 PM to morning 6 AM.
- Provision of security equipment, communication equipment, and contact list for emergency will be provided by HR and admin department from factory.

Sign Management for Health, safety, fire safety and environmental Management Plan

Employers are required to provide specific signs for HSE and fire signs. Wherever there is a risk which cannot be controlled by any other means (ex: engineering control and safety systems of work)

Signs and signals for the health and safety, emergency is adopted in factory to protect HSE and fire safety.

All of the following sign and signals are in place in factory;

Traditional signboards – warning and prohibitions signs, first aid, tool box meeting and firefighting equipment, hand signal, fire alarms, smoke detector, hand speaker, traffic route marking, the marking of ground tank, fire hydrant, fire extinguisher.

Any sign must contain a symbol and be of a specific color which clearly defines its meaning.

Type of waste bin-sign, hazardous material store with warning sign, environmental protection sign for air pollution, noise pollution indicator are in place with their working container and place.

All of signs are under British Standard 5378 part 1 & 3 safety sign and Cols.

There are four basic types in the BS.

- A blue circle symbol indicates Mandatory action, you must do.
- A yellow tri angle indicates caution warning of dangers
- A green square indicates Information safe condition.

Environmental Communication and Reporting Plan

All environmental issues (such as monitoring, complaints, incidents) specific to the factory operation will be communicated as outline in the following Table 50. All communication records will be documented in the factory's operational document file, incident report, monitoring records.

Table 50: Environmental Communication related to factory operation

	Method	Frequency	Participants	Records
1.	Induction	Prior to works	All workers	Induction record
2.	Tool box meeting	Monthly	Relevant factory workers	Meeting record
3.	Management review	Quarterly	Factory manager dept heads	Meeting minutes
4.	Performance assessment / audit	As required	Factory Manager + HSE Manager	Meeting minutes
5.	Community and regulatory meeting	As required	Management group + community	Government concern

5.5 Implementation of Environmental Management and Mitigation

5.5.1 Environmental Management Plan (EMP)

The EMP has been prepared to ensure that the propose project would not generate any negative impact on environment. This was developed based on best practices for environmental management and includes potential impact as a result of project activities , proposed mitigation measures, responsible party to implement and supervise those and feasible cost measures to be taken to reduce potential significant adverse impacts at an acceptable level.

Design of Environmental Management Plan at industrial sector, effective safety and loss management programs include a number of key elements that form the basis for.

7. Designing, construction and operation the process facilities
8. Controlling performance by the factory manager
9. Community awareness and emergency response
10. OSHA 1910 (occupational safety and health administration)
11. ISO 9000 (the international organization of Standardization)
12. ISO 140001 and IFC / World Bank Standard)

5.5.2 Measures to control the impact of the implementation on the environment

In general, the proposed project will create surface-related environmental impacts, which are comparatively low in magnitude. Incorporation of mitigation measures in the detail design and tender document and subsequent implementation should mitigate most of the likely environmental impacts. Almost all the adverse impacts mentioned in previous chapters could be mitigated by implementing the following mitigation measures. An effective implementation of benefit maximization measures and adverse impacts mitigation measures would optimize the benefits expected from the project and avoid/minimize the adverse impact

from the project. Mitigation measures are recommended actions that reduce, avoid or offset the potential adverse on the environmental consequences of the project activities. Mitigation measures are of curative, preventive and compensation types. Based on the impact assessment and identification, benefit augmentation and adverse impact mitigation measures to be included in pre-construction (route selection, survey and design phase), construction phase and operational phase have been summarized.

5.6 Environmental Protection Work at Factory

5.6.1 Environmental Management System

Environmental Management System (EMS) is based on the international standard (ISO 14001) which recognizes environmental stewardship as part of factory daily activities.

EMS offers a mechanism for continuous improvement to identify and evaluated ways to minimize its impact on the surrounding environment and to stimulate and implement new prevention.

EMS continues to demonstrate the commitment and capability to fulfill its environmental policy through responsibility person, communication in factory, compliance with law rule and regulation relating to environmental, continuous improvement for pollution prevention, monitoring practice in factory assigned person or third party during the appropriate time.

Organization and Site communications for SHE has been shown in below table

Table 51: Organization and site communication team

Sr.	Name	Designation	Educational Qualification	Experience duration	Responsibility
1.	Mr. Teng Jiniang	Managing Director			Overall incharge for Environmental Monitoring
2.	D Myo Myint Aye	HR Assistant	B.Sc	6 years	Coordinator for cooperation with external organization for Environmental Activities
3.	D Moe Pyint Phyu	Translator	10th Standard	3 years	Liaison officer to discuss with External Organizations for Environmental Evaluation
4.	Mr. Yao Dong Liang	Deputy GM	-	6 years	Internal Environmental Monitoring In-charge
5.	Mr. Chen Zheng Li	Factory Manager	-	5 years	Checking around factory for Environmental Conservation
6.	Mr.Xie Jin Yin	HR & CSR	-	6 years	Checking around factory for Environmental Conservation especially solid waste management

Implementation of Environmental Management System

The guidance and documentation to organization for EMS is to manage their environmental responsibilities. The organization will manage its potential impacts on the ground in factory and on the health and safety, welfare of its workers and surrounding. Actually the EMS is a set of procedure based on Plan, Do, Check, Act.

General requirement of EMS is as follows:

- General requirements
- Environmental policy.
- Environmental Aspects.
- Legal and institution and other law requirements.
- Objectives, Targets and Programs and organization, duty function of responsible person.
- Competence, Training and Awareness.
- Environmental communication.
- Operational Control and Document Control.
- Emergency Response Plan.
- Mitigation Plan for impact.
- Monitoring & Measurement.
- Internal Audit and Management Review.

If the EMS is in compliance with its own policies and procedure, annual audit, This Factory continues to

demonstrate the commitment and capability to fulfill its environmental assignment during operation period.

Mitigation Plan

- Waste Management Plan
- Occupational Health and safety Management Plan
- Emergency Response Plan
- Hazardous Material Management Plan
- Labor control Management (Social)Plan
- CSR Plan

Table 52: Description and Activity of the PDCA Cycle

Activity	Item of Standard	Description
Prepare	Initial environmental survey	Organization identifies elements that noticeably affect the environment. Record of past environmental management is also investigated.
Plan	Environmental policy	Independent management philosophy and policies are clearly indicated by top management and understood by all employees.
	Environmental aspects	Elements that affect the environment
	Legal and other requirements	Laws, regulations, ordinances, and voluntary action plans applicable to each activity of the organization are satisfactorily understood. There is an awareness of surrounding installation sites in order to consider effects on the environment. The latest information is obtained and understood.
	Objectives and targets	Specific objectives and targets for achieving environmental policy.
	Environmental management program	Specific techniques for achieving targets.
Do	System and responsibility	Authority and responsibilities are clearly understood within the organization.
	Training, awareness and ability	Knowledge required by organization's members is sufficiently available and there is an awareness of one's responsibilities.
	Communication	Organizational rules concerning reporting and making contact are established.
	Environmental management system documentation	
	Document control	When necessary, anyone in the organization can check the latest version.
	Application management	
	Preparation and response to emergencies	There is an awareness of the environmental effect caused by an earthquake, fire, natural disaster, or other emergency that occurs.
Check	Monitoring and measurement	There are rules for periodically checking the status of progress aimed at target achievement.
	Noncompliance, corrective action and preventive action	Measures are in place not only for taking action after problems occur, but also for preventing problems from occurring.
	Records	
	Environmental management system audits	Are plans for the continuous improvement of the EMS, including ISO 14001 standards, making suitable progress?
Act	Management review	Managers can monitor the status of the overall organization, and their decisions and instructions are being disseminated within the organization.

Source: Ebara Corporation (2000)

- The system should focus on continual improvements in environmental performance and all records on environmental data should be kept
- An example of a good environmental management system:

- Key environmental risks should be identified and communicated to all workers with advice on mitigating measures. Managers should work with workers to identify the biggest environmental risks associated with the facility and the processes involved and put in place measures to minimize these risks.
- The factory should identify and nominate key personnel for managing energy, water, waste, hazardous materials, legal compliance, emergency preparedness etc.
  - An organizational chart that includes environmental responsibilities should be drawn up
  - Supervisors should be aware of their own environmental obligations for environmental protection
- The factory should conduct employee training that includes environmental management issues:
  - Environmental management issues should be included in all employee induction training
  - All employees should be trained on environmental issues in some way
  - Employees working on risky processes or with risky materials should be properly briefed on risks and risk reduction
  - Employees should be reminded of their own obligations through posters and discussions with supervisors etc.
  - Employees should be reminded to use the provided protective equipment or dressing at any time in dealing with possible hazardous materials or wastes.
- All suppliers and sub-contractors of the factory should have their own environmental management practices in place. It is the responsibility of the facility to ensure that these practices are monitored and adhered to through some of the following:
  - Having its own Code of Conduct for suppliers (including an " ' environmental element at Material Safety Data Sheet (MSDS).
  - Developing a set of requirements for suppliers to incorporate good environmental practices in their operations including management of energy, emissions, water, waste water, waste and hazardous materials.
  - Considering issues such as delivery and packaging requirements for suppliers (so as to minimize wastes)
  - Encouraging suppliers to start thinking about this aspect if it has not already done so

5.6.2 Risk Management System

Risk Management system is the complete process of understanding risk, assessing risk, and making decisions about implementing effective risk controls. Risk management involves these following essential steps, which are constantly repeated.

Risk Monitoring
↓
Risk identification
↓
Risk Assessment Risk Analysis
↓
Risk Evaluation
↓
Risk Control

Warehousing for raw material storing, working area shall be designed and adapted to ensure good condition within acceptable temperature limits, humidity, and sufficient ventilation opening.

Segregation pit shall l be provided for the rejected scraped plastic fiber and these are recycled (or) sell outside.

Regular checks shall be made to ensure adequate steps to machine, raw material, electricity and employee's health condition

5.6.3 Occupational Health and safety Management Sub-Plan

To adverse any adverse effects on the health of workers due to dust, noise and other insufficient measures has to be monitored in factory compound.

Heavy and light vehicles, generator and boiler are the major sources of Carbon monoxide in factory. All these things and their exhausts would be well maintained to reduce the Carbon monoxide concentrations. The source of NO_2 would be due to vehicular / boiler emission. This can be controlled by proper maintenance and servicing of vehicles, boiler and generator set.

For the safety of workers at factory, dust masks have also been provided. Dust masks are help to prevent inhalation of PM there by reducing the risk of lung disease and other respiratory disorders. Regular health monitoring (once in a year) of workers has also been carried out.

Other sufficient measures have been provided in factory. These include;

- Provision of rest area, canteen for workers with amentias like drinking water, fans, toilets, wash basin, waster bin.
- Provision of personnel protection devices to the workers, (head cover, glove) etc.
- First aid facilities in factory
- Provision of sufficient lighting and work area
- Suitable working hours to workers
- Protective measure for occupational safety and health hazards(regular medical check for colour vision, and other ocular defect, ECG)
- All the medicine prescribed by doctor relating to this work has been provided to the workers at free of cost by the management
- Air humidity control in factory during summer time (through ventilator at roof and air circulation by exhaust fan and compressor from factory outside area)

Implementation Plan for HSE policy

1. Written Instruction for self-inspection shall be drawn up which shall include the following
    - Personnel inspection at processing line
    - Premises include personnel facilities
    - Storage of raw material and finished products
    - Machine, maintenance and life safety
    - Production and process control
    - Quality control

- Sanitation and hygiene at factory
- Labor controls
- Health care and first aid providing, PPE providing
- HSE policy and guideline at factory
- Firefighting and emergency response plan (Sign board)

2. Factory safety, health and welfare has to be complied with health guide line

Guide line in the directive in factory, guideline on occupational safety and health management

3. Preparation and keeping of data on raw material safety and health

When company and factory manager import and store, use any chemical substance or raw materials containing substance or raw materials containing chemical substances(synthetic resin), they shall prepare in advance all of the following matters (data on substance safety and health) and keep them at any place to be seen readily workers handling this raw material.

Integrated Health and safety, Emergency and Social Plan

Health and safety plan

The factory is dedicated to providing safe and sound working environment for its workers. All relevant safety equipment is provided. Quarterly regular training for safety equipment and rigid regular inspection is carried out the department supervisors for implementation of the plant's health and safety standards.

All workers in the project are required to wear adequate personal protective equipment relevant to their jobs. Supervisors are trained to monitor health and safety of their crews in their department. Health and safety related information is also posted on the announcement board.

Emergency Plan

The factory has installed fire safety measures and system as instructed by the fire department. All emergency exits are visibly marked. Fire extinguishers are properly installed and regularly inspected and certified. In addition, drills are carried out to ensure the safe evacuation of the workers. The fire department also conducts regular inspection. The emergency number to contact the nearest fire department is posted visibly in several places throughout the factory. Fire escape routes are also posted throughout the factory.

The factory stores sufficient amount of water for extinguishing fire. The plant assigns a number of staff to coordinates for emergency fire accident. In addition to regular inspection for fire prevention, smoking is prohibited in the project.

In addition, the plant employs spill emergency plan to counter the accidental spill situation. The spill response procedures are explained and placed on walls near the fuel storages and vehicle parking in addition to training.

Social policy

Factory Management takes care of the welfare of its workers. Social and gender equality is exercised without a compromise in the project. Discrimination of any forms is forbidden and harsh penalty is promised. To guarantee the fair working environment, workers are allowed to organize labor unions and bring up issues to the management. The workers pre offered attractive compensation in line with the regulatory requirements for any overtime work. Sick leaves are granted with proper medical certificates and annual leaves are given properly.

The project encourages every worker to speak up for any issue at the regular meetings. In addition, the factory rewards workers who propose innovative improvements to their work and the working environment.

As defined by the law, children under the age of 18 years are not welcome to work in the factory. The factory has been striking hard to shore up the number of working women and the number of women in the management levels. Work related injuries are fully treated by the project and handsome compensation will be provided depending on the severity of the injury. However, the plant's main aim is to prevent work related injuries. The factory also offers bonuses and awards based on merit. The plant believes in sharing some parts of its profits in a form of development to its employees and the communities nearby.

Responsibility of HSE Group

HSE group needs knowledge of different disciplines, working process, such as at least six steps;

a. The measurement, analysis and evaluation of environmental impact relating to internal factory operation and at discharge points

b. Analysis of the internal process to locate source of impact

c. Analysis external inter relationship to find a way to influence environmental impact related actions

d. Find improvement solutions from measuring result, maintenance of machine, awareness of environmental problems

e. Develop, elaborate and simplify management tools, reviewing the action to make correction

f. Implement the tools at corporation

g. Management group and HSE officer (head of the undertaking) needs to be familiar with the institutional from work of environment, environmental law, rules, emission standard from MONREC and directives from Government departments

h. The workers take part in work environment management, e.g. by reporting hazards, safety incidents, illness, accidents and suggesting measures to be taken and presenting viewpoints on operational need

i. The occupational health measure need for work environment management and provide first aid box, medical room and skilled nurse

Environmental, Occupational Health & Safety Management System Procedure

1. Purpose

   To establish, implement and maintain a procedure for setting environmental, occupational health and safety objectives and targets and developing this management program for their work.

2. Scope

   Applicable to the operation activities and process of this SPRING RIVER KNITTING (MYANMAR)Garment factory covered under the scope of Management System

3. Responsibility

   Respective Department Heads and factory General Manager

4. Objective and Target

   It is attached and their performance is measurable result of EOHS Management system, related to their organization's control of its environmental aspect, hazards based on EOHS policy.

5. Procedure

   - List of significant aspects, list of significant Risk and unacceptable Hazards is prepared based on the significant impact / risk assessment
   - All department heads shall review the significant aspects / hazards and consider for setting as objectives.
   - Also, whenever an aspect / hazard is leading to a business concern, management can decide on taking it as an objective as policy decision along with other set objectives.
   - EOHS objectives and targets are established within the context of SPRING RIVER KNITTING (MYANMAR)CO., Ltd and decided based on;

     a. EOHS policy: objectives to be in line with the stated environmental, health and safety policy and environmental law, rules and emission standard from Ministry of Environmental Conservation and Resources.

     b. Legal and other requirements

        It comply with whether the aspect hazard is a legal requirement and present status with respect to the consent and legal requirement

     c. Technological options

        Whether it is technically possible to reduce the scale of the aspect / hazard

     d. Financial requirement

Whether financial budget is available for implementing the necessary change

e. Operational requirement

What will be the operational control to reduce the impact / risk?

f. Views of interested party

Whether the objective will be important from business point of view

Views / concerns of interested parties (ECD) and what should be the control and whether it will be beneficial for them

g. Review and communication

The list of environmental, occupational health and safety objectives and targets shall be communicated to all the relevant personnel for effective implementation of action plan and their final target.

These targets shall be reviewed every year, if applicable and changes in operation and updated.

This management program for getting final target shall detail the responsibility, time frame and the action plan and management committee approve this EOHS management programs.

These management group shall be approved this programs periodically, the progress of activities, effectiveness, changes and modified activities and product and service.

Operational control / work instruction shall be established if required for monitoring.

5.6.4 Procedure of Work Environment Management and EMP

Following list below is in house manual of environmental management plan;

- Investigate working condition (section by section in factory)
- Access the risks from production activity
- Deal with the risk identified
- Draw up an action plan for thing which cannot be done immediately
- Check the measures taken (e.g. amount of industrial waste and ash, treated waste water weight, fuel consumption, water consumption, and electricity consumption)
- Draw up a work environment policy and comply with guide line, institutional frame work
- Decide who’s going to do what
- Provision of operational need, PPE

Investigate working condition (section by section in factory)

Hazards which the work entails need to be discovered so that they can be dealt with as soon as possible. This way it can prevent employees being injured, falling ill or otherwise faring badly.

