

# **Myanmar Bestex Garment Company Limited**

## **Environmental Management Plan**

### **Manufacturing of Garment on (CMP basis)**



**MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED**

**11-Nov-21**

Date: 12, 11, 2021

Attention: Dear Director

Environmental Conservation Department

Subject: Environmental Management Plan (EMP) Report in respect of the Manufacturing of Garment by Myanmar Bestex Garment Company Limited.

EMP report describes the environmental condition of a project, including significant impact, formulation of mitigation measures and preparation of institutional requirements and environmental monitoring.

Myanwei Environmental Solutions Company Limited has prepared this report with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking into account of the resources devoted to it by agreement with the client. We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

We strongly commit that this report was prepared in compliance with Myanmar Environmental Laws and Regulations.

# MYANMAR BESTEX GARMENT CO., LTD.

Date 12, 11, 2021

Dear: Director

Environmental Conservation Department

Nay Pyi Taw

Subject: Environmental Management Plan (EMP) Report in respect of the Manufacturing of Garment on CMP Basis

We refer to the captioned EMP report, which has been prepared by Myanwei Environmental Solutions Co., Ltd. (Third Party Consultant) in compliance with EIA procedure (2015) and other related laws/rules.

We believe, to the best of our knowledge at the time of writing, that;

- The EMP report is accurate and complete
- The EMP report has been prepared in strict compliance with all applicable laws, rules, regulations and procedures in force.

Myanmar Bestex Garment Company Limited will at all times comply fully with all commitment and obligations in the EMP report.

We acknowledge and understand that

**Plot No. 117, Myay Taing Block No. 14, Shwe Than Lwin Industrial Zone, Hlaing  
Thar Yar Township, Yangon Region, Myanmar.**

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**Abbreviation**

1. CEMP	= Construction Environmental Management Plan
2. CMP	= Contract Manufacturing Process
3. CSR	= Corporate Social Responsibility
4. ECC	= Environmental Compliance Certificate
5. ECD	= Environmental Conservation Department
6. EIA	= Environmental Impact Assessment
7. EMoP	= Environmental Monitoring Plan
8. EMP	= Environmental Management Plan
9. GIIP	= Good International Industry Practices
10. HSE	= Health, Safety and Environment
11. IEE	= Initial Environmental Examination
12. IFC	= International Finance Corporation
13. NEQG	= National Environmental Quality (Emission) Guidelines
14. MIC	= Myanmar Investment Commission
15. MOECF	= Ministry of Environmental Conservation and Forestry
16. MONREC	= Ministry of Natural Resources and Environmental Conservation
17. OEMP	= Operation Environmental Management Plan
18. OSHA	= Occupational Safety and Health Administration
19. PPE	= Personal Protective Equipment
20. WHO	= World Health Organization
21. YCDC	= Yangon City Development Committee
22. YESB	= Yangon City Electricity Supply Board

## အစီရင်ခံစာအကျဉ်းချုပ်

### နိဒါန်း

အဆိုပြုလုပ်ငန်းသည် CMP စနစ်ဖြင့် အဝတ်အထည်အမျိုးမျိုး ချုပ်လုပ်ခြင်းလုပ်ငန်း အတွက် ရင်းနှီးမြှုပ်နှံသော ကုမ္ပဏီဖြစ်ပါသည်။ ရင်းနှီးမြှုပ်နှံမှုလိုင်စင်ကို ၂၀၂၀ ပြည့်နှစ်၊ ဇန်နဝါရီလ ၂၇ ရက်နေ့တွင် (အတည်ပြုမိန့်အမှတ် ရကတ-၃၂၃/၂၀၂၀)ဖြင့် ရန်ကုန်တိုင်းဒေသကြီး ရင်းနှီးမြှုပ်နှံမှုကော်မတီမှ ရရှိပြီးဖြစ်ပါသည်။ လုပ်ငန်းလည်ပတ်ရန်အတွက် မြန်မာနိုင်ငံသယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင် ထိန်းသိမ်းရေးဝန်ကြီးဌာန (MONREC) ၏ အတည်ပြုချက်ရယူရန် လိုအပ်ကြောင်း ကော်မရှင်မှ မှာကြားခဲ့ပါသည်။

ထို့ကြောင့် မြန်မာနိုင်ငံ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဥပဒေ (၂၀၁၂)အရ ၊ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (EMP) ပြုလုပ်ရန်လိုအပ်ကြောင်း ၂၀၁၉ ခုနှစ်၊ ဒီဇင်ဘာလ ၂ ရက်နေ့တွင် (စာအမှတ်၊ ရက-၁/၃/၄ (အီးအိုင်အေ) (၂၆၉၅/၂၀၁၉) ဖြင့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန ရန်ကုန်တိုင်းဒေသကြီးမှ သဘောထားမှတ်ချက် ရရှိပြီးဖြစ်ပါသည်။ ထို့ကြောင့် EMP အစီအရင်ခံစာရေးဆွဲရန် တတိယအဖွဲ့အစည်းဖြစ်သော Myanwei Environmental Solutions Company Limitedမှ တာဝန်ယူဆောင်ရွက်ခဲ့ပါသည်။