Examples of factors impacting on the work environment;

- Work supervision
- Work load,
- Work organization
- Place of work
- Working time,
- Job content
- Works pressures and working movements
- Lighting, noise, humidity, space for worker
- Dangerous substances
- Scope for action
- Machinery
- Opportunities of influence
- Co-operation

- Vibrations
- Heat and cold

High start term absenteeism, dissatisfaction and relational problems are warning signs of hazards in the work place

Risk cannot always be discovered all at once and so HSE officer need to examine working conditions regularly, identifying risk sources present in the operation. Here are some investigation methods;

- Safety inspection tours/ work environment inspection tours.
- Personnel meetings to discuss scheduled work environment issues
- Employees interviews / development talks
- Interviews with employees and safety delegates
- Written questionnaires
- Measurement, e.g. of noise, waste water quality, air pollution

Supporting documentation for the investigation

There are various kinds of supporting documentation which may be of help when investigations and surveys are to be conducted, e.g. :

- The experiences of the employees and safety delegates
- Illness, accidents and incidents in the work place
- Sickness absence
- Work environment regulations
- Check lists
- Information material from the industry
- Knowledge possessed by occupational health

There is seldom just one single reason for the presence of risks, and so it is important to identify all conditions which may possibly entail risks to the individual employee. Some job and work situation are particularly hazardous, e.g. repair and maintenance work, or machinery malfunctions and breakdowns. Work with threatening or violent persons is another example.

Before the investigation, HSE officer and group prepared the following check list;

- What is to be investigated?
- When is the investigation to take place?
- Which persons are to take part?
- How is the investigation to proceed?
- Is there experience of previous investigation?
- Are there data concerning incidents or injuries at work?
- Are there data concerning sickness absence?
- Which work environment regulations are relevant?
- Which checklists will be useful?
- Is there any suitable material from the industry?

Access the risks

- Identify the risk sources which are in HSE group opinion, can entail a risk of ill – health or accidents.
- Collate the risks and assess whether or not they are serious

Put the risks down in writing, indicating which ones are serious.

The written assessment of risks will provide important in put data for subsequent work environment management.

Deal with the risks identified

Deal with the risks which have emerged, always beginning with the most serious ones. Perhaps not all risks

can be completely avoided, in which case they have to be differently dealt with, e.g. by giving the employees special instructions, support and guidance or by the use of personal protective equipment.

HSE officer needs to decide who will see to it that the risks are dealt with and who will check up on the measures taken. In a small undertaking, work environment issues are often dealt with by the head of the company personally. Otherwise someone else in the company is talked with taking the measures concerned and following them up afterwards.

Draw up and action plan for things which cannot be done immediately

The things which cannot be done immediately, i.e, today or within the next day or two, HSE department put down in a written action plan. This plan must specify;

- The measures to be taken
- When they are to be completed
- Who is to see to it that they are taken

Check the measures taken

When measures have been taken, HSE group checks as soon as possible that the outcome is what they intended. Sometimes further actions may be needed.

Draw up a work environmental policy

After the first work environment management actions have been taken, factory management all need to discuss together what they want working conditions to be like in the slightly longer term. The findings of the investigations which have already been carried out are a natural starting point here. An action plan often shows what needs doing in order to improve the work environment.

In a work environment policy it describe working conditions as HSE officer want them to be. In order to this policy in furnishing guidance on work environment management, it needs to be clear and concrete. In a small undertaking the action plan can serve as work environmental policy.

Decide who's going to do what

It is important that work environment management tasks should be performed by the person or persons in the best position to complete them. For this reason, it is for work environment tasks to be entrusted to managerial and supervisory staff.

Memorandum for the allocation of tasks

- Start with the firm's existing organization
- Allot the task to the person best able to perform it
- Allot each task to a single person or position
- Make sure all tasks are allocated
- Make sure that the person allotted a task is also given the authority, resources, knowledge and competence which it demands
- Make sure that the person allotted a task understands it properly
- Let the rest of the personnel know how tasks have been allotted.

A clear allocation of tasks is particularly important when work being is done away from a permanent worksite

Make sure that those who will be taking part in work environment management are equipped for it.

Persons allotted work environment tasks may need to add to their knowledge. Sometimes the experience derived from dealing with work environment issues in the every day run of things ma be sufficient

Managers and other supervisory staff need to have a thorough knowledge of the work, the hazards it entails and measures for the prevention of injuries. They also need to know how people react to different situations, e.g. peak workloads, overtime, victimization, substance abuse and threats and violence.

All employees need to know what risks they are exposed to in their work, so that illness and accidents can be prevented. This knowledge needs to be continuously updated.

5.6.5 Grievance Redress Mechanism

The Project-level Grievance Redress Mechanism is currently being developed to manage the grievances and complaints received from the Affected Community during the phase of operation.

Scope

This project-level GRM for Affected Communities will address following types of grievances:

- Health, safety, environmental & social (HSES);
- Accidental impacts associated with injury or death or damage claims;
- Misconduct of Project personnel;
- Insufficient employment opportunities; and
- Misleading or lack of information.

In addition to the above complaints/grievances types, the GRM will accommodate the Affected Communities' inquiries and concerns.

Corruption cases and criminal acts, however, will not be addressed within this GRM, and shall be responded properly and separately by the Group Risk Management and Assurance unit.

The Grievance Redress Mechanism is only available for those residing or working in the areas of immediate communities around the Project that will be directly affected by the Project development activities. The Affected Communities, who are identified as below, will be eligible to raise their grievances under this GRM.

Residents

1) Residents around knitting factory project (Mat Kha Yar Min thar Gyi Street and Twin Thin Taik Wun U Tun Nyo Street , Shwe Lin Ban Industrial Zone)

Grievance Redress Committee of the Factory

The GRM will be administered by the Grievance Redress Committee which will be formed as shown in the Figure below.

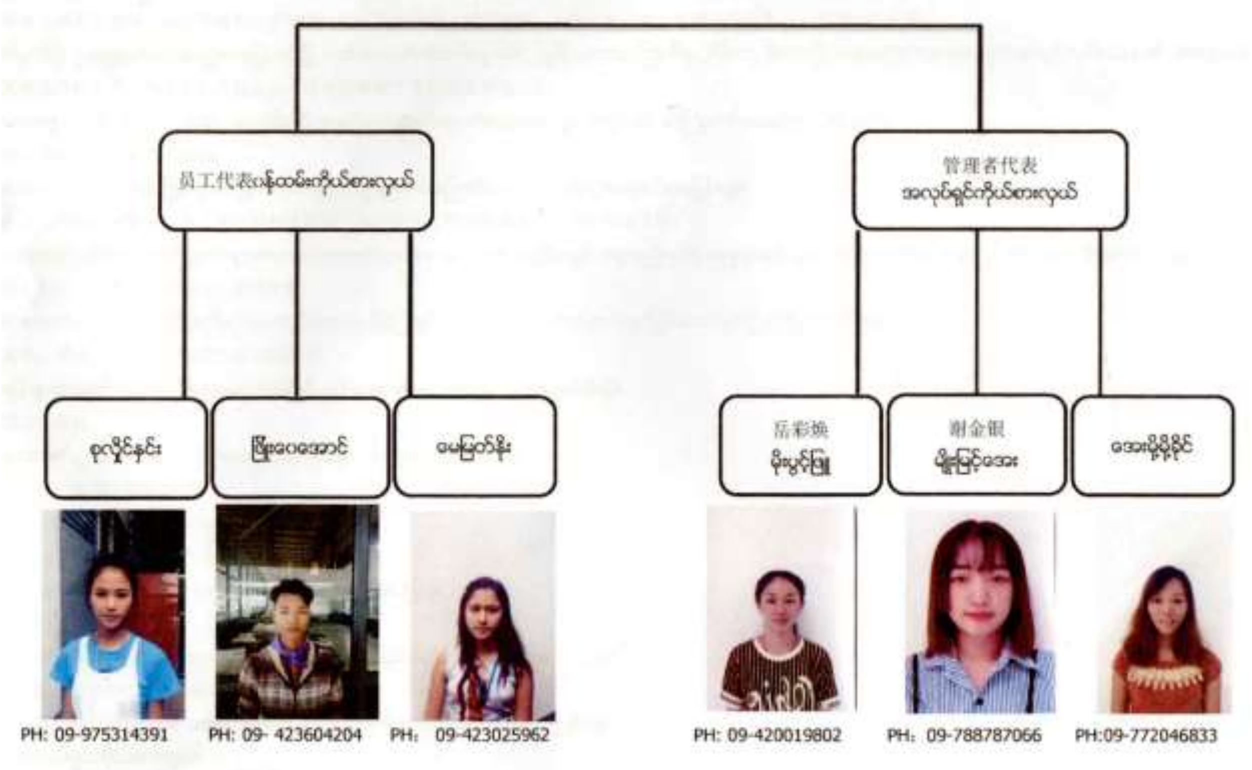


Figure 52: Grievance Redress Committee

သို့

အတွင်းရေးမှူး

မြို့နယ်ညှိနှိုင်းဖျန်ဖြေရေးအဖွဲ့

လှိုင်သာယာမြို့နယ်

ရက်စွဲ- 17.12.2019

အကြောင်းအရာ။ ညှိနှိုင်းရေးကော်မတီဝင်များ၏ အမည်စာရင်းပေးပို့ခြင်း။

စဉ်	အမည်	မှတ်ပုံတင်အမှတ်	အဘအမည်	ပညာအရည်အချင်း	မွေးသက္ကရာဇ်	အလုပ်စတင်ဝင်ရောက်သည့်နေ့	အလုပ်အကိုင်ရာထူး	ကော်မတီဝင်ဖြစ်သည့်ရက်စွဲ	နေရပ်လိပ်စာ	လက်မှတ်
၁။	မိုးမွန်မြူ	၁၃/ပလတ(နိုင်)၁၁၂၅၀၈	[illegible]	၁၀တန်း	၂၇.၀၆.၁၉၉၆	၂၀၁၈.၀၄.၁၁	[illegible]	၂၀၁၉.၀၈.၀၆	လှိုင်သာယာ	
၂။	မျိုးမြင့်အေး	၁၃/တကန(နိုင်)၂၀၄၈၈၂	ဦးစွမ်းမြူ	ဘွဲ့ရ	၃.၁၀.၁၉၉၆	၂၀၁၉.၀၅.၀၂	HR Asistant	၂၀၁၉.၀၈.၀၆	လှိုင်သာယာ	
၃။	အေးမိုမိုနိုင်	၈/မလန(နိုင်)၁၀၇၁၅၃	ဦးအေးအေး	ဘွဲ့ရ	၁၀.၆.၁၉၉၆	၂၀၁၉.၀၇.၀၁	HR Asistant	၂၀၁၉.၀၈.၀၆	လှိုင်သာယာ	
၄။	ခမြတ်နိုး	၇/ပတန(နိုင်)၁၄၉၇၂၀	ဦးဖော်မြင့်	၁၀တန်း	၂၇.၁၁.၁၉၉၇	၂၀၁၉.၀၄.၂၆	QC	၂၀၁၉.၀၈.၀၆	လှိုင်သာယာ	
၅။	မြို့စေအောင်	၇/နတလ(နိုင်)၁၅၅၈၁၇	ဦးထွန်းထွန်း	၆ တန်း	၀၈.၀၆.၁၉၉၆	၂၀၁၉.၀၅.၀၂	Worker	၂၀၁၉.၁၂.၁၆	လှိုင်သာယာ	
၆။	စုလှိုင်နှင်း	၁၄/ဘကလ(နိုင်)၄၄၇၂၉၇	ဦးအိန်မြင့်	၁၀တန်း	၂၆.၁၀.၁၉၉၈	၂၀၁၇.၀၇.၀၄	Worker	၂၀၁၉.၀၈.၀၆	လှိုင်သာယာ	

လက်မှတ်-

အလုပ်ရှင်အမည်-

ဆက်သွယ်ရန်လိပ်စာ/ဖုန်း လိပ်စာ-အမှတ်(၁၄၈+၁၄၉)မဂ္ဂလာမင်းသားကြီးလမ်းနှင့်တွင်းသင်းတိုက်ဝန်ဦးထွန်းညွန့်လမ်းထောင့်စက်မှုဇုန်လှိုင်သာယာမြို့နယ်

ကျား + မ = စုစုပေါင်း

၁၇ + ၁၇၄ = ၁၉၁

MR. TIAN, LIANGMING
DIRECTOR
SPRING RIVER KNITTING (MYANMAR) CO.,LTD

Having been classified as Category B project by IFC which means the Project will have only a limited number of reversible E&S impacts that can be readily addressed through mitigation measures, the Company does not expect a large number of complicated grievances to be regularly received, and hence it will not employ full-time employees for grievance handling. Instead, the Company will elect suitable existing employees to take on grievance redress as a concurrent responsibility. The Contractor shall also nominate two of its employees to act as Community Relations Officers, and inform the Company of this nomination prior to the official appointment. It is crucial that nominees are selected based on their knowledge of the Project and understanding of the social and cultural environments of the communities.

Grievance Redress Procedure

The Grievance Redress Committee will handle grievances as a step-by-step process as outlined, which encompasses four major steps: receiving, recording and registering; screening; investigating; and resolving and responding.

The procedure is still under development, and it will be finalized after consulting with the Public.

Under any circumstances, the Project will make sure that:

- the grievance is acknowledged within 48 hours from the time of receiving; and
- the resolution is made within one month, or the complainant is informed of the progress in case of taking longer

5.7 Fire and Safety Issues Related to Building Construction

It is essential that all workers can quickly and easily evacuate their work areas and exit the building in the event of an emergency. Building construction, and the arrangement of equipment, utilities, furniture, etc. within the building spaces, must be strictly in accordance with fire codes and meet health and safety regulations and guidelines. The number and size of stairways and exits must be adequate for the occupancy load of the various sections of a factory building.

5.7.1 Factory Building comply with safety, fire & emergency Standard

(Earthquake, wind)

As per design of factory building, 1½ storey of RC building is arranged for production line, attached rooms to

this building are ware house, generator room, fuel storage, toilets. Designated solid waste area is separately prepared.

There is sufficient ventilation on humidity, odor control from glue. Walkways, emergency exits area are clear of obstruction and production waste and packaging material. Adequate lighting is in working area and exit area. Storage area is as per standard specification of building code. The doors at some area except exit open smoothly every time. Emergency light with exit signs are marked at main door, generator room, fuel storage and warehouse.

General Fire Safety

• The number and the width of stairways that are used for emergency egress must be adequate • At least 2 stairways are required from each upper story of a building if the story has >30 occupants, unless legal requirements are more stringent. • Aisles and corridors that serve as means of emergency egress: ▪ Width should be >1.1 metres. ▪ Head room should be >2 metres. ▪ The floor surface should be slip-resistant. ▪ They must have no obstructions (e.g. not used for storage). ▪ There must be adequate clearance (>0.4 metres) between work stations and clear passage for workers. ▪ Dead-end corridors should be <15 metres long, and marked "No Exit" ▪ No means of egress should pass through high hazard areas, such as chemical storage rooms, boiler rooms, etc.	Exits Exit doors must be unlocked during regular hours of factory occupancy and: • Exit doors must open outwards. • Any doors not serving as exits or means of egress should be marked 'No Exit'. • The walking surface at exits should be at the same height on both sides of the exit door or passage. • There must be an adequate number of exits of appropriate widths. • No worker should be positioned more than 60 metres from the nearest exits. Travel Distance • Maximum travel distance must be determined to ensure safe and rapid evacuation in the event of emergency.

Spring River Knitting (Myanmar)HSE Organization

Spring River Knitting (Myanmar) Limited has formed firefighting team in 2018. This team has performed weekly safety meeting especially for including emergency preparedness program. This team is responsibity not only for fire case but also for occupational safety, health, and factory environmental activities (impact mitigation, monitoring etc.). All of them has attended Firefighting course governed by Township Fire Force Department have been issued certificates.

SPRING RIVER KNITTING (MYANMAR) CO.LTD

Training Record

员工培训记录表 Employee Training Record

培训部门 Training Department	[illegible] 全体人员	计划时间 Planned Time		培训时间 Training Time	2019.10.30 10:00 – 11:00
培训方式 Training Methods	面授	授课人 Instructor	Khin Maung Htoke	培训地点 Training Place	厂内
培训目的 Training Purpose	提高全厂人员消防意识，掌握逃生技巧和消防器材使用方法 [illegible]				
培训性质 Training Nature	消防，逃生 [illegible]	年度annual( )适时timing(✓)其他other( )		负责部门 Responsible Department	办公室
考核方式 Evaluation Mode	现场检验				
培训内容 Training Content	1. 消防培训和消防演习的重要性 [illegible] 2. 灭火器的使用方法 2. [illegible] 3. 正确使用消防栓 3. [illegible] 4. 发生火灾时如何逃生 以及夜班员工逃生演习 4. [illegible]				
签名 Signature	[illegible]				
记录人 Recorder		日期 Date		审核人 Auditor	日期 Date

2019/10/30
30

Aisles and Emergency Egress Routes

Spring River Knitting (Myanmar)Factory has already formed evacuation plan as emergency preparedness. Evacuation plan charts are hung where all employees can see in this factory.

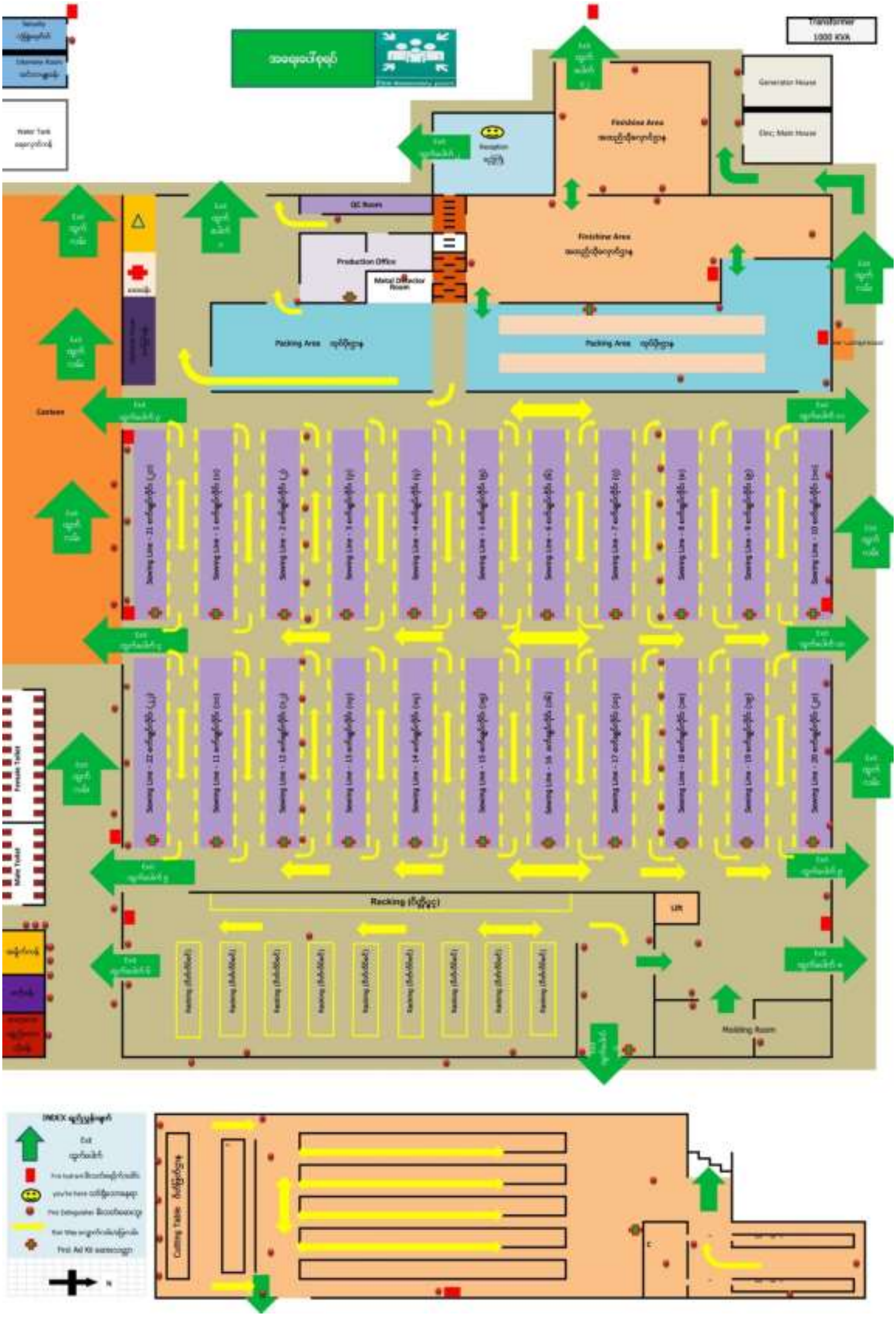


Figure 53: Evacuation Map

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
ပြည်ထဲရေးဝန်ကြီးဌာန
မီးသတ်ဦးစီးဌာန

ပြည်ထဲရေးဝန်ကြီးဌာန
စာအမှတ် ၂၁၄၂
ရက်စွဲ ၆.၈.၂၀၁၉
မီးသတ်ဦးစီးဌာန

မီးဘေးလုံခြုံရေးစစ်ဆေးထောက်ခံချက်

အမှတ်စဉ်(၂၁၄၂)

ရက်စွဲ၊ ၂၀၁၉ ခုနှစ်၊ဩဂုတ်လ ၆ ရက်

၁။ ရန်ကုန် တိုင်းဒေသကြီး/ပြည်နယ်၊ လှိုင်သာယာ မြို့နယ်၊ ရွှေလင်ဗန်းစက်မှုဇုန် ရပ်ကွက်/ကျေးရွာ၊ မကွေးရာမင်းသားကြီးမောင်ပြုံးလမ်းနှင့်တွင်းသင်းတိုက်ဝန်ဦးထွန်းညိုလမ်းထောင့် လမ်း၊ အမှတ် (၁၄၈+၁၄၉)
ပိုင်ရှင်ဦး/ဒေါ် Mr Lu Yuzhang(SPRING RIVER KNITTING (MYANMAR)CO.,LTD
၏ Steel Structure(၁)ထပ်+(၁½)ထပ်(သိုးမွှေးထိုးစက်ရုံ) အဆောက်အဦအတွက်
ဤဌာန၏(၈-၁၂-၂၀၁၆)ရက်စွဲပါစာအမှတ်၊ ၄၃၃ / ၁၀၀ / ၅၂ / ဦး ၁
ဖြင့်သတ်မှတ်ပေးထားသည့်မီးဘေးလုံခြုံရေးဆိုင်ရာ ပြဋ္ဌာန်းချက်များအား (၁၃-၇-၂၀၁၉)ရက်နေ့တွင် စစ်ဆေးသည့်အခါ ပြည့်စုံစွာဆောင်ရွက်ထားကြောင်း စစ်ဆေးတွေ့ရှိရသည်။

၂။ ဤထောက်ခံချက်သည် စစ်ဆေးသည့်နေ့မှစ၍ (၃)နှစ်အထိသာ အကျုံးဝင်သည်။

၃။ ထို့ပြင် မီးသတ်ဦးစီးဌာနမှ အခါအားလျော်စွာ ထပ်မံစစ်ဆေးချိန်တွင် မီးဘေးလုံခြုံရေးဆိုင်ရာ ပြဋ္ဌာန်းချက်များကို လိုက်နာဆောင်ရွက်ခြင်းမရှိပါက ဤထောက်ခံချက်ကို ပြန်လည်ရုတ်သိမ်းသွားမည်ဖြစ်ပြီး အဆောက်အဦအားအသုံးပြုသူ(သို့မဟုတ်)ပိုင်ရှင်သည် မြန်မာနိုင်ငံမီးသတ်တပ်ဖွဲ့ ဥပဒေအရ အရေးယူခြင်းခံရမည်။

မှတ်ချက်။ ဤထောက်ခံချက်အား လွှဲပြောင်းသုံးစွဲခြင်းမပြုရ။ အဆောက်အဦအား မူလရည်ရွယ်ချက်မှ ပြောင်းလဲအသုံးပြုပါက ထောက်ခံချက်အသစ် ထပ်မံလျှောက်ထားရမည်။

၆.၈.၁၉

ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)
(သိန်းထွန်းဦး ၊ ညွှန်ကြားရေးမှူး)

消防检查证
2019.8.6.

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
ပြည်ထဲရေးဝန်ကြီးဌာန
မီးသတ်ဦးစီးဌာန

စာအမှတ်၊ ၈၆၄ /၁၀၀/ ၅၅ / ဦး ၁
ရက် စွဲ၊ ၂၀၁၉ ခုနှစ်၊ ဩဂုတ်လ ၆ ရက်

သို့

Mr.Lu Yuzhang (SPRING RIVER KNITTING (MYANMAR)COMPANY LIMITED)
အမှတ်(၁၄၈/၁၄၉)၊မင်္ဂလာမင်းသားကြီးမောင်ဖြိုးလမ်းနှင့်
တွင်းသင်းတိုက်ဝန်ဦးထွန်းညိုလမ်းထောင့်
ရွှေလင်ဗန်းစက်မှုဇုန်၊လှိုင်သာယာမြို့နယ်

အကြောင်းအရာ။ ဆောက်လုပ်ပြီးသော အဆောက်အဦအတွက် မီးဘေးလုံခြုံရေးစစ်ဆေး ထောက်ခံချက် (Fire Safety Certificate)ထုတ်ပေးခြင်း

ရည် ညွှန်း ချက်။ (၁) မီးသတ်ဦးစီးဌာန၏(၈.၁၂.၂၀၁၆)ရက်စွဲပါစာအမှတ်၊၄၃၃/၁၀၀/ ၅၂/ ဦး၁
(၂) သက်ဆိုင်သူ၏(၂၀.၆.၂၀၁၉)ရက်စွဲပါလျှောက်လွှာ

ရန်ကုန်တိုင်းဒေသကြီး၊ လှိုင်သာယာမြို့နယ်၊ ရွှေလင်ဗန်းစက်မှုဇုန်၊ မင်္ဂလာမင်းသားကြီးမောင်ဖြိုးလမ်းနှင့်တွင်းသင်းတိုက်ဝန်ဦးထွန်းညိုလမ်းထောင့်၊ အမှတ်(၁၄၈/၁၄၉)တွင် Mr.Lu Yuzhang (SPRING RIVER KNITTING (MYANMAR)COMPANY LIMITED) အမည်ဖြင့် Steel Structure(၁)ထပ်+(၁မီ)ထပ် (သိုးမွေးထိုးစက်ရုံ)အဆောက်အဦ မီးဘေးလုံခြုံရေး ဆောင်ရွက်ထားရှိမှုနှင့်စပ်လျဉ်း၍ ဤဌာန၏ ရည်ညွှန်းချက်(၁)ပါ အကြံပြုချက်(၁၃)ချက်ကို လိုက်နာဆောင်ရွက် မှုရှိကြောင်း စစ်ဆေးတွေ့ရှိသည့်အတွက် မီးဘေးလုံခြုံရေး စစ်ဆေးထောက်ခံချက်(Fire Safety Certificate)ကို ထုတ်ပေးလိုက်ပါသည်။

ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)
(သိန်းထွန်းဦး ၊ ညွှန်ကြားရေးမှူး)

မိတ္တူကို
ဌာနမှူးအင်ဂျင်နီယာနှင့်အဆောက်အအုံဌာန၊ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးကော်မတီ၊
ရန်ကုန်တိုင်းဒေသကြီးမီးသတ်ဦးစီးမှူးရုံး၊
မြောက်ပိုင်းခရိုင်မီးသတ်ဦးစီးမှူးရုံး၊အင်းစိန်မြို့နယ်၊
မြို့နယ်မီးသတ်ဦးစီးမှူးရုံး၊လှိုင်သာယာမြို့နယ်၊
မျှောစာတွဲ/လက်ခံစာတွဲ။

BCC(2018)459

5.8 Commitment for Environmental Management Plan Implementation and Monitoring Plan

- **In collaboration with the Environmental and Social Implementation Team and the Project Management Team, environmental management plans will be implemented during project construction and operation.**
- **A risk management plan for the implementation of the Factory operation will also be prepared. In addition, the maintenance of equipment used should be monitored daily and monthly.**
- **Disaster management plans will also be prepared.**
- **According to Environmental Impact Assessment Procedures (2015)'s Chapter 9, Section 8, the Environmental Monitoring Report will be submitted to Ministry of Natural Resources and Environmental**

Conservation, by Project proponent (Spring River Knitting - Myanmar Company Limited) for every six months, will be submitted as per prescribed, by ministry.

5.9 Result of the Public Consultation

According to EMP procedure, public consultation with stake holders are divided by 3 methods and conducted in this factory area.

a. Questionnaires with local people and nearby factory, to get their comments for factory operation
b. Public consultation meeting at factory after inviting the local from surrounding area and factory

5.9.1 Public Consultation Meetings' result and Comments

The first Public Consultation Meeting Record

Date - 21.12.2018
Place - (263,264,265), Conner of Min Gyi Maha Min Kaung Street and Wun Saungmu Street, Ward No.(25), Shwe Linban Industrial Zone, Hlaing Tharyar Township, Yangon Region, Republic of the Union of Myanmar
Time - 10:00 AM to 11:30 AM

Agenda of Meeting

Introduction

Manufacturing and Producing of knitted wears product in Shwe Lin bun Industrial Zone in Jinli Knitting & Spinning Company's Factory, the production of environmental impact reduction Inclusive workers health and occupational safety (HSE) and the provisions set by the State Laws and Rules of the initial environmental assessment case studies speak for soliciting Initial Environmental Examination (IEE) meeting (21, December, 2018), at 10:00 AM in the morning, at the meeting hall of the factory.

The discussion was led by AMK Asociate Aung Myat Kyaw, Managing Director of Jinli Knitting & Spinning Company Group- (Spring River Knitting (Myanmar) Company Limited **(Former Fengyi Knitting (Myanmar) Company Limited)** Mr. Tian Liaing Ming, Head of Office for Shwe Lin Ban Industrial Management Committee U Aung Ngwe, Executive officers of Daw Than Than Sint and Daw Khin Tint from Township Social Security Board, Chief of Township Fire Force U Khin Maung Htut, Representative of Jinli Factory-2, Representative of Fengyi Knitting Factory and employees of Jinli Knitting and Spinning main factory attended this meeting.

According to the meeting agenda the AMK and Association Team Leader U Aung Myat discussed although there has no prescribed environmental impact on the system and standards, since 2012 Environmental Laws and Rules has been enacted in Myanmar and according to laws and rules for international investment Laws & EIA and EMP etc has to be submitted to Environmental Conservation Department (ECD). Depends on the size of the project, MIC and ECD decided that the company or factory has right to submit EIA, IEE and EMP. For the example, the bridges project has to submit EIA, factory /Workshops for IEE, and if the garment, Shoe factory to need EMP. This Win and Win Veneer plant may require IEE by the mechanism would visit their group discussion. For EIA, IEE and EMP Report, ECD as defined topics, expressed Experienced Consultant.

The Consultant team has expressed as follows (3) and points (1) to check the environmental / (2) if you have a method to analyze / And (3) to eliminate all countries follow the path Said has been discussed.

U Aung Myat Kyaw continued talking that if many oil spill from oil or fuel tank more than over, it may impact on the environment so, it has to be set to spread the oil storage floor as concrete Floor, storing the resulting waste is properly maintained, cleaned,. Processing industry has to be operated by the experts and the result is one of the Emergency Case of factories to ensure safe emergency exit (Emergency Exit) will be put in the compound. Fire Fighting Fire Extinguisher (Fire Extinguisher) and need to keep Emergency Relief (First Aid) Required boxes, to keep enough medicine and clean.

In addition, in order to focus on the occupational safety and HSE encourage said, then he asked about the condition of plant (Packing material) of the waste deposing , and storage of lubricant oil and water storage tank.

U Aung Myat Kyaw explained that observing of the factory operation result; the flammable situation is designated so the factory management has to store the raw materials it maintains systematically. A position of manufacturing equipment as well as (Finished product) is to be cleared. And explained about proper storage of equipment such as Fire Extinguisher, Fire equipment which are needed to accommodate full Fire (Underground, and overhead Tank). Especially Drying Machine's heating system a start heating in forming the

smoke, so private space is required to accommodate a specific need to build up high chimneys. Not to make burning trash cleanup program for solid waste. And factory has to make discussion with municipal departments as negotiating processes should be done for waste management. In addition, need to build up public drains around the factory environment. According to the nature of the project accidents could possible to observe because of the lack of PPE practice.

MD of the Jinli Knitting & Spinning Company Limited remarks (by the translator) Jinli Knitting & Spinning Factory in the initial environmental assessment case studies Initial Environmental Examination (IEE) held talks for a first time. According to the instructions of ECD, necessary to hold such meetings are periodically continuously during and since this factory in the surrounding area and other Industry in this Shwe Lin Ban Industrial Zone, officials from the Industrial Zone health GAD, Fire officials at the township level, such as departmental with the expressed aims to conduct more inviting suggestions regarding the plant's environment is to be expressed gladly welcome Regarding industrial and necessary, it can be discussed at any time The need for cooperation and are always ready to help Regarding the visit took place and plant the factory wanted to extend help and assists or provide.

Discussions

- Factory employment opportunity has to be provided to the residents around the factory.
- To ensure Woven wool fabric dyed systematically about the correct use of chemical, Tte correct storage by systematic plan.
- Industrial waste, with regard to hazardous waste, domestic waste, generated from dining room, Straw is to save the output levels, classification them properly and safety store before disposing.
- The stench of sewage system of the factory environment, to depart from the YCDC extended the urge to use hired sewage truck. And now, according to the plan to members of the plant is working with a structured schedule.
- About the use of fuels for boilers such as coal and wood for fire safety and whether systematic storage of coal and fire wood. The factory management team explained that normally using of only 1 tons boiler using firewood. And fire wood have been in systematic storage system. Also the ash produced from the boiler is properly disposed with a run-off systematically.
- Regarding the wastewater came out from the wastewater treatment plant after the full treated of the quality of ECD guidelines and then discharge or urge Undertake Reuse Recycle as discussion.
- The factory responsible clarified Information to understand the factors regarding for Emergency Fire Systems, Alarm systems, and Auto fire systems are properly equipped at the Jinli (Myanmar) factory and subsidiaries such as Jinli Factory-2, and Spring River Factory inside the same Shwe Lin Ban Industrial Zone compound.
- To clean the drainage around the factory about once every 15 days to check clearing transactions discussed consulting.
- Social Security Department officials had explained about Labor benefits' such as vacation, Medical leave Casual leave and maternity leave in this meeting.
- All of the attendees discussed in detail for workplace safety.

The meeting had been finished at 11:00 AM in the morning successfully.