EMP အစီအစဉ်တွင် Myanmar Bestex Garment Company Limited၏ အဝတ်အထည်အမျိုးမျိုး ချုပ်လုပ်ခြင်းစီမံကိန်းအတွက် Myanwei Environmental Solutions Company Limited မှရေးသားပြုစုထားသော ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီရင်ခံစာဖြစ်သည်။ အဆိုပါ လေ့လာဆန်းစစ်ခြင်း၏ ရည်ရွယ်ချက်များမှာ-

- ✓ သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုစီးပွားပတ်ဝန်းကျင်အပေါ် စီမံကိန်းဆောင်ရွက်ချက်များကြောင့် ထိခိုက်မှုများကိုလေ့လာရန်။
- ✓ ထိုထိခိုက်မှုများကို လျော့ချနိုင်ရန် လျော့နည်းစေမည့်နည်းလမ်းများကို ဖော်ပြရန်။
- ✓ စီမံကိန်းအတွက် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ကို ပြင်ဆင်ရန်နှင့် အကောင်အထည်ဖော်ရန်။
- ✓ စီမံကိန်းအတွက် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် အစီရင်ခံစာ လုပ်ဆောင်ရာတွင် လုံလောက်မှုရှိစေရန်။
- ✓ ဒေသခံများ၏ လူမှုရေးသက်သာချောင်ချိမှုများ တိုးမြှင့်ရန် နှင့် ဒေသအတွင်း ဖွံ့ဖြိုးတိုးတက်မှုများ အတွက် မရှိမဖြစ် အရေးပါသော လူမှုစီးပွားတာဝန်ယူမှု အစီအစဉ်အား အကောင်အထည်ဖော်ရန်တို့ ဖြစ်ပါသည်။

အဆိုပြုထားသော စီမံကိန်း၏ ရည်ရွယ်ချက်သည် CMP စနစ် (ဖြတ်-လုပ်-ထုတ်) စနစ်ကို အသုံးပြု၍ အဝတ်အထည်အမျိုးမျိုးကို ထုတ်လုပ်ပီး နိုင်ငံခြားသို့ ၁၀၀ % တင်ပို့ရန်ဖြစ်ပါသည်။

## ဥပဒေနှင့် မူဝါဒဆိုင်ရာ အချက်အလက်များ

EMP ရေးဆွဲခြင်း၏ရည်ရွယ်ချက်မှာ နိုင်ငံတော်နှင့် နိုင်ငံတကာမှ ချမှတ်ထားသော ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးအစီအစဉ်များ၊ စည်းမျဉ်းစည်းကမ်းများ၊ ဥပဒေနှင့် နည်းဥပဒေများကို လိုက်နာပြီး ပတ်ဝန်းကျင်နှင့် လိုက်ရောညီထွေမှုရှိသော ထိခိုက်မှု လျှော့ချရေး အစီအစဉ်များ ပြုလုပ်ရန်ဖြစ်ပါသည်။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် အစီရင်ခံစာ ရေးသားပြုစုသူများ၏ ကျွမ်းကျင်မှု နယ်ပယ်ဆိုင်ရာ ဖော်ပြချက်များကို ရေးသားဖော်ပြထားပါသည်။ ဥပဒေနှင့် နည်းဥပဒေ အခန်းတွင် MONREC မှ ထုတ်ပြန်ထားသည့် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများ၊ အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များအပြင်စက်ရုံနှင့် ဆက်စပ်သက်ဆိုင်နေပြီး လိုက်နာရမည့် ဥပဒေနှင့် နည်းဥပဒေများ၊ ဒေသတွင်း သို့မဟုတ် အပြည်ပြည်ဆိုင်ရာ သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုပတ်ဝန်းကျင်ဆိုင်ရာ မူဝါဒများ၊ ဆက်စပ်နေသည့် နိုင်ငံတကာသဘောတူချက်များကို အကျဉ်းချုပ်ရေးသားဖော်ပြထားပါသည်။ စက်ရုံအတွင်းလိုက်နာ ဆောင်ရွက်ရမည့် စည်းမျဉ်းစည်းကမ်းများ၊ လုပ်ငန်းခွင် အန္တရာယ်ကင်းရှင်းရေးနှင့် ကျန်းမာရေးဆိုင်ရာ အခြေခံစည်းမျဉ်းစည်း ကမ်းများလည်း ထည့်သွင်းဖော်ပြထားပါသည်။ Myanmar Bestex Garment Company Limited ၏ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဆိုင်ရာ ကတိကဝတ်များအပြင် ပတ်ဝန်းကျင်ထိခိုက်မှုလျှော့ချရေး မူဝါဒများကိုလဲ ထည့်သွင်းဖော်ပြထားပါသည်။ အဆိုပါ မူဝါဒ၊ နှင့် ဥပဒေများမှာ