Remarks:

This company's factory will hold Public Consultation Meeting continuously during operation regularly as part of EIA investigation (EIA Procedure 61 (a))

Report of State Holder Consultation Survey

- Place : (263,264,265), Conner of MM Gyi Maha Min Kaung Street and Wun Saungmu Street, Ward No.(25), Shwe Linban Industrial Zone
- Time : 10:00 to 11:30 AM
- Participants : 30 persons
- Date : 21sth December , 2018
- Asked these 9 simple questions to public consultation meeting attendees and percentage of their opinions on these questions are shown below;

* Did you find that the negative effects for residents near the project environment?
  100 % of all found no negative effects
* The employment project for residents of nearby for job opportunity on the transparency?
  100% of all answered "No" for this question.
* Do projects that could affect the region's natural resources
  100 % of all believed there could not be affected the region's natural resources.
* Do project that could affect the region's natural environment?
  100 % of all believed there could not be affected the region's natural environment.
* Existing projects, Vibration, light, Heat and magnetic radiation can increase spread
  100 % of all accepted for the condition that could not be affect for above mention.
* Want to be able to better socioeconomic projects
  All of them expected for better socio-economic projects
* Tighten transportation routes or full operation more buildings you can go.
  100% of all answered "No" for this question.
* Did you find that residents near the project environment, health effects
  All of them answered no health effects.
* Is there an expecting link project on the environment residents near this factory?
  Expecting for the purpose on especially job opportunity, wide road to be develop, recycle the treated water for operation, and provide CSR fund etc.

2nd Public Consultation Meeting Record (Summary)

Date - 6.3.2020
Place - Plot No. 148+149, Corner of Matkhayar Min Thar Gyi Road and Twin Thin Taik Wun U Tun Nyo Road, Survey Block No.25, Shwe Lin Ban Industrial Zone, Hlaing Tharyar Township, in Yangon Region, Republic of the Union of Myanmar.
Time - 10:00 AM to 12:00 AM

Agenda of Meeting

Introduction

Manufacturing and Producing of knitted wears product in Shwe Lin bun Industrial Zone in Spring River Knitting (Myanmar) Company's Factory, the production of environmental impact reduction Inclusive workers health and occupational safety (HSE) and the provisions set by the State Laws and Rules of the initial environmental assessment case studies speak for soliciting Environmental Management Plan (EMP) meeting (6, March, 2020), has been held at 10:00 AM in the morning at meeting hall of the factory.

The discussion was led by AMK Asociate Environmental Consulting Limited. Managing Director of Spring River Knitting (Myanmar) Company Limited **(Former Fengyi Knitting (Myanmar) Company Limited)** Mr. Tian Liaing

Ming, Head of Office for Shwe Lin Ban Industrial Management Committee U Aung Ngwe, Executive officers of Environmental Conservation Department U Soe Thu Min, Recentative of YCDC (Hlaing Thar Yar Township) U Than Tun Aung, Assistant Superviser from YCDC U Kyaw Kyaw, Chief Officer from Township Firefighting Department U Khin Maung Htut, Township Development Committee Chief Executive U Tin Ko Ko and U Myint Soe, HR Manager fro Yian Xh Huoung Company U Aung Moe Tun and Senior official from Spinning River factory attended this meeting.

According to the meeting agenta, U Aung Myat Kayaw from AMK Associate EIA Consulting Limited, Consultant of Spring River Knitting (Myanmar) Limited for setting up a Knitting factory explained impacts on environmental and community review of the EMP process for Environmental and Social Management Plan.

He has explained that, to be the best company Methods reducing the impact on all similar projects in compliance to monitor and study the effectiveness of operations and requirements of the existing legal provisions, Pollution from pollutants from the survey of the factory for the establishment of safety and environmental laws and policies of the plant project. Also explained Water Waste Noise and Vibration Soil degradation, bad life, soil contamination, pollution The condition of the bottom sediment, Forest habitats from environmental conditions, endangered species; Rivers, Vulnerability to geological features; Rehabilitation from social life; Poor people Ethnic people; The lives of workers; Land use and local resources; Water use; Current life and job opportunities; Employment sharing are required.

Also he has explained at the same time required to avoid for Loss of profits and damage of social infrastructure and local opposition.

Impact of the project and ways to take action; In addition to mitigation measures, the impact of potential wastewater and materials; Effects on the environment; Effects on the environment; Effects on water environment; Effects of noise and vibrations generated from the operation of the plant; The impact of workers' accidents on the job; In addition, the mitigation measures were explained, as well as mitigation measures

- Project content and legal compliance
- Environmental protection of the factory; Social and Health Policy
- factory specifications; Factory operation
- Legal, policy, procedures, and instructions provided by the State in connection with the armed forces
- factory structure; Licenses for the factory; Production rate, water required; Fuel and electricity demand
- factory rules; Signage Cleaning Equipment Personal Protective Equipment
- Environmental conservation related to the project; Legal procedure; Broadcast standards; They also discussed about the law and other government departments.

Discussions

U Kyaw Kyaw, Supervisor of YCDC explained that all of the explaination has clear understood. But necessary to explain for the using boiler of this factory in bit detail that it has been protected for air pollution whether it has been used cyclone method or not.

Factory management explained that boiler has been used cyclone method and installed scrubbers and filter to prevent air pollution.For the water treatment plant, it has been systematically installed and outlet wastewater has been performed laboratory testing by normal schedule till now since it was established. Also he explained that solid waste and sewage has been disposed by liasing with YCDC regularly since project start.

U Soe Min Thu, the Deputy Director of Environmental Conservation Department, said in this public consultation meeting, it has to be included more persons from nearby factory as this is within Industrial zone as well as near by households.

Factory Management has explained that it has been invited with invitation letter to nearby factories before 5 days ahead but only come from one nearby factory and may other factories be busy with their operational condition. Also explained there is no houses around 1 kilometer radius of this factory.

U Aung Ngwe executive officer from Shwe Lin Ban Industrial Zone Management Committee has explained

- CSR program has to be implemented by the company as per schedule
- Social Security Board Fund has to be submitted regularly
- Factory Uniform has to be provided to employees
- Anly leaves which has to be provided to employees as per labor law

- Inspection, checking and monitoring plan are to be performed as included in EMP Report
- To be attended meeting governed by Industrial Zone Management Committee.

After that, meeting attendees are distributed suggestion form for advice and their comment on the establishment of the factory, and they also wrote comments and suggestions.

The meeting was successfully concluded at 1200 hours.

(About this meeting minutes has been explained also in Myanmar language in report of executive summary (Myanmar Version)

Remarks:

This company's factory will hold Public Consultation Meeting continuously during operation regularly as part of EIA investigation (EIA Procedure 61 (a))

SPRING RIVER KNITTING (MYANMAR) CO.,LTD

အမှတ်(၁၄၈+၁၄၉)မကွေးရာမင်းသားကြီးလမ်းနှင့်တွင်းသင်းတိုက်ဝန်ဦးထွန်းညိုလမ်းထောင့်

ရွှေလင်ပန်းစက်မှုဇုန်၊လှိုင်သာယာမြို့နယ်

PHONE:01-613753

ရက်စွဲ၊ ၂၀၂၀ ပြည့်နှစ်၊ မတ်လ ၆ ရက်၊

အစည်းအဝေးတက်ရောက်သူမှတ်တမ်း

စဉ်	အမည်	ဌာန	ရာထူး	လက်မှတ်	ဆက်သွယ်ရန်ဖုန်းနံပါတ်
1.	[illegible]	AMK&ASSO.	MD	[illegible]	09516216 9
2	[illegible]	"	DIRECTOR	[illegible]	09.262964913
3	[illegible]	[illegible]	[illegible]	[illegible]	09.441418986
4	[illegible]	—॥—	[illegible]	[illegible]	09253554759
5	[illegible]	ECD	[illegible]	[illegible]	09-254270626
6	[illegible]	[illegible]	[illegible], YCDC	[illegible]	09.451623 [illegible]
7	[illegible]	[illegible]	PCCD. YCDC	[illegible]	09 2558240 51.
8	[illegible]	[illegible]	[illegible]	[illegible]	0925621561 [illegible]
9	[illegible]	YCDC [illegible]	[illegible]	[illegible]	09.445663169
10	[illegible]	Yuan Xin Huang Co., Ltd	HR [illegible]	[illegible]	0979064 2030
11	[illegible]	YCDC PCCD.	Assistant Supervisor	[illegible]	095098574

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အမှတ်(၁၄၈+၁၄၉)မကွေးရာမင်းသားကြီးလမ်းနှင့်တွင်းသင်းတိုက်ဝန်ဦးထွန်းညိုလမ်းထောင့်
ရွှေလင်ပန်းစက်မှုဇုန်၊လှိုင်သာယာမြို့နယ်
PHONE:01-613753

ရက်စွဲ။ ၆ ရက်၊ မတ်လ၊ ၂၀၂၀ ခုနှစ်

အကြံပြုလွှာ

အကြံပြုချက်များ-

- IEE/EIA/EMP ရေးဆွဲရာတွင် လူထုတွေ့ဆုံဆွေးနွေးပွဲအား EIA Procedure အပိုဒ် ၅၄။(က) (၈) အရ လူထုများ ပါဝင်စေ၍ ဆောင်ရွက်ပါရန်။
- လူထုတွေ့ဆုံဆွေးနွေးပွဲ ပြုလုပ်ရာတွင် စက်ရုံ/စီမံကိန်း၏ အသေးစိတ်အချက်အလက်များကို လူထုအား သိရှိစေ၍ ပတ်ဝန်းကျင်ထိခိုက်နိုင်မှုများကို လူထုမှ သဘောထားမှတ်ချက်များ သိရှိစေရန်။
- အတည်ပြုပြီး EMP အစီအစဉ်များအား တိကျစွာ လိုက်နာဆောင်ရွက်ရန်။
- CSR အစီအစဉ်များ စီမံထားရှိရန်။

အမည် 6/3/2020

လက်မှတ် ဦးမိုးသူဝင်း

ဦးနိုင်မိုးထွန်း

ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန

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ရွှေလင်ဗန်းစက်မှုဇုန်၊လှိုင်သာယာမြို့နယ်

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ရက်စွဲ၊ ၆ ရက်၊ မတ်လ၊ ၂၀၂၀ ခုနှစ်

<u>အကြံပြုလွှာ</u>

အကြံပြုချက်များ-

- [illegible]
- [illegible]
- Waste water [illegible]
- [illegible]

အမည် [illegible]

လက်မှတ် [illegible]

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ရက်စွဲ။ ၁၆ ရက်၊ မတ်လ၊ ၂၀၂၂ ခုနှစ်

အကြံပြုလွှာ

အကြံပြုချက်များ-

1. စွန့်ပစ်ပစ္စည်း (အမှိုက်စနစ်)

စက်ရုံမှထွက်ရှိသော အမှိုက်များ ရေမြောင်းအတွင်း မကျရောက်စေရန် အမှိုက်ပုံးများ ခွဲ၍ စနစ်တကျ စွန့်ပစ်ပေးပါရန်၊ အမှိုက်ပုံး လိုအပ်ချက်ရှိပါက စက်မှုဇုန် စီမံခန့်ခွဲရေး ကော်မတီနှင့် ဆက်သွယ်ပြီး ဝယ်ယူနိုင်ပါသည်။ အမှိုက်ပုံးများကိုလည်း စည်ပင်သာယာရေး ကော်မတီနှင့် ပူးပေါင်းပြီး စနစ်တကျ စွန့်ပစ်နိုင်ပါသည်။ စည်ပင်သာယာရေး ကော်မတီအနေဖြင့် စက်မှုဇုန်အတွင်း (၁)ပတ် ၁ကြိမ် အမှိုက်သိမ်းပေးပါသည်။

၂. မိလ္လာစနစ်

စက်ရုံမှ ကိုင်သာများ လုပ်သားဦးရေနှင့် အချိုးကျ တွက်ချက်ပြီး လုံလုံလောက်လောက် ဆောက်လုပ်ပေးပါရန်၊ မိလ္လာရေ လျှံထိုက်များ ရေမြောင်းအတွင်းသို့ မစွန့်ပစ်ရန် အထူးမေတ္တာရပ်ခံပါသည်။

၃. မီးသတ်စနစ်

မီးသတ်စနစ်နှင့် ပက်သက်ပြီး သက်ဆိုင်ရာ မီးသတ်ဌာနမှ လမ်းညွှန်မှုများအား လိုက်နာဆောင်ရွက်ပေးပါရန်၊ မီးသတ်ကိစ္စနှင့် ပက်သက်၍ အခက်အခဲရှိပါက ရွှေလင်ပန်း စက်မှုဇုန်၊ သီးသန့်မီးသတ်နှင့် ချိတ်ဆက်၍ အကြံပြုဆောင်ရွက်နိုင်ပါသည်။

(signature)

အမည် - ဦးမြင့်မြိုင်ကျော်

လက်မှတ် - ဒု-ဥက္ကဋ္ဌ(၂)၊ ရွှေလင်ပန်း
စက်မှုဇုန်၊ စီမံခန့်ခွဲရေး
ကော်မတီ
09255554759

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ရက်စွဲ။ ၁၆ ရက်၊ မတ်လ၊ ၂၀၂၂ ခုနှစ်

အကြံပြုလွှာ

အကြံပြုချက်များ-

၁။ [illegible]

၂။ [illegible]

၃။ [illegible]

အမည် [illegible]

လက်မှတ် [signature]

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အကြံပြုလွှာ

အကြံပြုချက်များ-

၁။ [illegible]

၂။ [illegible]

၃။ [illegible]

၄။ EMP [illegible]

၅။ [illegible]

[illegible]

အမည် [illegible]

လက်မှတ် [illegible]

[illegible]

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ရက်စွဲ။ ၆ ရက်၊ မတ်လ၊ ၂၀၂၀ ခုနှစ်

အကြံပြုလွှာ

အကြံပြုချက်များ-

- [illegible]
- [illegible]

အမည် [illegible]

လက်မှတ် [illegible]

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ရက်စွဲ၊ ၆ ရက်၊ မတ်လ၊ ၂၀၂၂ ခုနှစ်

အကြံပြုလွှာ

အကြံပြုချက်များ-

[illegible]

အမည် [illegible]

လက်မှတ် [illegible]

5.9.2 Staff's attitude towards the factory and dialog satisfaction

- Place - Training Room
- Time - 10:00
- Pafticipants : 18 (all department of Jinli/Fengyi Factories) as representative
- Date : 21.12.2018
- Asked 30 workers on 19 questions.

Total 18 employees (leaders or representatives as behalf of each department)are satisfaction dialog floor to answer the following questions, the number of those with satisfaction was found as follows;

Sr.	Questionnaries	Satisfactory	
		Satisfied	Dis-
1.	Satisfactory of the plant's salary calculation	100%	-
2.	Satisfactory of the condition of the availability of his salary	100%	-
3.	Satisfactory of the clean workplace	100%	-
4.	Satisfactory of the discussions coordination system between the factory workers?	100%	-
5.	Consideration and solution in time as request factory employees	100%	-
6.	Satisfactory of OT. forced to work as OT (No)	100%	-
7.	Hours are health and the lack of restrictions on restricted satisfied / dissatisfied	100%	-
8.	Satisfactory of the cleaning toilets.	100%	-
9.	No child labor was assigned for recruitment?	100%	-
10.	Satisfactory for Recruitment system.	100%	-
11.	Satisfaction of Production Department’s Chinese leader?	100%	-
12.	Satisfaction of Department’s leader?	100%	-
13.	Satisfaction of Dining Hall?	100%	-
14.	Satisfactory of Ferry from Factory?	100%	-
15.	Satisfactory of Bonus from Factory?	83%	17%
16.	Satisfactory of Drinking Water?	100%	-
17.	Satisfactory of Recruitment crew to attend training course respectively?	100%	-
18.	Satisfactory of SSB fund?	100%	-
19.	Satisfactory of the priority in the ferry on pregnant women?	100%	-

Suggestion box has been placed and two stations at this factory and below figure mentioned some suggestions from employees as example and prompt response has been prooved and supplied on their request.