၁. ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ၊ ၃၀ မတ်လ ၂၀၁၂
၂. ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနည်းဥပဒေ၊ ၂၀၁၄၊ ၂၀၁၄၊ ၂၀၁၄
၃. ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်းများ၊ ၂၀၁၅
၄. အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ၊ ၂၀၁၅
၅. မြန်မာနိုင်ငံအမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာမူဝါဒ၊ ၂၀၁၉
၆. နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှုဥပဒေ၊ ၂၀၁၂
၇. နိုင်ငံခြားရင်းနှီးမြှုပ်နှံနည်းဥပဒေ၊ ၂၀၁၃
၈. မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုနည်းဥပဒေ၊ ၂၀၁၇
၉. အခကြေးငွေပေးချေရေးဥပဒေ၊ ၂၀၁၆
၁၀. ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးဥပဒေ၊ ၂၀၁၈
၁၁. ၁၉၅၁ခုနှစ်အလုပ်ရုံများအက်ဥပဒေကိုပြင်ဆင်သည့်ဥပဒေ
၁၂. ပုဂ္ဂလိကစက်မှုလုပ်ငန်းဥပဒေ ၁၉၉၀
၁၃. ပို့ကုန်သွင်းကုန်ဥပဒေ၊ ၂၀၁၂
၁၄. မြေအောက်ရေအက်ဥပဒေ၊ ၁၉၃၀

**Environmental Management Plan**

၁၅. မြန်မာနိုင်ငံမီးသတ်တပ်ဖွဲ့ဥပဒေ၊ ၂၀၁၅
၁၆. လျှပ်စစ်ဥပဒေ၊ ၂၀၁၄
၁၇. အလုပ်သမားရေးရာအငြင်းပွားမှုဖြေရှင်းရေးဥပဒေ၊ နည်းဥပဒေ၊ ၂၀၁၂
၁၈. ကူးစက်ရောဂါများကာကွယ်နှိမ်နင်းရေးဥပဒေ၊ ၂၀၁၁)
၁၉. လုပ်ငန်းခွင်ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့်ကျန်းမာရေးဆိုင်ရာဥပဒေ၊ ၂၀၁၉
၂၀. စံချိန်စံညွှန်းသတ်မှတ်ခြင်းဆိုင်ရာဥပဒေ၊ ၂၀၁၄
၂၁. လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတတ်သောဝတ္ထုပစ္စည်းများဆိုင်ရာဥပဒေ၊ ၂၀၁၈
၂၂. မော်တော်ယာဉ်ဥပဒေ၊ ၂၀၁၅
၂၃. ကုန်သွယ်လုပ်ငန်းခွင်ဥပဒေကိုပြင်ဆင်သည့်ဥပဒေ၊ ၂၀၁၄
၂၄. ရေအရင်းအမြစ်နှင့်မြစ်ချောင်းများထိန်းသိမ်းရေးဥပဒေ၊ ၂၀၁၆

**စီမံကိန်းဆိုင်ရာအချက်အလက်**

အဆိုပြုထားသော စီမံကိန်း	CMP စနစ်ဖြင့်အဝတ်အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း
ရင်းနှီးမြှုပ်နှံမှုပုံစံ	၁၀၀ % နိုင်ငံခြားသားရင်းနှီးမြှုပ်နှံမှု
ကုမ္ပဏီအမည်	Myanmar Bestex Garment Company Limited
အဆိုပြုရင်းနှီးမြှုပ်နှံမှုကာလ	၃၅ နှစ်
စုစုပေါင်းမြေကွက်ဧရိယာ	၂.၂၅၈ ဧက အနက်မှ ၁ ဧက (၄၀၄၆.၈၆ စတုရန်းမီတာ)
မြေနေရာပုံစံ	စက်မှုဇုန်မြေ
တည်ဆောက်မှုကာလ	၁ နှစ်
စီမံကိန်း တည်နေရာ	မြေကွက်အမှတ် ၁၁၇၊ မြေတိုင်းရပ်ကွက် အမှတ် ၁၄၊ ရွှေသံလွင်စက်မှုဇုန် ၊ လှိုင်သာယာမြို့နယ် ၊ ရန်ကုန်တိုင်းဒေသကြီး။
ဆက်သွယ်ရန်လိပ်စာ	ဒေါ်သန္တာအောင် ၀၉-၆၉၇၀၆၆၂၉၁ xiaocheng2007@163.com

အဆိုပြုလုပ်ငန်းအတွက် တည်နေရာနှင့် စက်ရုံအတွင်းပါရှိသည့် အဆောင်များ၊ စားသောက်ဆောင်၊ စတိုး၊ ပြုပြင်ထိန်းသေးရေးအခန်း၊ မီးဖိုချောင် အစရှိသည်တို့ကိုသီးခြားဖော်ပြထားပါသည်။ လိုအပ်သည့်ကုန်ကြမ်းများ၊ နှစ်စဉ်ထွက်ကုန်များ နှင့် စက်ပစ္စည်းများအား ဖော်ပြထားပါသည်။ ကုန်ကြမ်းများဖြစ်သော ချည်မျှင်၊ ပိတ်လိပ်နှင့်



**Environmental Management Plan**

ကနဦးစစ်တမ်းကောက်ယူခြင်းနှင့် ဒေသဆိုင်ရာမှအချက်အလက်များရယူခြင်းသည် အလွန်အရေးကြီးပါသည်။ ပတ်ဝန်းကျင်အရည်အသွေး တိုင်းတာခြင်းကဲ့သို့သော ကနဦးစစ်တမ်းကောက်ယူခြင်းသည် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီရင်ခံစာတွင် အရေးပါသောအခန်းအဖြစ် တည်ရှိနေသည်။ ထို့အတွက် စီမံကိန်းဒေသသို့ ကွင်းဆင်းလေ့လာမှုများကို ၁၇ ရက်၊ ဖေဖော်ဝါရီလ ၊ ၂၀၂၀ တွင် လက်တွေ့ကွင်းဆင်းလေ့လာခဲ့ပြီး လိုအပ်သည့် လေအရည်အသွေး၊ ဆူညံမှု၊ အလင်း၊ အပူချိန်နှင့် စိုထိုင်းမှု အစရှိသည့် အန္တရာယ်များကို ရယူခဲ့ပါသည်။ ကွင်းဆင်းလေ့လာထားသည့် အချက်အလက်များအရ NO2 နှင့် SO2 ရလဒ်များသည် သက်မှတ်စံနှုန်းများအောက်တွင်ရှိပြီး အလွန်သေးငယ်သော အမှုန်အမွှားများ (PM2.5, PM10) သည် NEQG သက်မှတ်အတိုင်းအတာထက် များစွာကျော်လွန်နေသည်ကို တွေ့ရပြီး ရေရှည်တွင် အလုပ်သမားများအတွက် အသက်ရှူလမ်းကြောင်းဆိုင်ရာပြဿနာများကို ဖြစ်ပေါ်လာစေနိုင်သည်။ ပတ်ဝန်းကျင်ထိခိုက်မှုအားဖြင့် လေထုအရည်အသွေးအပေါ် အနည်းငယ်သက်ရောက်မှုရှိပါသည်။ အသံဆူညံမှုတိုင်းတာချက်အရ ပုံမှန်နှုန်းဖြစ်ပြီး စက်ရုံတွင်း အလင်းဖြန့်ဝေမှုနှင့်တောက်ပမှု မှာလည်း ပုံမှန်အခြေအနေတွင်ရှိနေသည်ကို တိုင်းတာရရှိပါသည်။ သက်ဆိုင်ရာခေါင်းစဉ်အလိုက် အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များနှင့် နှိုင်းယှဉ်၍ ဖော်ပြထားပါသည်။ ထိုနည်းတူ လျှော့ချရမည့်နည်းလမ်းများကိုလဲ ထည့်သွင်းဖော်ပြထားပါသည်။ စီမံကိန်းတည်ရှိရာဒေသရှိ ရာသီဥတု၊ မိုးရေချိန်၊ လူမှုစီးပွားဆိုင်ရာအချက်အလက်များကိုလဲ ထည့်သွင်းဖော်ပြထားပါသည်။

**ပတ်ဝန်းကျင်ထိခိုက်မှုနှင့် လျှော့ချရေး အစီအစဉ်**

စီမံကိန်းဆောင်ရွက်ချက်များကြောင့် ပတ်ဝန်းကျင်ဆိုင်ရာအရင်းအမြစ်များ၊ ဂေဟဆိုင်ရာ အရင်းအမြစ်များ၊ လူ့စွမ်းအားအရင်းအမြစ်များ နှင့် စွန့်ပစ်ပစ္စည်းများစွန့်ပစ်ခြင်း စသည့်ဖြစ်လာနိုင်သည့် ထိခိုက်မှုများကို ခွဲခြားသတ်မှတ်ပြီး ၎င်းတို့၏ ရလဒ်များကို ထိခိုက်မှုဆန်းစစ်သည့် နည်းလမ်းများကို အသုံးပြု၍ သတ်မှတ်ခဲ့ပါသည်။ စီမံကိန်းအား ထိခိုက်မှုများကို အပိုင်းသုံးပိုင်းခွဲ၍ သတ်မှတ်ထားသည်။ အမျိုးအစားမှာ တည်ဆောက်သည့်ကာလ၊ လုပ်ငန်းလည်ပတ်သည့်ကာလ နှင့် လုပ်ငန်းဖျက်သိမ်းသည့်ကာလ များဖြစ်ပါသည်။ ပတ်ဝန်းကျင်ထိခိုက်မှု လျှော့ပါးစေရေး နည်းလမ်းများကိုလဲထည့်သွင်းဖော်ပြထားပါသည်။