လ ရက်နေ့ညတွင် စက်ရုံအား ဝန်ထမ်းကျေနပ်မှု မေးမြန်းလွှာဖြေဆိုစေခဲ့ရာ ထိုနေ့တွင်လာရောက်ခဲ့ပါသော ( ) ဦး အလုပ်ဆင်းခဲ့ရာ အချို့လက်ရှိကိစ္စကို မကျေနပ်သူ ( ) ၊ မေးမြန်းချက်အားလုံး ကျေနပ်သူ ( ) ဦး၊ လုံးဝမကျေနပ်သူ ( ) ဦး နှင့် နစ်ရလုံး ရွေးသူ ( ) ဦး ရှိခဲ့သည်။

( )နေ့ညနေ ( )မှ ( )တွင်တစ်ရုံလုံး အစည်းအဝေးကိုပြုလုပ်ပြီး အောက်ပါအချက်အလက်များကို ရှင်းလင်းတင်ပြခဲ့ပါသည်။ (၁၀) ရက်အတွင်း ဆောင်ရွက်ပေးမည်ဖြစ်ပြီး စက်ရုံသန့်ရှင်းရေးတာဝန်အကြောင်းကိုဆက်ဆက်ခဲ့ပေးပြီးဖြစ်ပါသည်။

1. စက်ရုံ၏ လစာထွက်ရက်ပုံကို စိတ်တိုင်းကျပါသလား။ ✓
2. မိမိ၏လစာရရှိမှု အခြေအနေကိုကျေနပ်ပါသလား။ ✓
3. လုပ်ငန်းခွင်သန့်ရှင်းမှုကိုကျေနပ်ပါသလား။ ✓
4. ဝန်ထမ်းနှင့် စက်ရုံကြား ဆွေးနွေးခြင်း ညှိနှိုင်းပေးမှုစနစ်ကိုကျေနပ်ပါသလား။ [illegible]
5. ဝန်ထမ်းများ၏ တောင်းဆိုချက်ကို စက်ရုံမှ အချိန်မီ ဖြေရှင်းပေးမှုရှိ မရှိ [illegible]
6. စက်ရုံမှ ခေါ်ယူသော OT ကိုလက်ခံနိုင်သလား။ [illegible]
7. OT အတွင်းအကြောင်း ရှိ မရှိ
8. အလုပ်ချိန်တွင် ကျန်းမာရေးမကောင်းဖြစ်လာပါက ကုသပေးမှုကို ကျေနပ်ပါသလား။ ✓
9. အိမ်သာသန့်ရှင်းရေးကိုသဘောကျပါသလား။ ✓
10. စက်ရုံမှ အသက်မပြည့်သောလုပ်သားများ လုံးဝ မခေါ်ယူခြင်းနှင့် အသိပညာပေးခြင်း ကိုကျေနပ်ပါသလား။ ✓
11. စက်ရုံမှ ဝန်ထမ်းခေါ်ယူမှုစနစ်ကိုကျေနပ်ပါသလား။ ✓
12. ထုတ်လုပ်မှုဌာန တစ်ခုခု ဆရာ/ဆရာမ၏ ဆက်ဆံမှု ပုံစံကိုကျေနပ်မှုရှိ/မရှိ [illegible]
13. ဌာနခေါင်းဆောင်များ၏ ဆက်ဆံမှုပုံစံကို ကျေနပ်မှုရှိ/ မရှိ
14. လက်ရှိထမင်း စားဆောင်၏ အခြေအနေကို ကျေနပ်မှုရှိ/မရှိ
15. စက်ရုံမှ စီစဉ်ပေးသော ကြို/ပို့ ယာဉ်များကိုကျေနပ်မှု ရှိ/မရှိ
16. စက်ရုံမှ အထည်ချုပ်ကြေးပေးခြင်းစနစ်ကို ကျေနပ်မှုရှိ/ မရှိ
17. စက်ရုံမှ စီစဉ်ပေးသော သောက်ရေ လုံလောက်မှုရှိ/မရှိ
18. စက်ရုံဝန်ထမ်းသစ်များကို သင်တန်းပေးခြင်းကို ကျေနပ်ပါသလား။
19. စက်ရုံမှ ဝန်ထမ်းများကို လူမှုဖူလုံရေး ထည့်ဝင်ပေးခြင်းကို ကျေနပ်မှုရှိ/မရှိ
20. ကိုယ်ဝန်ဆောင်ဝန်ထမ်းများအလုပ်ပြန်ဝင်သည့်အခါ စက်ရုံကြီး /ပို့ယာဉ်မှ ရွေးနှုတ်ခွင့်နေရာရထားပေးသည်ကို အဆင်ပြေစွာ လုပ်ကိုင်နေရပါသလား။

အမည် - [illegible]

ရာထူး - [illegible]

နေ့စွဲ - ၃၁ . ၁၂ . ၂၀၁၈

စက်ရုံမှဖြေရှင်းချက်

In 2nd time, snap shot interview of staffs for this factory, some employees has suggested for factory operations which are shown below;

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အကြံပြုလွှာ

အကြံပြုချက်များ-

- စက်ရုံပတ်ဝန်းကျင် သန့်ရှင်းရေး စဉ်ဆက်မပြတ် ဆောင်ရွက်ပေးရန်။
- စက်ရုံအတွင်း၊ ရှိ စွန့်ပစ်ပစ္စည်းများကို သေသေသပ်သပ်နှင့် စနစ်တကျ စွန့်ပစ်ပေးရန်။
- စက်ရုံအတွင်း၊ မီးဘေးအန္တရာယ်ကင်းရှင်းရေးအတွက် မီးသတ်သင်တန်းများပေးရန်။

အမည် ဟိန်းစိုးကျော်
လက်မှတ် hem.

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အကြံပြုချက်များ-

စက်ရုံအတွင်း ဂွမ်းမှုန့်များအား စနစ်တကျ ထားပေးရန်၊

အနံ့ဆိုး ဖြစ်နိုင်သော ပစ္စည်းများအား စနစ်တကျ စွန့်ပစ်ရန်၊

ပြန်လည်အသုံးပြုနိုင်သော အမှိုက်၊ အသုံးမပြုနိုင်သော အမှိုက်များအား ခွဲပေးရန်၊

မီးဘေးအန္တရာယ်ကြိုတင်ကာကွယ်ရန်အတွက် မီးသတ်ဗူးများ ပေးရမည်၊

မီးထွက်ပေါက်များကို လမ်းကြောင်းမှန်အောင် လုံလုံလောက်လောက် ပေးရန်၊

ဆေးပေးခန်းတွင် လိုအပ်သော ဆေးများကို လုံလုံလောက်လောက် ပေးရန်၊

ဝန်ထမ်းဝင်ထွက်၌ အရေးကြီးကိစ္စများ ရှိပါက ခံစားခွင့် အပြည့်အဝပေးရန်၊

စက်ရုံအတွင်း ဝန်ထမ်းများအား ရေသန့်ဝေငှ ပေးရန်၊

ဘေးအန္တရာယ်ကင်းရှင်းရေး ပစ္စည်းများကို လုံလောက်အောင် ထုတ်ပေးရန်၊

အမည် စန်းမြတ်နိုး

လက်မှတ်

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အကြံပြုလွှာ

အကြံပြုချက်များ-

ပါကင်ဌာနမှထွက်လာသောစွန့်ပစ်ပစ္စည်းများ (ကတ်ထူ၊ ပလတ်စတစ်ကြိုး၊ ချိတ်ဟာ) များကို စနစ်တကျခွဲခြားစွန့်ပစ်ရမည်။

မီးလောင်အန္တရာယ်ကင်းဝေးရန်အတွက်အသုံးပြုသော မီးသတ်ပစ္စည်းများကိုပြည့်စုံအောင်ထားရမည်။

ဆက်တန်း : ထဲအတွင်းအပူချိန်လျော့ချစေရန်အတွက်လေပန်ကာများ တပ်ဆင်ပေးရန်။

အမည် ယဝဝွင်း အိုဝွင်းဝင်း
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ရွှေလင်ပန်းစက်မှုဇုန်၊လှိုင်သာယာမြို့နယ်
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အကြံပြုချက်များ-

၁။ စက်ရုံအတွင်းရှိ အမှိုက်များကို အမျိုးအစားအလိုက်ခွဲပြီး စွန့်ပစ်ခြင်းကို ဆက်လက်လုပ်ဆောင်ပေးရန်။

၂။ ကုမ္ပဏီမှ ထွက်လာသော စွန့်ပစ်ပစ္စည်းများကို စနစ်တကျခွဲပြီး စွန့်ပစ်ပေးရန်။

၃။ ကုမ္ပဏီမှ အသုံးပြုသော ရေကို အကျိုးရှိစွာ ဆက်လက်သုံးစွဲပေးရန်။

၄။ ကုမ္ပဏီ၏ မီးဘေးအန္တရာယ် ကာကွယ်ခြင်းကို ဆက်လက် လုပ်ဆောင်ပေးရန်။

အမည် [illegible]

လက်မှတ် [illegible]

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စက်ရုံမှ ထွက်လာသော စွန့်ပစ်ပစ္စည်းများကို စနစ်တကျ စွန့်ပစ်ပေးရန်။

အမှိုက်ပုံး ၂ ခု စက်သုံးဆီများ၏ စွန့်ပစ်ပစ္စည်းများကို သီးသန့်ထားရန်အတွက် ဆောင်ရွက်ပေးပြီး။

စက်ရုံ အတွင်း မီးသတ် အသုံးပြု ပစ္စည်းများ၏ အသုံးပြုနည်းကို ပြန်လည်သင်ပေးပြီး။

အမည် ငြိမ်းငြိမ်းဆွေ

လက်မှတ် ဆွေ

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ရွှေလင်ပန်းစက်မှုဇုန်လှိုင်သာယာမြို့နယ်
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အကြံပြုလွှာ

အကြံပြုချက်များ-

၁။ စက်ရုံအတွင်းအသုံးပြုသည့် ဓာတုပစ္စည်းများကို စနစ်တကျထိန်းသိမ်းထားရမည်။

၂။ အညစ်အကြေးစက်မှုထွက်ပစ္စည်း ရေဆိုးများကို စနစ်တကျ သန့်စင်ပြီးမှသာ စွန့်ထုတ်ပေးရန်။

၃။ အညစ်အကြေးစက်အတွင်းအသုံးပြုသော ဓာတုပစ္စည်းများကိုထည့်သည့် စွန့်ပစ်ပုံးများကို
စနစ်တကျစွန့်ပစ်ရမည်။

၄။ စက်ရုံအတွင်းအမှိုက်ပုံးများကို လုံလောက်အောင်ထားပေးရမည်။

အမည် ဖြိုးပွင့်စံ
လက်မှတ် ဖြိုး

5.9.3 Actions for local community and employee’s comments

As a result of the two public consultation meeting for this factory, it can be said there is no seriously effect by the project. And the anxiety of the local community is very few.

In accordance with local community's recommendations and requirements, to avoid side effect, solid waste from knitting manufacturing process is stored at separate place systematically and recycle plan has to be applied.

CSR activities for regional development have been continuous and sustained since the project began, and CSR activities have been carried out in necessary sectors and will continue to be carried out.

In public consultation meetings and staffs attitude, the comments from local community and staff's comments can be summarized as follows; and actions which has been done are mentioned together at each comment.

- **to know project information, and to understand environmental impacts by factory's operation by local community and surrounding factories**

  Shall explain at future public consultation meetings
- **to clean environment and good drainage system around factory**

  Has been cleaned surrounding area and drainages of the factory at least once a week
- **to dispose wastewater systematically after treatment**

  Currently using wastewater treatment system in progress
- **If necessary regarding waste disposal, to consult with industrial zone personnel and action**

  Will comply this instruction from now on
- **Not to dispose sewage to public drainage system**

  We have never disposed sewage to public drainage system. Sewage has been disposed by contacting with YCDC since project started.
- **For the firefighting system, to comply with firefighting department's instructions and if there's any problem, to contact with Shwe Lin Ban Industrial Zone, Firefighting Department.**

  Will comply this instruction from now on
- **to take action to develop CSR program**

  We have been planned and will take care on development of CSR Plan
- **to comply with labor laws**

  We will comply with not only labor laws but also comply to all related laws for factory operation
- **to store hazardous waste systematically, and dispose by comply with YCDC's guidelines**

  We will comply with YCDC guidelines
- **to provide firefighting training course**

  We have been planned and to provide Fire Fighting training and drill every year by liaising with Industrial Zone firefighting department
- **to provide enough medicines at clinic and firstaid box**

  We will provide enough medicines at clinic and first aid box
- **to provide leave as necessary as per labor law**

  We will provide leave as necessary as per labor law
- **to provide uniform for all employees**

  Have already provided
- **to provide enough recycle bins inside factory**

  Have already provided in factory compound

5.10 Commitment for Public Engagement and Affected Persons

- **Spring River Knitting (Myanmar) Company Limited, the project proponent, will be responsible for implementing social and mitigation measures for potential environmental and social impact during the proposed industrial estate implementation operation.**
- **Project proponent has promised for providing resonable and sufficient compensation and restoration, if any affected on vicinity.**

CHAPTER 6: CONTENTS OF EACH SUB-PLAN

6.1 Environmental Management Plan

Identified impacts for this project has been mentioned in above chapters and also Management and Monitoring Sub plans for each identified impact has been mentioned and these are being implemented at Spring River Knitting (Myanmar)Limited's Factory. These sub-plans are based on the following two parts of the Environmental Management Plan, which are:

1. Safety and Health Plan
2. Emergency Preparation

The above mentioned guidelines will be planned at the factory and these guidelines are educated to all of employee and employee from concerned department such as storage, housekeeping, maintenance department and production department are required possible knowledge relating to their work.

Preparation of environmental Management Plan (or) guidelines is required for formulation, implementation on monitoring of environmental measures during and after commissioning of this project. This plan will indicate the details as to how various measures have been or are proposed to be taken including cost components as may be required.

Cost of measures for environmental safeguards should be treated as an integral component of the project cost and environmental aspects should be taken into account at following various stages of the project for this factory.

5. Concept validation : Preliminary environmental assessment.
6. Planning : Detailed studies of environmental impacts and design of safeguards.
7. Execution : Implementation of environmental safety measures.
8. Operation : Monitoring of effective of built in safeguards.

Specific Environmental Awareness

Two hour session for operational personal, and the course will cover descriptions of specific environmental impacts which can occur as a result of general induction training will be given by environmental office or inviting environmental experts from outside. This training has to be conducted in each calendar year.

6.1.1 Capacity Development and Awareness Trainings

Introducing the business environment; Training for business; Workplace rules; Employer / Labor Contract / Closing Date Prevention of Violence Discrimination and western shame education; Disaster and health awareness training; Application of fire extinguishers; Introducing Early Nursing and Pharmacology; Introduction to Personal Defense Introduction to the use of chemicals; Training on grievance redressal training and staff training will be scheduled and will be conducted.

Training in capacity building and disaster education courses were also provided. Fire training; In addition, the department has also let to attend training courses which have been opened regularly by the department and are issued certificates.

Table 53: Time Table for Capacity Development and Awareness Training

Sr.	Training Contents	Training Duration	Remarks
1.	The work environment is introduced	1 week to 2 week	after one week of job entry
2.	Post operation training	6 month	after job entry
3.	Work rules and regulations	2 days	Occasionally when available as per Company Schedule
4.	Labor contract/holidays arrange to know	2 days	after one week of job entry
5.	Anti-terrorism security consciousness	2days	Occasionally when available as per Company Schedule
6.	Against discrimination and harassment policy	2 days	
7.	Safety and health knowledge is introduced	1 day	
8.	Firefighting equipment is introduced	1 day	
9.	Medical first aid kits is introduced	2 days	
10.	Personal protective is introduced	1 day	
11.	Chemical use is introduced	2 days	
12.	Grievance system is introduced	2 days	

6.1.2 Specific Environmental Training

This will involve a day session day one-on-one for environment officers with responsibility for monitoring and reporting. This will be conducted by the General Manager or visiting environmental experts and an environmental aspect will be incorporated into this course.

Table 54: Training Matrix

Personnel	Specific focus of training
Management and technical person	- Importance of EMP - General environmental issue - Impact associated with FHL, ferment industry
All person	- -Specific environmental impacts -Importance of EMP, good environmental performance
Environmental In-charge	- Air quality/pollution - Waste Management - Goods storage practices, oil and lubricant - Work safety - Electric and Machine safety - Fire control - Good working environments - Cleaning of the factory - Reporting and Recording

External and Internal Communication

Given the social and environmental setting of the project is anticipated that, from time to time, employees, contractors, government agencies, Non-Government Organizations, and the general public (including media) will request information on, the project's environment Performance and management.

The current procedure for handling external andqueries on the project in general is as follows:

- If the communication is from the media, it is directed to Managing Director or Director
- If the communication is form another source, it is referred to the Executive Director

Internal and external environmental queries will be referred to the FHL Production Manager of Environmental Officer.

Product Manager/ Environmental Officer will have to retain a complaints/communications register and record progress of complaint (refer to document control section).

There is a communications practice in place for disseminating environmental information on the project. This is as follows:

- FHL New — every 3 months focusing on socio-economic and environmental information: display on the notice board and website.
- The notice board will have similar display erected at FHL's garment factory. There is merit in expanding the scope of the Notice Board displays to include data generated through the EMP on the environmental performance. This will have the effect of increasing staff awareness, interest and involvement in the environmental program.

Document and Data control and Reporting

<u>Document Control</u>

The principles for document control are as follows:

- The can periodically reviewed, revised as necessary
- Any obsolete document reframed for legal and or knowledge preservation purpose are suitably identified.
- The all relevant documents can available at all locations where general essential to the effective functioning of the EMP performed.

Official documents forming part of the EMP, together with their storage location and Person responsible for up keep and their maintenance, are shown is Table 55.

Table 55: Responsibility and Distribution of Documents

Document	Maintenance Responsibility	Distributions
EMP	Executive Director Environmental Coordinators	Managing Director Executive Director Environmental; In charge
Individuals roles and Responsibilities	(Environmental Coordinator)	individuals with responsibilities for providing input in the EMP
Monthly monitoring monitoring plan	Environmental Incharge	Executive Director Environmental Coordinator
Data record	Environmental Incharge	Environmental Coordinator
Corrective action record	Environmental Coordinator	Executive Director
Environmental file	Environmental Incharge	N/A
Raw materials inventory	Material & Logistic Procurement supervisor	Environmental Coordinator Production Manager
Waste disposal	Environmental Incharge	Production Manager
EMP Audit	Environmental Coordinator	Managing Director Executive Director/Director
Complaints register	Environmental Incharge	Managing Director Environmental Coordinator
Incidents report	Environmental Incharge	Operation Manager
Medical waste manifest	Medical officer	Environmental Incharge
Food waste	Medical officer	Environmental Incharge
Photographic data base	Environmental Incharge	

All documents will be dated, referenced by the descriptors outlined in the above table, and maintained as hard copy in a file as a minimum and as an electronic copy as appropriate.

Roles and Responsibilities

Organization and personal resources required to effectively implement the EMP is presented in Table 56.