ပတ်ဝန်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျှော့ချရေးနှင့် ထိန်းချုပ်မှု
တည်ဆောက်ရေးကာလ - ပတ်ဝန်းကျင်ထိခိုက်မှုလေ့လာချိန်တွင် စက်ရုံတည်ဆောက်ပြီး လုပ်ငန်းလည်ပတ်နေချိန်ဖြစ်သော်ကြောင့် ဤကာလကိုထည့်သွင်းစဉ်းစားခြင်းမပြုထားပါ။			
လုပ်ငန်းလည်ပတ်ခြင်းကာလ			
လေထုညစ်ညမ်းမှု	<ul style="list-style-type: none"> <li>သယ်ယူပို့ဆောင်ရေးသုံး မော်တော်ယာဉ်တို့ကြောင့် ဖုန်မှုန့် ဖန်လုံအိမ်ဓာတ်ငွေ့ ထွက်ခြင်း</li> <li>လုပ်ငန်းခွင်အတွင်းဖုန်မှုန့်ထွက်ခြင်း</li> </ul>	အသင့်တင့်	<ul style="list-style-type: none"> <li>ဘိုလ်လာနှင့်မီးစက် တို့တွင် မီးခိုးခေါင်းတိုင် တပ်ဆင်ခြင်းဖြင့် အခိုးအငွေ့ကြောင့် ပတ်ဝန်းကျင် ထိခိုက်မှုကို လျှော့ချခြင်း၊ ပုံမှန်စစ်ဆေးခြင်း၊</li> </ul>

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ပတ်ဝန်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
	<ul style="list-style-type: none"> <li>မီးဖိုနှင့် ဘိုင်းလာတို့မှ မီးခိုးထွက်ခြင်း</li> <li>အရေးပေါ်သုံးမီးစက်မှ စွန့်ထုတ် အခိုးအငွေ့ထွက်ခြင်း</li> </ul>		<ul style="list-style-type: none"> <li>စက်ရုံအတွင်းနှင့် အနီးအနားတွင် သစ်ပင်ပန်းမံ စိုက်ပျိုးခြင်းဖြင့် carbon ထွက်ရှိမှုကို လျော့ချပေးခြင်း။</li> <li>NOx ထွက်ရှိမှုနည်း သော နည်းပညာဖြင့် စက်ပစ္စည်းများသုံးခြင်း။</li> <li>စက်ပစ္စည်းများကို ပုံမှန်ချုပ်ချယ်မှုသိမ်းဆည်းပေးခြင်း။</li> <li>Indoor Air Pollutionကိုလျှော့ချနိုင်ရန် စက်ရုံကြောင့် Ventilation System မှားတယူချခင်း။</li> </ul>
ရေ	<ul style="list-style-type: none"> <li>မိလ္လာစွန့်ထုတ်ရေ</li> <li>စက်ပစ္စည်း၊ မော်တော်ယာဉ်များ မှ ဆီယိုဖိတ်ခြင်း</li> </ul>	အနည်းငယ်	<ul style="list-style-type: none"> <li>လက်ရှိရေဆိုးစွန့်ပစ်မှုပုံစံဖြစ်သော မိလ္လာစနစ်ကို ပုံမှန်စစ်ဆေးပေးခြင်း။</li> <li>မိလ္လာကန်နှင့် မိလ္လာ စနစ်ကိုလူဦးရေ နှင့် သင့်တင့်သည့် ပမာဏ ရှိရန် စီစဉ် ထားခြင်း။</li> <li>ပုံမှန်သန့်ရှင်းရေးပြုလုပ်ပေးခြင်း။</li> <li>စက်ပစ္စည်းများကိုပုံမှန်ပြုပြင်ထိန်းသိမ်း ပေးခြင်း</li> </ul>
မြေဆီလွှာညစ်ညမ်းမှု	<ul style="list-style-type: none"> <li>မတော်တဆ စက်ပစ္စည်း၊ မော်တော်ယာဉ်များ မှ ဆီယိုဖိတ်ခြင်း</li> </ul>	အလွန်နည်း	<ul style="list-style-type: none"> <li>စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင် ထိန်းသိမ်းပေးခြင်း။</li> <li>မတော်တဆမှု မဖြစ်စေရန် ထိန်းသိမ်းခြင်း။</li> </ul>
ဆူညံသံ	<ul style="list-style-type: none"> <li>မီးစက်၊ လေမှုတ်စက် နှင့် မော်တော် ယာဉ် အသုံးပြု မှုကြောင့် ပတ်ဝန်းကျင် ဆူညံမှု</li> </ul>	အနည်းငယ်	<ul style="list-style-type: none"> <li>ဆူညံသံထွက်သောနေရာများကို အကာအကွယ် ဖြင့်ထားရှိခြင်း</li> <li>စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ပေးခြင်း</li> </ul>
မီးဘေးအန္တရာယ်	<ul style="list-style-type: none"> <li>ကုန်ကြမ်းသိုလှောင်မှု နှင့် လျှပ်စစ်သုံးစွဲ ပေါ့လျော့မှု</li> </ul>	အနည်းငယ်	<ul style="list-style-type: none"> <li>ကုန်ကြမ်းများအား သီးသန့်ထားရှိခြင်း</li> <li>လျှပ်စစ်သုံးစွဲမှုများအား စနစ်တကျ အသုံးပြုစေခြင်း</li> </ul>
စွန့်ပစ်အမှိုက်	<ul style="list-style-type: none"> <li>ထုတ်လုပ်ရာတွင် ကျန်ရှိသော ပိတ်စ အပိုင်းအစများ။ မီးဖိုချောင်နှင့် ရုံးတွင်းစွန့်ပစ်ပစ္စည်းများ</li> </ul>	အသင့်တင့်	<ul style="list-style-type: none"> <li>စွန့်ပစ်အမှိုက်များအား ပြန်လည်သုံးစွဲရန် နှင့် စွန့်ပစ်ရန် အဖြစ်သတ်မှတ်ပြီး သီးခြားစွန့်ပစ်စေခြင်း</li> </ul>