Table 56: Roles and Responsibilities on Environmental / Social Impact

Position	Role	Responsibility.	Specific Task
Managing Director, Mr. Tian, Liangming	Management Commitment	Promote commitment to EMP among all staff. Oversee implementation EMP Internal EMP audit	Ensure EMP is on Management agenda and discussed where appropriate at monthly management meeting update register of legal and other requirements every 6 month.
HR Manager Ms. Myo Myint Aye	Business unit responsibility for EMP Interaction with FHL corporate Environmental obligations Checking performance of EMP, Environmental support requirements	Maintain register of legal and other requirements, Particularly changing requirements of Myanmar Government. Handle environmental complaints. Provide input to contacts and logistics departmental aspects of purchasing decision. Provide support for technical environmental issues.	Ensure EMP is discussed at monthly information exchange. Ensure sufficient resources are available for successful implementation of EMP. Maintain register of Environmental complaints. Address environmental complaints.
HR Assistant Ms. Aye Moe Moe Khine	Operational Management Commitment	Promote implementation of EMP among personal. Ensure environmental considerations taken into account.	Ensure EMP is an agenda and discussed at regular meetings Follow environmental procedure.
Environmental Coordinator	EMP	Develop procedures as part of EMP Provide technical environmental support. Conduct environmental and waste auditing. Generate and distribute monthly rnnnitoring plans. Oversee monitoring activities. Conduct environmental training. Co-ordinate environmental reporting. Raise environmental awareness of staff	Conduct Environmental and waste audits every 6 months. Audit waste tracking documentation every 3 months Conduct specialist environmental training, as required Generate and distribute monthly monitoring plans Co-ordinate environmental data to produce monthly environmental report Co-ordinate air quality monitoring and analysis at every year and record results Calculate and report estimated emissions

Position	Role.	Responsibility.	Specific Task
			from backup diesel usage annually Environmental awareness-raising projects Monthly check on corrective action requests.
Environmental Officer (To be appointed)	Organizing, Monitoring and reporting Training	Ensure monthly monitoring plan is completed Conduct environmental monitoring and reporting a)air quality (or) pollution b)check wastage c)check electricity d)work safety e)check oil spill f)fire prevention Situation	Complete monthly monitoring plan monitoring/observation of air quality in the factory. Check oil spill. Check working machine regards on work safety. Check room temperature and ventilation in the factory. Control and security Check outside factory fire prevention at Maintain a photographic record.
Safety in charge	Monitoring and reporting	Conduct environmental monitoring and reporting as part of EMP. a) Fuel balance b) Oil spill c) Inspection of storage area. d)Fire prevention	Ensure site induction includes environmental issues. Record the number of oil spill over 10 liters every month. Inspect and report of the oil and textile storage area, every month. Check fire host and extinguisher pumps weekly. Check water storage every day.
Medic	Medicinal waste	-Disposal and tracking of medical waste -Check canteen	Track waste being disposal. Arrange disposal facilities every 6 months. To check whether it clean or not, Arrange for insect billing.
Electricity Incharge	Wire shock	Checking the electric connection and machines regards on electric	To check wire connection, control panels, generators weekly. To check electric power cut every day after close down for the day.
Maintenance officer	Machine maintenance Waste Management	Check for work safety. Check ventilation and air condition	To check machine weekly To check air ventilation weekly To check room temperature weekly whether it is acceptable of not. To check wastewater disposal

There is necessary to have a permanent staff in charged with the task of ensuring its effective implementation of mitigation measures and to conduct environmental monitoring. The major duties and responsibilities of the personal in charge and their group for environmental monitoring of this factory has been done since starting factory operation (2016) which are as follow;

1. To implement environment plan, mostly waste management system.
2. To ensure regulatory compliance with all relevant rules and regulations
3. To ensure regular operation and maintenance of pollution control devices
4. To minimize environmental impacts of operations by implemented to EMP
5. To initiate environmental monitoring as per approved schedule and guide line
6. Review and inter pretention of monitored results and corrective measures in case monitored results are above the specific limit
7. Maintain documentation of good environmental practices and applicable environmental laws / rules and regulation/ norms as reference, and knowledge to employee
8. Maintain environmental related records
9. Co-ordination with regulatory agencies, external consultants, monitoring laboratories, NGO and local authority
10. Maintain of report of public in commence and the action plan and action taken
11. Ready to solve any complaints from local community about environmental and social issues
12. Maintain selling of reused, recycled solid waste material to recycled local contractor, disposal transfer of organic waste with YCDC, checking of fire extinguisher monthly and sometimes changing,

maintenance generator of every month and replacing some spare parts for noise control and smoke deduction, oil spill prevention at fuel tank

Periodical monitoring of the ambient air quality, noise level in and around the factory once in a year, water once 6 months in a year, these shall be under taken as per MoNRE's forth coming norms by appointing external agencies necessary. The frequency of monitoring shall be as follows;

Table 57: Monitoring Program

Area of Risk		Purpose	Monitoring Activity	Frequency	Responsible person
1.	Hygiene	Health care and safety	Check factory area	Daily	Housekeeping
2.	Drainage	Drainage line water log	Check drain	Daily	Housekeeping
3.	Machinery	Noise and production efficiency	Check machine	Daily	Maintenance Engineer
4.	Truck movement (Import/ export / ferry)	Noise exhaust gas	Check cars	Daily	Guard
5.	Noise	Machine maintenance	Check generator / compressor	Daily	Enginer
6.	Air quality	Humidity and health care/ dust	Check air con compressor	Daily	Engineer
7.	Water quality	Health care	External agency	Daily	Enginer
8.	fuel storage area material	Spill	Check everyday	Daily	Storekeeper
9.	Generator house	Oil spill	generator house	Daily	Housekeeping
10.	Sewage	Over flow	Check septic tank	Daily	Factory management
11.	Solid waste	HSE policy	Training	Monthly	Factory management
12.	Emergency Plan	HSE Policy	Training	Monthly	Factory management
	Safety Plan	HSE Policy	Training	Monthly	Factory management

Planning

Monthly Monitoring Plans, which detail tasks to be undertaken and monitoring to be conducted as part of achieving objectives and targets, with frequency and responsibility, will be generated by the Environment Coordinator every month.

Monitoring tasks could, in the future, be incorporated into the Maintenance Management System, which puts together daily work instruction.

A Waste Management Plan has been partially developed by FHL. This should incorporate auditing and waste tracking procedures, which have been developed as part of the EMP.

The only Emergency Preparedness and Response Plan available for review were: the Emergency Response Manual, which had relevance to training and drill, precaution signboard to environmental measures. The level of implementation of these plans needs to be assessed.

Environmental Risk Management for Modification

There will be chances to change and modifications of technology. Such that changes may occur the potential to occur new environmental risk and hazard to the project. Therefore require screening to ensure environmental performance is not compromised, and those opportunities for risk avoidance.

If new activities arise, the possible environmental impacts should he assessed.

Corrective Action Procedure

<u>Objective</u>

The objective of this procedure is to provide a mechanism for reporting and requesting corrective actions, ensuring that actions are completed, and implementing preventive action. Corrective action requests may be issued by anyone within the organization.

<u>Procedure</u>

There are two types of actions:

1. Corrective actions which are required as a result of not meeting an environmental performance objective during routine monitoring.

These corrective actions could include, for example:

- Cleaning up the solid waste storage area or Maintaining of waste water discharged

If the corrective action can be implementing by the person responsible for completing the

monitoring, the action should be taken, and recorded on the Data Record.

A Corrective Action Request (CAR) should be completed as described below if the corrective action requires significant input from others (expertise or resources).

2. Corrective and preventive actions required as a result of an actual of potential spill, leak, loss of containment of other environmental incident.

   On observation of a situation which has the potential to impact the environment:

   a. If possible, take immediate action to prevent the impact (for example), clean up a spill, fixes a leak), then report the incident to the Supervisor and discuss the action required.
   b. Complete a Corrective Action Request (attached), and forward copies to the Supervisor and the Environment Coordinator.

   The person identified as responsible for completing the corrective action should do so within the indicated time period, sign off the CAR form, and return it to the Environment Coordinator for review and filling in the central CAR file.

   The Environment Coordinator will conduct weekly checks of the CAR file. Any CARS which have not been acted on in the required time period will be investigated by the Environment Coordinator.

   Example forms for CAR presented in Table 48

EMP Auditing Procedure

<u>The objectives</u> of the EMP Audit are to:

- Determine whether the EMP conforms to planned arrangements for environmental management and whether it has been property implemented and maintained.
- Identify areas where the EMP can be streamlined and generally improved: and
- Provide information on the results to management.

The audit should be undertaken by the Environmental Officer, with assistance from an external party as appropriate.

The audits should be conducted on a six-monthly basis and cover all elements of the operation

The <u>Scope</u> will include:

- Review of documents that from the basis of the information flow of the EMP and evaluate overall compliance with the nominated procedure, including degree of completeness of-each data record, timing of submittal, distribution to nominated parties and filing;
- Assessment of regulatory compliance;
- Evaluation of follow-up action regarding on Corrective Action Records, the Complaints Register; and the Incidents Record;
- Interviews with individuals providing direct input to the EMP with the objective of assessing effectiveness of the EMP data gathering process and format;
- Assessment of the adequacy of resources to accomplish the EMP tasks; and
- Assessment of the environmental awareness and training program.

<u>Procedure</u>

Complete the Environmental Audit Check List if there any non-conformances, take corrective or preventive action. The example check list shown in Table 47

The audit will document the areas that have not conformed to the EMP requirements and will be supported with appropriate evidence and backup. The audit report should also include suggestions on how the EMP can be improved and as assessment of whether the EMP has been effective in meeting the intent of the Environmental Policy. All recommendations will be action-oriented and include details on priorities, responsible parties, resources and timing.

6.2 Emergency Response Control Program for Spring River Knitting (Myanmar) Co., Ltd

Purpose

(Such as fires, floods, earthquake, thefts, violations of personal: Safety incidents, fire incidents, staff fights, staff injuries, sudden illness, etc. to ensure that the frequency of accidents and accidents Negative impact.

Scope

Spring River Knitting (Myanmar) Co., Ltd., all employees.

Responsibilities

Administration	:	Received an incident after the news, organized and rescued in an orderly and alarm.
Departments	:	Crisis, or sudden danger immediately report to the Department of Administration.
Safety responsible person	:	the overall responsibility for the company's security work, to quickly organize the exclusion of emergencies.

Work contents

1. Crisis or sudden danger prevention
   The administrative department arranges safety education for the whole factory workers and improves the consciousness of the whole plant personnel to comply with the fire regulations and do a good job of safety and health;

   Safety responsible person should actively carry out fire inspection, eliminate fire violations, urge to eliminate security risks, the proposed leadership to improve fire safety, conditions. improve the fire facilities;

   The administrative department shall carry, Outfire safety education for key types of personnel; and provide training and assessment of fire safety knowledge for electrician, boiler workers and those engaged in operation and storage of inflammable and explosive dangerous goods;
2. All firefighting equipment must be properly maintained and maintained;
3. All firefighting equipment must be properly maintained and maintained;
   i. When the relevant personnel found a dangerous situation should be the first time to report the relevant person in charge of the administrative department or the company, while the nearest fire extinguisher fire, and crack alarm button alarm;
   ii. The Department of Police immediately after the alarm to the fire department to the police, the police must explain the dangerous location of the unit, dangerous departments, dangerous materials, dangerous situation, the police name and contact
   iii. After the alarm, the person in charge of the safety of the company shall inform the head of each functional department at the fastest speed and set up a temporary relief headquarters.
   iv. Disaster relief headquarters can use the company broadcast, to the need to evacuate personnel to give a notification, the notification should be based on the fire, the first is the fire layer, followed by the fire above the floor, again may spread the following floor:
   v. Inform the time to be gentle and steady, to stabilize staff emotions, to avoid panic and chaos;
   vi. Evacuation work by the workshop manager responsible for the shortest possible time to evacuate all employees to the safe area
   vii. Evacuated to the safe area, the Department, of Administration should carry the number of staff roster inventory, responsible for the care of the wounded.
4. Security alert
   i. The person in charge of the safety shall regularly organize the relevant personnel to carry out routine inspection of the entire hazard factor at the work site and to deal with the hidden trouble of the accident in time to prevent the occurrence of the accident and the emergency actoion in the event of the accident.
5. Emergency plans for major natural disasters

i. When the company is located in the local water, drought, hail, snow, typhoons and dust storms and other meteorological disasters, mountain collapse, landslides, debris flow and other geological disasters, earthquake disasters and other natural disasters

ii. In the following circumstances need to start the plan

1. In the following circumstances need to start the plan
2. Received a notice of government disaster prevention and relief
3. Production workshop, warehouse and office area fire, fire by the point and face, and rely on the individual cannot be extinguished.
4. Earthquake occurred, the occurrence of violent shaking, the duration of more than 5 seconds*
5. The rain continued and the rainfall reached 50 mm and the drain was silted
6. Continuous. heavy rain, there have been 10 cm snow deposition
7. Other disaster prevention and relief work command group decided to start the plan

iii. Emergency preparedness

1. Propaganda of natural disaster knowledge, natural disaster emergency laws and regulations and prevention, hedging, disaster prevention, self-help, mutual rescue, insurance knowledge, enhances staff awareness of disaster prevention and mitigation.
2. Attaches great importance to effectively strengthen the leadership and management of natural disasters
3. Engineering Department conjunction with the relevant departments on a regular basis to the company's internal buildings. Wires, pipes, sewers and other self-examination, early detection of problems, the timely elimination of security risks
4. After the disaster, the departments according to the disaster, in accordance with the hierarchical management, the principle of their duties, start contingency plans, do a good job of employees and property emergency resettlement work, do disaster relief work, do a good job disaster investigation, assessment and reporting work, to minimize the loss of employee life and property

iv. Inspection records

v. EHS inspection record

6.4 Code of Conduct for Employee

6.4.1 General Provision

"The factory needs good staff, employees hope good factory", the basic goal of business operations is to achieve a win-win business and employees, but also the way of sustainable development of enterprises.

"Not to rule, not a radius" is to achieve the above objectives of the basic protection, hope that every employee in the rules and norms under the guidance of their own professional value, to achieve sustainable development goals.

The preparation of this manual is also derived from this, and every employee in the enterprise to share

6.4.2 Code of Personnel Management

<u>Entry management</u>

1. Qualified staff must meet the relevant entry procedures ;
2. Entry procedures include :
    1. Provide own valid identity document ;
    2. Recently I 1-2 photos 2 ;
    3. Factories require employees to provide academic qualifications of the staff should provide academic credentials ;
    4. Sign "entry registration form" ;
    5. Accept employee training ;
    6. signed a "labor contract" with company, the contract period of 1 year ;

7. Collection of fingerprints, for the brand ;
8. Accept job skills training, after passing the official examination
9. Those who do not have the entry formalities will not be regarded as employees of the Company.

3. The principle of hiring :
    1. Good health, no infectious and psychiatric history;
    2. In accordance with the legal labor employment qualification and age;
    3. Meet the job conditions and requirements;
    4. The relatives of the family to avoid the system, the immediate family members shall not be appointed with the department, with the post, especially the higher positions, but with the consent of the company

Attendance management

Attendance related to own remuneration of the correct accounting, please take seriously each employee

1. To comply with the provisions of the various departments of the company, not late, not early retirement, according to the requirements to get off work ;
2. Normal work conditions punch four times a day, at night to work overtime every day before and after the increase in the card ;
3. Such as special circumstances leak card, promptly reported to the supervisor, but the monthly signature card shall not be more than 3 times ;
4. It is strictly forbidden to eliminate all the normal working hours without attendance and unauthorized use of cards or other people to play the password card.

Leave management

1. Due to illness, because the matter can not be post, to be in advance or by telephone to the department leadership for leave procedures, but after work must fill the leave ;
2. The company has the right not to approve the leave of absence and frequent leave of absence ;
3. For details of the formalities, please follow the rules and fill in the correct leave and follow the approval process, within 10 days of direct leadership approval, 10 days (including 10 days) above the department direct leadership audit, human resources manager approved, department leaders leave the company General manager approved ;
4. Disease, pregnancy, marriage, mourning, work injury holidays need to provide proof of company recognized material

Transfer management

1. Staff transfer must obey the principles of the job and the job needs ;
2. Job transfer is divided into temporary transfer and long-term transfer, temporary transfer to be signed "temporary transfer table", long-term transfer need to sign "job application form" and to fulfill the approval process before the entry into force ;
3. There is no special reason for the transfer of the end of the month or early month, otherwise it will affect the normal attendance accounting。

Training management

1. Employees are required to receive pre-job training organized by the Human Resources Department, including corporate culture, personnel management, health and safety, remuneration and benefits, etc.
2. Staff induction must be engaged in the job skills training, assessment of qualified before the official posts ;
3. The company will regularly organize all kinds of management, quality, skills and other aspects of the special training, requiring employees to be without reason ;
4. During the training staff must abide by the training discipline, put an end to all the effects of training behavior;

Compensation and welfare management :

1. The company's pay model is timekeeping ;
2. Wage distribution principle: to comply with the law, according to work distribution, equal pay for equal work, reflect the fair and efficiency priority, and gradually increase, according to the requirements of local labour departments to participate in social insurance system ;
3. Monthly salary should be paid = daily salary * (attendance days + public holidays + Sundays + factory days + paid holiday days) + (overtime hours * 900) + bonus
4. Pay the date of payment on the 5th, the holidays in advance, the accounting cycle for the last natural month; ; The salaries of employees who leave their posts are on the 7th of next month and

   the holidays are postponed ;
5. The company employees to implement confidentiality system, not in any form in the company to disclose their own wages ;
6. The welfare of the company shall be implemented in accordance with the system promulgated annually.