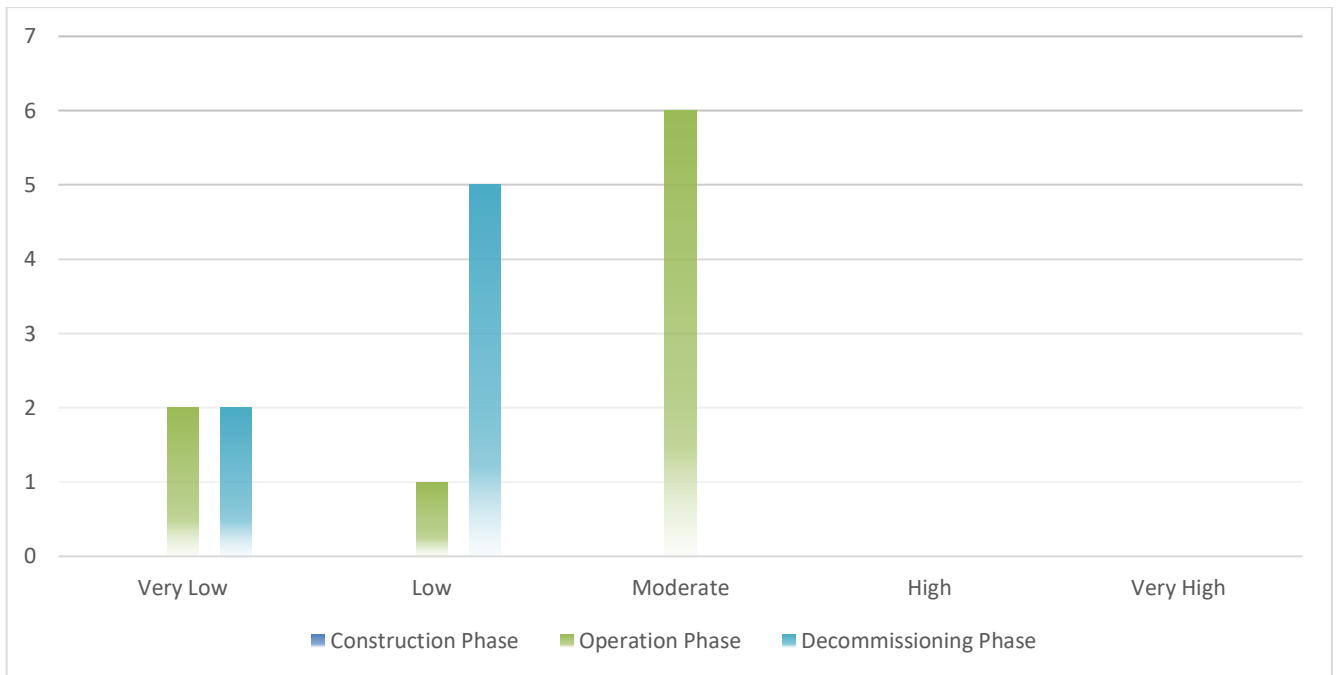


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ပတ်ဝန်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
စွန့်ပစ်အရည်	<ul style="list-style-type: none"> <li>နေအိမ်၊ စားသောက်ဆောင် တို့မှစွန့်ထုတ်ရေ၊ မိလ္လာကန်စနစ်။</li> </ul>	အသင့်တင့်	<ul style="list-style-type: none"> <li>စွန့်ပစ်အမှိုက်များအား ပြန်လည်သုံးစွဲရန် နှင့် စွန့်ပစ်ရန် အဖြစ်သတ်မှတ်ပြီး သီးခြားစွန့်ပစ်စေခြင်း</li> </ul>
အန္တရာယ်ရှိအမှိုက်	<ul style="list-style-type: none"> <li>စက်များမှ ဆီယိုစိမ့်မှုများ၊ မော် တော်ယာဉ်များ ပြုပြင်ထိန်းသိမ်း မှုမှ ထွက်ရှိသည့် အမှိုက်များ။</li> </ul>	အလွန်နည်း	<ul style="list-style-type: none"> <li>စက်သုံးဆီများအားစနစ်တကျ အသုံးပြုစေခြင်း၊ စနစ်တကျသိုလှောင်ခြင်း နှင့် အန္တရာယ်ရှိပစ္စည်းများအား စနစ်တကျထားရှိစေခြင်း</li> </ul>
<b>လုပ်ငန်းပိတ်သိမ်းခြင်းကာလ</b>			
လေထုညစ်ညမ်းမှု	<ul style="list-style-type: none"> <li>အဆောက်အဦးများ ဖြိုချမှုများ</li> <li>ဖြိုချပစ္စည်းများ သယ်ယူမှုများ</li> </ul>	အနည်းငယ်	<ul style="list-style-type: none"> <li>NOxထွက်ရှိမှုနည်းသော နည်းပညာဖြင့် စက်ပစ္စည်း များသုံးခြင်း၊</li> <li>စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။</li> </ul>
ရေ	<ul style="list-style-type: none"> <li>ဖြိုချပစ္စည်းများနှင့် မိလ္လာဖျက်ဆီးမှုများ</li> </ul>	အနည်းငယ်	<ul style="list-style-type: none"> <li>ပုံမှန်သန့်ရှင်းရေးပြုလုပ်ပေးခြင်း။</li> <li>စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။</li> </ul>
မြေဆီလွှာညစ်ညမ်းမှု	<ul style="list-style-type: none"> <li>အဆောက်အဦးနှင့် ဆက်စပ်ပစ္စည်းများ</li> <li>ဖြိုချပစ္စည်းများ သယ်ယူမှုများ</li> </ul>	အနည်းငယ်	<ul style="list-style-type: none"> <li>မတော်တမူ မဖြစ်စေရန် ထိန်းသိမ်းခြင်း။</li> </ul>
အမှိုက်စွန့်ပစ်မှု	<ul style="list-style-type: none"> <li>အဆောက်အဦးများ</li> <li>ဖြိုချပစ္စည်းများ သယ်ယူမှုများ</li> </ul>	အလွန်နည်း	<ul style="list-style-type: none"> <li>စွန့်ပစ်အမှိုက်များအား ပြန်လည်သုံးစွဲရန် နှင့် စွန့်ပစ်ရန် အဖြစ်သတ်မှတ်ပြီး သီးခြားစွန့်ပစ်စေခြင်း</li> </ul>
အန္တရာယ်ရှိအမှိုက်	<ul style="list-style-type: none"> <li>စက်များမှ ဆီယိုစိမ့်မှုများ၊ မော်တော်ယာဉ် များ ပြုပြင်ထိန်းသိမ်းမှု မှ ထွက်ရှိသည့်အမှိုက်များ</li> <li>ဖြိုချပစ္စည်းများ သယ်ယူမှုများ</li> </ul>	အလွန်နည်း	<ul style="list-style-type: none"> <li>စက်သုံးဆီများအားစနစ်တကျ အသုံးပြုစေခြင်း၊ စနစ်တကျသိုလှောင်ခြင်း နှင့် အန္တရာယ်ရှိပစ္စည်းများအား စနစ်တကျထားရှိစေခြင်း</li> </ul>
မတော်တဆ ထိခိုက်မှုများ	<ul style="list-style-type: none"> <li>အဆောက်အဦးများ ဖြိုချမှုများ</li> <li>ဖြိုချပစ္စည်းများ သယ်ယူမှုများ</li> </ul>	အနည်းငယ်	<ul style="list-style-type: none"> <li>မတော်တမူ မဖြစ်စေရန် ထိန်းသိမ်းခြင်း။</li> </ul>



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ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှု အစီအစဉ်

အစီအစဉ်တွင် စက်ရုံကြောင့် ဖြစ်ပေါ်စေနိုင်သော ပတ်ဝန်းကျင်နှင့် လူမှုဘဝအပေါ် ဆိုးကျိုးသက်ရောက်မှုများကို လျော့ချရေး၊ စီမံခန့်ခွဲရေးနှင့် စောင့်ကြပ်ကြည့်ရှုရေး အစရှိသည့် အစီအစဉ်များ ပါဝင်ပါသည်။ ၎င်း EMP အစီအစဉ်များကို အကောင်အထည်ဖော်ရန်အတွက် ဤ စက်ရုံတွင် ကျန်းမာရေး၊ ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့် ပတ်ဝန်းကျင်ဆိုင်ရာ အဖွဲ့အစည်းတစ်ခုထားရှိပြီး လျော့ချရေး၊ စီမံခန့်ခွဲရေးနှင့် စောင့်ကြပ်ကြည့်ရှုရေး အစီအစဉ်များကို အကောင်အထည်ဖော်သွားမည်ဖြစ်ပါသည်။ အဆိုပါစက်ရုံ၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ကို ရေရှည်ဖွံ့ဖြိုးတိုးတက်ကောင်းမွန်သော ပတ်ဝန်းကျင် အဖြစ် အကောင်အထည်ဖော်ဆောင်ရွက်ရန် ပတ်ဝန်းကျင်ဆိုင်ရာ ဆိုးကျိုးသက်ရောက်မှုများကို လျော့နည်းစေရန် စီမံခန့်ခွဲမှုအစီအစဉ်များနှင့် စောင့်ကြပ်ကြည့်ရှုမည့်အစီအစဉ်များကို အောက်ပါအတိုင်းပတ်ဝန်းကျင်ဆိုင်ရာ အကြောင်းအရာတစ်ခုချင်းစီအလိုက် ခွဲခြားမှု ပြုလုပ်ထားပါသည်။