Holiday management :

1. Marriage leave, maternity leave, sick leave, work injury leave must provide company certified proof of the material before you can enjoy and enjoy the relevant treatment。

Turnover management :

1. The "notice of separation" must fulfill the correct notice procedure, complete the work transfer, return and clean up personal use of borrowed goods, no return or damage to compensation ;
2. For employees who violate corporate management regulations, the company will be dismissed and employees who are expelled will have to complete their divorce ;

6.4.3 Code of Administration

Safety management :

1. Fire Safety
    1. It is strictly forbidden to use fire fighting equipment for employees ;
    2. The company for the fire key units, warehouses, production areas, public areas are strictly prohibited fireworks or any possible fire caused by the behaviour ;
    3. Smoking in non-designated "smoking area", found a record over, more than two times to do the discourse ;
    4. Each employee has the obligation and responsibility to comply with the company's fire management regulations and systems, all due to personal causes of fire safety consequences as circumstances serious investigation of the relevant responsibilities until the legal responsibility
2. Traffic safety
    1. Into the factory must comply with the relevant provisions of the company's non-motor vehicle vehicles; plant motor vehicle speed shall not be 20 yards ;
    2. Please pay attention to the traffic rules during the commute, do not drink the car, do not grab the road, do not speed, pay attention to avoid pedestrian vehicles ;
    3. (3) No motor vehicle driving license is strictly prohibited driving motor vehicle, the company vehicle non-designated staff is strictly prohibited unauthorized use ;
    4. There are traffic accidents, peers please immediately assist the police
3. Electrical safety :
    1. In strict accordance with the operating norms of mechanical and electrical equipment operation, not brutal operations, non-designated personnel shall not operate ;
    2. Without the consent of the competent department of the company, shall not be chaos random access to wire and electrical equipment, as the case of alert, resulting in the consequences of the corresponding legal liability ;
    3. Non-company management requirements within the scope of unauthorized operation of
    4. mechanical and electrical equipment caused by injury or loss, the company has the right to retain the relevant responsibility to pursue

Health management

1. Workshop hygiene management

1. It is forbidden to go to work with the staff to carry snacks such as fruits and vegetables into the workshop, especially in the work area. The staff and the security personnel have the right to criticize the education and the confiscation of the goods. ;
2. Individual areas of health must be required by their own 5S to keep clean and orderly, private items shall not be stored at the office ;
3. Each employee is obliged to keep the workshop public health, especially when the toilets are used to rinse, toilet paper basket, wash basin clean ;
4. Workshop shall not be stacked non-production necessities, production equipment and products returned neatly.

2. Office area health management

1. Office documents are classified on request and are not allowed to be stacked and discarded at will ;
2. Private goods that are not related to work are not allowed to be kept in the office area and keep their work area clean and orderly.

3. Public area health :

Access management

1. Our employees have to wear factory cards ;
2. Foreign personnel or vehicles into the factory, must be verified by the security personnel and matters, the telephone contact with the consent of the guests can be registered after wearing
3. "visitor card" to enter, after the security check before leaving ;
4. During the work of the staff will be signed by the leadership of the "exit" or "leave" by the security check before release, such as refused to cooperate with the absenteeism, remember a warning
5. If you go to work during the period of more than 4 hours, you must sign "leave", within 4 hours from the security registration of access time, unified by the company attendance management system ;
6. Employees or foreign personnel vehicles outside the factory, security has the right to check, if found to carry the company's property, immediately notify the higher leadership, serious and alarm.

Label management :

1. All factory employees into the factory, during work, must wear the brand ;

Vehicle management

1. Staff vehicles must be parked in the company designated location, not chaos to stop, especially temporary use of public access; otherwise the security has the right to order rectification or temporary custody ;
2. Foreign vehicles are not allowed to enter the factory without special circumstances, such as through the permission to enter the factory must be in accordance with security guidelines parked in the designated location ;
3. The company's vehicles to be sent out by the administrative department must be approved, issued a "ticket", one by way to check the security side to go out ;
4. It is strictly forbidden to designate a person or a driver without a driver to drive a company vehicle. The offender shall give a serious warning as the case may be, and shall be held accountable according to the action or consequence.

Item management

1. Item Procurement :

1. All the items must be purchased according to the actual needs of the "purchase requisition" by the departmental leadership review after the summary of the Ministry of Finance, the

general manager of the procurement by the procurement department can be unified procurement implementation;

2. Such as special circumstances or emergency procurement, must call the general manager of the company and the procurement manager agreed to implement, but after the need to fill the
3. "purchase requisition";
4. The costs incurred in the absence of the requested purchase are at their own expense.。

2. The use of goods：

1. The use of goods must be in the "how much collar with the number of" principle, not more than the number of accounted for;
2. Item requisition must be signed by the department leaders "picking list", vouchers to the warehouse to receive。

3. Use of items for custody：

1. Without the permission of the company, do not allow private property, but also not allowed to bring out the company privately;
2. Staff need for the work of the items configuration, the implementation of supervision by the various departments, not allowed to exceed or more use;
3. Staff must be returned to the staff of the tools used to return, or according to "configuration table" to do the cost deduction

On duty management

1. Staff seriously fulfill the duty management system, after work to take the initiative to close the computer, lights, doors and windows and machinery and equipment and other security risks;
2. The duty of the department staff to seriously inspect the area responsible for the security risks, identify problems in a timely manner;
3. Administrative departments in the class after the inspection work, found that the implementation of the phenomenon did not follow the provisions of the department to take pictures and registration, published on a regular basis every week, the violation of the provisions of the responsible person to warn, the circumstances serious serious warning, small, Until the dismissal。

Complaint management

1. Employees have any problems to be solved by the company can be through the right channels of complaints channels to do feedback and communication; complaints channels include: advice box, EMAIL, verbal complaints, etc .;

2. In accordance with the company's complaint management system provides the contents of the program, the company hopes that the employee's complaint is based on respect and understanding of the starting point;

3. The company does not wish to appeal in principle, the complaint can be the first direct feedback to the direct leadership, such as the reply period (one week) no feedback or no reply to the superior leadership complaint.

Reward and punishment (discipline) management

1. Disciplinary management

    1. The company is strictly prohibited employees have stealing behaviour occurred, once the company will immediately report the alarm and dismissed, and theft of property according to the actual value of the economy to take temporary deduction;
    2. The company is strictly prohibited employees to incite the strike to make trouble, once found to incite the strike behavior and the implementation will immediately expel the parties, the circumstances are serious police handling;
    3. The company is strictly prohibited employees fight fights, where this behaviour will be based on the results of the investigation in mind, the plot serious alarm, and do the dismissal；
    4. The company is strictly prohibited employees to abuse of power, once found as serious as a serious warning, remember, dismissed, the plot is particularly serious transfer to the judiciary;

5. The company is strictly prohibited employees in the company gambling, once found to give a warning, the serious transfer of the judiciary;
6. The company prohibits employees from taking drugs or engaging in drug-related activities and, upon discovery, immediately dismissed and transferred to the judiciary ;
7. The company is strictly prohibited in the activities of illegal organizations, once found immediately dismissed and transferred to the judiciary;
8. The company is strictly prohibited during the use of the company's computer landing illegal website, once found as serious as a warning;
9. The company is strictly prohibited during the use of computer companies engaged in work-related matters, once found as serious as a warning;
10. Companies are forbidden to use the network platform or other channels to discredit the company's image, once found as serious as a warning and dismissal ;
11. The company is strictly prohibited to disclose the company's trade secrets, once found as serious circumstances to give warning and dismissal, resulting in economic losses of the company will be held in accordance with its economic responsibility;
12. The company is strictly prohibited to damage the company's property, once found as serious as a serious warning, remember the big, dismissal, resulting in economic losses of the company will be held in accordance with its economic responsibility;
13. Other company irregularities, as the case of serious warning, remember to go over and dismissal

2. Reward management

Subject to the following actions, the company will be rewarded based on contribution and performance evaluation

1. Leading, leading, leading, completed and overdue to the company's production and work tasks;
2. The overall situation, unity, solidarity, sincere cooperation, internal and external relations harmonious, there has been no dispute to curse and other disputes and events;
3. Efforts to study, practical work, on time and quality and quantity to complete the production work and the leadership of the temporary task assigned, outstanding achievements ;
4. Concerned about the company to build, in the promotion of enterprise management, improve the process, improve product quality or technological progress to achieve significant results, or achieved significant scientific and technological achievements, the company achieved significant economic benefits;
5. For the company to increase production efficiency, energy conservation and raw materials or other aspects of a significant contribution to the outstanding achievements;
6. Loyalty, dare to disclose theft of company property, technical information, disclosure or disclosure of company trade secrets and technical secrets and other illegal acts, or to stop the interests and reputation of the company's bad behaviour occurred, the company from loss ;
7. In order to prevent accidents, or in natural disasters and other emergencies, fear of appropriate disposal, timely control of the deterioration of the situation, the company from or reduce the major losses;
8. Unity and cooperation, help others, to comply with social morality, the company's labour discipline and rules and regulations, words and deeds of norms,
9. Participate in activities that are beneficial to the company or society and win the honour for the company;
10. Other acts recognized by the company.

6.4.4 Supplementary Provisions

"Do not be good and not small, not to evil and small” the enterprise management needs strategic planning, but also need to carry out the bit by bit!

And million and the company every employee to encourage each other, with the specification

Material Safety Data Sheets (MSDS)

Manufacturers and suppliers of chemicals are often required by law to provide their customers with MSDSs for their products. Even in the absence of such legal obligation, factories should insist on the receipt of the MSDS or equivalent written information for each chemical that they purchase.

The following categories of information should all be available on MSDSs:

- **Substance identification:**
  - **Trade name**
  - **CAS # for each chemical ingredient**
  - **% of each ingredient**
- **Chemical data:**
  - **Molecular formula and weight**
  - **Physical data:**
  - **Boiling point**
  - **Melting point**
  - **Solubility**
  - **Etc.**
- **Toxicity data**
- **Occupational exposure limits**
- **Chemical reactivity and incompatibilities**
- **Fire and explosion data:**
  - **Fire/explosion hazard**
  - **Flash point**
  - **Explosive limits**
  - **Ignition point/auto-ignition temperature**
- **Fire extinguishing media**
- **Health effects and First Aid measures**
  - **Signs and symptoms of exposure**
  - **Effects of inhalation, ingestion, and eye and skin contact**
  - **Antidotes or other treatments Safe handling, storage and disposal requirements**
- **Recommended spill and leak response procedures**
- **Protective equipment**
  - **Personal protective equipment to avoid exposure**
  - **Protective measures for production equipment or other factory installations**
- **Additional relevant information:**
  - **Contact information for the chemical manufacturer/supplier**
  - **Date of the last MSDS revision**

Chemical Safety Data Sheets (CSDS)

MSDSs provide detailed information on the properties of chemicals, but they may not be very useful for advising workers in the use and handling of these chemicals. Therefore, Operation Procedures and Chemical Safety Data Sheets (CSDS) should be created to provide brief summary information on chemical use and handling. These should be written in simple language that is understandable to the workers and should be posted conspicuously at locations where the relevant chemicals are stored or used.

Chemical management and environmental, safety and health certification programmes are one way the factory can improve its internal management of H&S and environmental issues. The Occupational Health and Safety Assessment Series standard (OHSAS 18001) from the British Standards Institute and the Environmental Management Standards from the International Organization of Standardization (ISO 14001) require written documentation to support the analysis and management of health, safety and environmental issues. Additional information on Environmental Management System (EMS) requirements can be found in the Environmental Guidelines.

Factory management must also address product quality and stewardship issues. The Policy for the Control and Monitoring of Hazardous Substances' provides the list of chemicals whose presence in our apparel products is restricted or prohibited. Factory compliance with this policy will better ensure the safety of consumers and the environment over the lifecycle of the products.

Substance Identification	
Acetone	
Hazards for man and environment	
Breathing in, swallowing or absorption through ; the skin may result in health damage. May cause irritation etc. Increased risk of fire etc.	,
Protective Measures	
Work only with fresh air supply, above all in the floor area, Use only intrinsically safe fans etc. Avoid contact with eyes, skin and clothing etc.	
First Aid	
After eye contact: Rinse for 10 minutes with water or with eye wash solution. After skin contact: Take off soiled clothing etc.	
Disposal	
Do not pour nto the sewage orrefuse bin! For disposal collect in...	

6.4.6 Checklist for Managing Waste Responsibly

Objective: Reduce, Reuse, Recycle, and Dispose of Waste in an Environmental Sound Manner			
Action to be taken	Individual Responsible	Priority and Timing for Action	Savings Achieved
Examine the major sources of wastes **identify the places where these sources occur throughout the production process**			
Check the possibility to substitute toxic materials & substances by non-toxic materials			
Sort wastes according to their nature and toxicity, for reuse, recycling, etc. • *separate dangerous waste from other wastes in order to avoid contamination of other wastes* • *separate liquid waste from solid waste, etc.*			
Place different groups of waste into different containers • *provide designated containers for each waste group* • *instruct employees to use the different containers for collecting & storing different wastes* • *check implementation regularly*			
Reuse / recycle different wastes • *identify possibilities for reusing & recycling the different wastes* • *dispose of non-reusable & non-recyclable waste using appropriate methods that comply with existing regulations*			
Reuse / recycle materials and substances • *identify possibilities for reusing materials in different phases of the production process* • *identify possibilities for selling materials for reuse in other enterprises or production processes* • *dispose of non-reusable & non-recyclable waste using appropriate methods*			
Separate the different flows of liquid waste • *avoid mixing together the different flows of liquid waste*			
Reuse / recycle waste water • *study possibilities to reuse / recycle waste water* • *verify that the reuse of waste water does not harm the quality of the product*			
Separate solvents used in production processes • *regenerate solvents to recover valuable material for reuse in production processes*			
Reuse packaging material • *identify possibilities to reduce packaging material* • *identify possibilities to reuse packaging material* • *check possibilities for introducing a deposit system to facilitate the retrieval of packaging*			

CHAPTER 7 RECOMMENDATION AND CONCLUSION

7.1 Profit of the Project

This project will be developed as a commercial purpose and its consequent impact on environment has put greater emphasis on energy consumption and waste management from execution to operation of this project, systematic environmental management and monitoring plan should ensure that the adverse impact to the natural and social environment identified in this report are appropriately minimized,
Spring River Knitting (Myanmar)Company Limited fulfill the requirement and demand of Production and export of garment, it is realized the demand of development of the country.
Spring River Knitting (Myanmar)Garment Company Limited is planning and studying feasibility and possibility to serve with reasonable rate and extend civilian network and part of developing where the human resources and is out of their reach for submission to the Government.

7.2 Design of Environmental measures are included the following items;

- Waste water discharge point
- Vehicle parking and cleaning mechanism
- Waste management and removal system
- Firefighting and emergency response plan, electrical safety system
- Hazard material storage and handling
- These designs are according to environmental law, YCDC's directions, MoNREC's guide line for environmental protection.
- Responsibility of health, safety and environmental concerns are developer, and consultants.
- Communication for information of this HSE will be planned according to / through tool box meeting, training session, Signage and weekly meeting, through the system of self-observation.

7.3 Good Manufacturing Practices and Requirements of Premises

General Requirements

1. Location and Surrounding

   The proposed factory Building for production of Company shall be so situated and shall have such measures as to avoid risk of contamination from external environment including open sewage drain (or) any which produces odor, fumes, dust, smoke, chemical emission

2. Building and premise

   The buildings used for factory shall be designed, constructed, adapted and maintained to suit the garment production operations so as to permit production under hygiene condition.

   The premises (factory compound area) used for production, processing line, warehousing, loading and unloading shall be:

   a. Adequately provided with working space to allow orderly and logical placement of equipment, materials, movement of personal.
   b. Avoid the risk of mix up different chemical(if any) and raw material
   c. Designed / constructed / maintained to prevent entry of insects / pests, interior surface shall be smooth and free from cracks and permit easy cleaning, painting.
   d. The manufacturing area is air conditioned (or) ventilated with air control facilities to maintain humidity and shall be well lighted. These areas shall be regularly monitored for compliance with required specification
   e. It provided with drainage system which shall be of adequate size and so designed as to prevent back flow and / or to prevent insects, water log entering the inside compound.
   f. The walls and floors of the area which is carried out manufacturing shall be free from cracks and open joints to avoid accumulation of dust.
   g. These shall be smooth, washable and shall permit easy and effective cleaning

3. Water supply and sanitary System

   Source of water supply is from underground water and water quality is in accordance with standards specified by Ministry of Industry, WHO and MoNRE (ECD).

It will need water treatment system for drinking except washing and cleaning operation. Water shall be stored in tanks (ground / overhead). The tanks shall be cleaned periodically and records water analysis.

Septic tanks from toilets are 50 m far from ground tank and is also cleaned and checked for over pill and removal of slugs.

4. Disposal of Waste
    1. The disposal of sewage and effluents (solid, liquid, and gas) from the manufacturing process and factory operation shall be in conformity with the requirements of environmental pollution guide line, law and directives from ECD in Myanmar.
    2. Additional precautions shall be taken for the storage and disposal from factory at designated area.
    3. For waste storage area, it shall be suitable design and segregated enclosed areas with concrete floor and wall, waste is classified / selected for reuse, recycle for packing material, scrap metal.
5. Warehouse Area
    - Warehouse areas shall be designed and adapted to ensure good storage conditions. They shall be clean, dry and maintained within acceptable temperature limits.
    - Storage areas shall have appropriate house-keeping and pests control procedure.
    - Receiving and dispatch area shall protect materials and products from adverse weather conditions.
    - Explosive and hazardous materials are stored in safe and secured, ventilated area.
6. Fire protection

    Adequate fire protection measures shall be provided in conformity with the rules of the concerned firefighting department.

    Regular checks for oil spill, chemical spill, electricity apparatus and line are taken in factory
7. Personnel (Employment)

    The manufacturing practice shall be conducted under the direct supervision of competent technical staff with prescribed qualification and practical experience in the relevant section.

    Personnel for quality assurance and quality control operation shall be suitably qualified and experienced.

    Written duties of technical and quality control personnel shall be laid and followed strictly.

    Number of personnel employed shall be adequate and indirect proportion to the work load.
8. Health and sanitation of workers
    - Prior to employment, all person shall undergo medical examination including eye examination, shall be free from tuberculosis, skin disease. After employment, they should be medically examined periodically, at least once a year
    - All persons prior to and during operation period, shall be trained in practices which ensure personnel hygiene.
    - All persons shall be instructed to report about their illness or abnormal health condition to their supervisor so that appropriate action to be taken
    - Smoking, drinking, keeping eating shall be permitted in production area, and storage area.

    All of the above mentioned good practices are to prevent secondary contamination or indirect impact to clients from manufactured products.
9. Labor welfare or labor rights

    The factory management group respect for employees' rights, safeguard of working conditions, applications of the international social ethic's principles (ILO and WHO standards), prevention of job accidents, development of an improvement plan for working condition and best practice, comply with labor law, minimum wages law, social welfare for leaves, incentives, overtime from labor organization law.
10. Environmental, Health and Safety requirement established by Spring River Knitting (Myanmar)

Company Limited

a. Enforcing disciplinary action in factory
b. Operating equipment without the required training or certification
c. Failure to obey posted warning and danger signs
d. Recording monitoring logs, accident report and workers' social welfare plan
e. Failure to wear eye, hearing, respiratory or other protective equipment required
f. Checking to log out and / or tag out electrical equipment before performing works
g. Unauthorized removal of machine guarding or warning signs
h. By passing or making safety devices inoperative such as interlocks, two hand control, self-adjusting guards or breaks
i. Education and awareness system of administrative, mechanical and operational safeguards to workers
j. Using environmental, health and safety program to develop and a safe work place in factory.
k. Spring River Knitting (Myanmar) Company Limited's Management organization is to build HSE management system by integrating into all aspects of
    - Providing training and support for all workers, compliance with law, regulation, and rules
    - Communicating through the organization
    - Continuous process improvement
    - Employee involvement
    - Work site analysis
    - Safety and health, firefighting and emergency preparedness training.
    - Prevention of pollution, injuries and illness

7.4 Recommendation

It is recommended that all the workers at the factory be retained / employed under the EC written contracts and that their working hours, holiday entitlements comply strictly with the requirements of factory act and relative labor laws and guidance.

The factory management committee should establish and display the internal regulations, HSE plan of the company, the content of which should be as that stipulated in the legislation.

Human resources policies and procedure should be put in place and all workers should be trained and informed.

Management committee should arrange attendance of Health and safety training program for all of work force one time generally.

HSE department must commission to formulate the EMP for operation of factory. This EMP ensure that the adverse impacts to the natural and social area are appropriately minimized and controlled or managed.

This group can identify the actual impacts of factory activities and to systematically implement cost effective measure which respond to monitor and control environmental performances. Their responsibility must include details on;

- Monitoring program: quantitative measures of discharge, emission and waste and assessment of environmental quality under emission standard from ECD, working environment health and safety
- Environmental auditing: to evaluate operational observation of environmental safe guard procedure, regulation and EMP objectives by general environmental management, technical management and admin control periodically

The EMP and social mitigation measure are presented overleaf. It outlines the impact source and type, severity, the key mitigation/ control and enhancement measures, the timing of the actions to ensure the objectives of mitigation plan, fully met with guide line, cost estimate for mitigation and monitoring each measure which are recommended. All of these outlines are well understood and practically implemented by HSE group in factory.

The following recommendation for this Garment factory should be considered a better practice for HSE plan.

Policy for the cleaner production, environmental management system should be developed and implemented and frame work legislation on cleaner production and EMS must be prepared and put into effect.

- Industry should construct functional environmental treatment plan and operate them regularly (ex: No water should be discharged without proper treatment.
- Specific service such as training, counseling, audits etc. should be provided for general environmental management, new and potential regulation, cleaner production approach including monitoring, migration, bench marking, and environmental performance indicator (emission standard from ECD).
- Adaption of waste minimization can provide a significant decrease of pollution amount as well as production cost.
- All workers need regular checkup of healthy by the company employed doctor. Some technicians need regular maintenance to machine according to manufacture instruction.
- Ensure to have sufficient fire prevent equipment and fire exist doors, emergency exist in each factory's ware house.
- Need to check electrical equipment, outlets, wires, dust free clean electrical outlets regularly with their lifetime
- Confirm better and safer working environment for the workers
- Factory management group ensure the criteria of environment and work place safety standard (in house complying with government standard)
- Workers are the main part of a factory, at it cannot run in a single day without their contribution and work skill and workmanship. Therefore, first priority should be health and safety issue, work place environment should be comfortable for them, provision of social welfare to workers according to labor law (Myanmar labor organization social law)
- Awareness develops and capacity building and activities should be carried out for all workers and management group at factory in relation to the environmental issue of this garment factory, understanding of emission standards from ECD.
- Preparation of fire safety and emergency preparedness and regular check for these including lack of emergency exits and clear, lighted escape routes in production area, unclear or blocked exit pathway and excessive travel distance to exists, instruction written in local language, safety inspection for alarms, smoke detector, and emergency equipment.

Suggestion to Human Resources Department

According to existing labor law and factory law,

- Employee contract between owners and employee must be in place for everyday.
- Awareness of salary calculation to workers by training / workshop (Holiday, incentive, piece rate, basic pay: etc.
- Establish complain center and suggestion box at factory (Already done)

- Understanding of code of conduct by workers in factory by workshop, and fundamental right of workers ad owner

- SSB fund has to be deducted and make registration to SSB Department.
- Establish Co-ordination committee formed by workers, supervisor, HR, Management committee.

7.5 Conclusion

Based on the finding of labor survey, their working hour is 48 hour during one week. Management committee must understand the labor law relating to this industry and worker's health and safety, rights and payments, problems solving the disputes between employer and workers justly and right fully, quickly.

Ministry of Environmental Conservation and Forestry dated 29th December 2015; Order No 616/2015; Environmental Impact Assessment Procedures; Article 13 Procedures 50 According to the project, the environmental and social meetings, the public consultation process, and the needs of the local people will be implemented during the project implementation.

Conclusion

AMK and Associate (EIA Consulting Limited) has undertaken the environmental impact assessment project at Thong Thai Textile (Myanmar) Company Limited, No. (148, 149), Corner of Mat Kha Yar Min thar Gyi Street and Twin Thin Taik Wun U Tun Nyo Street , Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township in Yangon Region and found that the factory is technically organized and operated factory using modern equipment and is being developed and used.

Work environment and disaster management, as well as health care along with all employees of the factory It is committed to the continuous implementation of environmental conservation measures.

In the spirit of the organization and it is committed and will follow the guidance of the respective management organizations and to perform continuing improvement with safety culture.

LIST OF COMMITMENT

References in the report (Chapter)	Abbreviation of the pledge	Explanation of commitment
1.	Commitment about the Project	- During the day, consumer waste, construction waste and hazardous waste, will be segregated, before disposing of performing waste treatment - The project will focus on air emissions; Wastewater treatment; Noise and vibration; Relevant standards and regulations for the disposal of waste, we will follow the guidelines of NEQEG.
2.	Commitment for the complying of Laws and Regulation	- The project proponent is responsible for enforcing laws and regulations issued by local and relevant departments related to environmental protection. Rules and requirements; All obligations and responsibilities will be complied with. - Committed to ensure policies which are prescribed by Spring River Knitting (Myanmar) Company Limited will be followed strictly
3.	Commitment for Environmental Conservation by Spring River Knitting (Myanmar)	- Regarding objects emitted into soil, water and air environment, Spring River Knitting (Myanmar) will comply with National Environmental Quality (Effluent) Guidelines issued by Myanmar Environmental Conservation Department in 2015 and it is their committment.
3.	Commitment for Mitigation Measure of the Impact	- Consideration and mitigation will be given to the potential impact of the project activities to minimize the impact, and to maximize the benefit. - The project will adhere to the mitigation measures for the temporary and permanent environmental and socio-economic impacts that may arise from the proposed project throughout the factory operation period. -
5.	Commitment for Environmental Management Plan Implementation and Monitoring Plan	- In collaboration with the Environmental and Social Implementation Team and the Project Management Team, environmental management plans will be implemented during project construction and operation. - A risk management plan for the implementation of the Factory operation will also be prepared. In addition, the maintenance of equipment used should be monitored daily and monthly. - Disaster management plans will also be prepared. - According to Environmental Impact Assessment Procedures (2015)'s Chapter 9, Section 8, the Environmental Monitoring Report will be submitted to Ministry of Natural Resources and Environmental Conservation, by Project proponent (Spring River Knitting - Myanmar Company Limited) for every six months, will be submitted as per prescribed, by ministry
5.	Commitment for Public Engagement and Affected Persons	- Spring River Knitting (Myanmar) Company Limited, the project proponent, will be responsible for implementing social and mitigation measures for potential environmental and social impact during the proposed industrial estate implementation operation. - Project proponent has promised for providing resonable and sufficient compensation and restoration, if any affected on vicinity.

REFERENCES AND SOURCE OF INFORMATION

- *Myanmar Laws and legislation from www.burmalibrary.org, www.vertic.org/media/National legislation/Myanmar/*
- https://www.mlis.gov.mm/
- *THE FIRE AND RESCUE FORCE ACT, 2007(NO.14 OF 2007),REGULATIONS(Made under section 32)THE FIRE AND RESCUE FORCE (SAFETY INSPECTIONS AND CERTIFICATES),AMENDMENT REGULATIONS,2012*
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- *Dr. Win Swe's OUTLINE GEOLOGY AN~ ECONOMIC MINERAL, OCCURRENCES OF THE UNION OF MYANMAR (Journal of the Myanmar, Geosciences Society, Special Publication No.(1), March 2012*
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- https://www.who.int/water_sanitation_health/dwq/2edvol3d.pdf
- https://yric.yangon.gov.mm/field-inspection-to-spring-river-knitting-myanmar-co-ltd/
- https://www.dica.gov.mm/mm/news/1413296
- https://www.dica.gov.mm/en/news/discussion-representative-spring-river-knitting-myanmar-co-ltd
- *H & M guide line (from Buyer) to HSE System*
- *IFC – HSE Guideline for textile Industry*
- *HSE Check list from ISO ; (9001 & 14001)*
- *MONREC – Law, rule, Emission guideline and Directive.*

Appendix 1: Transitional Consultant Registration for EMP Implementation Organization's personnel

REPUBLIC OF THE UNION OF MYANMAR

Ministry of Natural Resources and Environmental Conservation

CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION

(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

No. 0000110 Date 15.III.2017

The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.

(ပတ်ဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)

(a)	Name of Consultant (အကြံပေးပုဂ္ဂိုလ်အမည်)	U Aung Myat Kyaw
(b)	Citizenship (နိုင်ငံသား)	Myanmar
(c)	Identity Card / Passport Number (မှတ်ပုံတင်/ နိုင်ငံကူးလက်မှတ် အမှတ်)	12/ Ka Ma Ta (Naing) 009480
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(e)	Organization (အဖွဲ့အစည်း)	AMK and Associate EIA Consultant Group
(f)	Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Person
(g)	Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 March 2018

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for one year from (1.4.2018) to (31.3.2019)
ဤလက်မှတ်အား (၁-၄-၂၀၁၈) ရက်နေ့မှ (၃၁-၃-၂၀၁၉) ရက်နေ့အထိ တစ်နှစ်သက်တမ်း တိုးမြှင့်သည်။
8.4.2018
For Director General
(Soe Naing, Director)
Environmental Conservation Department

Director General
Environmental Conservation Department
Ministry of Natural Resources and Environmental Conservation

Areas of Expertise Permitted
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Facilitation of Meeting
2. Risk Assessment and Hazard Management
3. Scio-Economy

EXTENSION

REPUBLIC OF THE UNION OF MYANMAR

Ministry of Natural Resources and Environmental Conservation

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(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

No. 0065 Date [illegible]

The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.

(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)

(a)	Name of Consultant (အကြံပေးပုဂ္ဂိုလ်အမည်)		Dr. Aung Lay Tin
(b)	Citizenship (နိုင်ငံသား)		Myanmar
(c)	Identity Card / Passport Number (မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ် အမှတ်)		7/ Pa Kha Ta (N) 042418
(d)	Address (ဆက်သွယ်ရန်လိပ်စာ)		No. 14 (B) YTU Campus, GyoKone, Insine Township, Yangon. aunglaytin@gmail.com , 09 975851368
(e)	Organization (အဖွဲ့အစည်း)		Associate Professor Mining Engineering Department Yangon Technological University
(f)	Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)		Person
(g)	Duration of validity (သက်တမ်းကုန်ဆုံးရက်)		31 March 2018

Director General
Environmental Conservation Department
Ministry of Natural Resources and Environmental Conservation

REPUBLIC OF THE UNION OF MYANMAR

Ministry of Natural Resources and Environmental Conservation

CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION

(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

No. 0000064 Date 01 JUN 2017

The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.

(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)

(a)	Name of Consultant (အကြံပေးပုဂ္ဂိုလ်အမည်)	U Thaung Aye Lwin
(b)	Citizenship (နိုင်ငံသား)	Myanmar
(c)	Identity Card / Passport Number (မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ် အမှတ်)	13/Ta Ka Na (N) 024532
(d)	Address (ဆက်သွယ်ရန်လိပ်စာ)	18/Bandarbin Street, Kyi Myin Daing Township, Yangon. thaungayelwin@gmail.com , 0943157295
(e)	Organization (အဖွဲ့အစည်း)	AMK and Associate EIA Consultant Group
(f)	Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Person
(g)	Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 March 2018

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for one year from (1.4.2018) to (31.3.2019)
ဤလက်မှတ်အား (၁-၄-၂၀၁၈) ရက်နေ့မှ (၃၁-၃-၂၀၁၉) ရက်နေ့အထိ တစ်နှစ်သက်တမ်း တိုးမြှင့်သည်။
8.11.2018
For Director General
(Soe Naing, Director)
Environmental Conservation Department

Director General
Environmental Conservation Department
Ministry of Natural Resources and Environmental Conservation

Areas of Expertise Permitted
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Geology and Soil

EXTENSION
The VALIDITY of this certificate is extended for nine months from (1.4.2019) to (31.12.2019)
For Director General
(Soe Naing, Director)
Environmental Conservation Department

REPUBLIC OF THE UNION OF MYANMAR

Ministry of Natural Resources and Environmental Conservation

CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION

(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

No. 10109 Date 15 JUL 2017

The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.

(ပတ်ဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၅၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)

(a)	Name of Consultant (အကြံပေးပုဂ္ဂိုလ်အမည်)	Daw Swe Zin Win
(b)	Citizenship (နိုင်ငံသား)	Myanmar
(c)	Identity Card / Passport Number (မှတ်ပုံတင်/ နိုင်ငံကူးလက်မှတ် အမှတ်)	12/ Ka Ma Ya (Naing) 111448
(d)	Address (ဆက်သွယ်ရန်လိပ်စာ)	18/ Bandarbin Street, Kyi Myin Daing Township, Yangon. swezinwin@gmail.com , 09 450004712
(e)	Organization (အဖွဲ့အစည်း)	AMK and Associate EIA Consultant Group
(f)	Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Person
(g)	Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 March 2018

Director General
Environmental Conservation Department
Ministry of Natural Resources and Environmental Conservation

REPUBLIC OF THE UNION OF MYANMAR

Ministry of Natural Resources and Environmental Conservation

CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION

(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအတွက်အထောက်အထားလက်မှတ်)

No. 10063 Date [illegible]

The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.
(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)

(a)	Name of Consultant (အကြံပေးပုဂ္ဂိုလ်အမည်)	U Wai Linn Kyaw
(b)	Citizenship (နိုင်ငံသား)	Myanmar
(c)	Identity Card / Passport Number (မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ် အမှတ်)	12/Ba Ta Hta (N) 037136
(d)	Address (ဆက်သွယ်ရန်လိပ်စာ)	18/ Bandarbin Street, Kyi Myin Daing Township, Yangon wailinnygn@gmail.com , 0943199913
(e)	Organization (အဖွဲ့အစည်း)	AMK and Associate EIA Consultant Group
(f)	Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Person
(g)	Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 March 2018

Director General
Environmental Conservation Department
Ministry of Natural Resources and Environmental Conservation

Areas of Expertise Permitted
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Geology and Soil

REPUBLIC OF THE UNION OF MYANMAR

Ministry of Natural Resources and Environmental Conservation

CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION

(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

No. 10066 Date 01 JUL 2017

The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.

(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)

(a)	Name of Consultant (အကြံပေးပုဂ္ဂိုလ်အမည်)	U Thet Paing Oo
(b)	Citizenship (နိုင်ငံသား)	Myanmar
(c)	Identity Card / Passport Number (မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ် အမှတ်)	12/ Ma Ga Da (N) 154544 ၁၂/မဂဒ (နိုင်) ၁၅၄၅၄၄
(d)	Address (ဆက်သွယ်ရန်လိပ်စာ)	18/Bandarbin Street, Kyi Myin Daing Township, Yangon. tpo.thetpaingoo. tpo@gmail.com , 09 975112401
(e)	Organization (အဖွဲ့အစည်း)	AMK and Associate EIA Consultant Group
(f)	Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Person
(g)	Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 March 2018

Director General

Environmental Conservation Department

Ministry of Natural Resources and Environmental Conservation

Areas of Expertise Permitted
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Geology and Soil