လေထုညစ်ညမ်းမှုစီမံခန့်ခွဲမှုအစီအစဉ်

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်	<ul style="list-style-type: none"> <li>➢ ကာဗွန်ထုတ်လွှတ်မှုလျော့ကျစေရန် စက်ရုံဧရိယာအတွင်း သစ်ပင်စိုက်ပျိုးခြင်း</li> <li>➢ စက်ရုံအတွင်း အမှိုက်မီးရှို့ခြင်းကို ကန့်သတ်တားမြစ်ခြင်း</li> <li>➢ စက်ရုံတွင်းသုံးစွဲလျက်ရှိသော စက်ပစ္စည်းများ၊ မီးစက်၊ ဘွိုင်လာနှင့် သယ်ယူပို့ဆောင်ရေးယာဉ်များကို ပုံမှန်စစ်ဆေးပေးခြင်းနှင့် ပြုပြင်ခြင်း</li> </ul>
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	<p>➢ အရေးပေါ်အရံမီးစက်နှင့် ဘျိုင်လာမှ မီးခိုးထွက်ရှိမှုကို လျော့ချရန်နှင့် လေထုညစ်ညမ်းမှုကို အလွယ်တကူ မပြန့်နှံ့စေရန် လုံလောက်သောမီးခိုးခေါင်းတိုင်တပ်ဆင်ခြင်း၊ အသံလုံစနစ်တပ်ဆင်ခြင်းနှင့် ပုံမှန်စစ်ဆေးပေးခြင်း</p>
ခန့်မှန်းကုန်ကျစရိတ်	တစ်နှစ်လျှင် သိန်း ၂၀ ကျပ်ခန့်
တာဝန်ယူမည့်ပုဂ္ဂိုလ်	<ul style="list-style-type: none"> <li>Production manager, Manager, and EHS officer</li> </ul>

**အသံဆူညံမှုစီမံခန့်ခွဲမှုအစီအစဉ်**

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်	<ul style="list-style-type: none"> <li>အသံဆူညံမှုထွက်စေနိုင်သော အရံမီးစက်များကို အသံလုံကိရိယာများ တပ်ဆင်ထားခြင်း</li> <li>ထုတ်လုပ်မှုလုပ်ငန်းများကို အချိန်အကန့်အသတ်ဖြင့် သက်မှတ်လုပ်ကိုင်စေခြင်း</li> <li>အသံဆူညံမှုထိန်းကွပ်ခြင်းကို အတွေ့အကြုံရှိပညာရှင်များဖြင့် ဆောင်ရွက်လုပ်ကိုင်စေခြင်း</li> </ul>
ခန့်မှန်းကုန်ကျစရိတ်	<ul style="list-style-type: none"> <li>တစ်နှစ်လျှင် ၃ သိန်းကျပ်</li> </ul>
တာဝန်ယူမည့်ပုဂ္ဂိုလ်	<ul style="list-style-type: none"> <li>Manager and EHS officer</li> </ul>

**စွန့်ပစ်အမှိုက်စီမံခန့်ခွဲမှုအစီအစဉ်**

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်	<ul style="list-style-type: none"> <li>စက်ရုံမှထွက်သောအမှိုက်များကို ရေစီးမြောင်းမှတစ်ဆင့်၊ ရေကန်၊ တူးမြောင်း၊ မြစ်ချောင်းများထဲသို့ စွန့်ပစ်ခြင်းကို တားမြစ်ခြင်း၊</li> <li>စက်ရုံမှ ချည်မျှင်၊ ပိတ်စနှင့် အဝတ်အစားအနုများအား တစ်နေရာတွင်သီးသန့်စုံပုံ စွန့်ပစ်ခြင်း၊ သတ္တု၊ သံ၊ ဓါတုပစ္စည်းများနှင့် မီးသီးမီးချောင်းများအား ခွဲခြားစွန့်ပစ်ခြင်း၊</li> <li>နေ့စဉ်ထွက်ရှိသောအမှိုက်များအား အမျိုးအစားအလိုက်ခွဲခြားပြီး ရန်ကုန်တိုင်းစည်ပင်သာယာနှင့် ချိတ်ဆက်စွန့်ပစ်ခြင်း၊</li> </ul>
ခန့်မှန်းကုန်ကျစရိတ်	<ul style="list-style-type: none"> <li>တစ်နှစ်လျှင် လျာထားချက် ၈ သိန်းခန့်</li> </ul>
တာဝန်ယူမည့်ပုဂ္ဂိုလ်	Manager and EHS officer

**စွန့်ပစ်ရေစီမံခန့်ခွဲမှုအစီအစဉ်**

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်	<ul style="list-style-type: none"> <li>စက်ရုံတွင်းဖောက်လုပ်ထားသော ရေဆင်းမြောင်းများအား ရေစီးရေလာကောင်းကောင်းစီးဆင်းနိုင်စေရန် ခိုင်ခံ့စွာ တည်ဆောက်ခြင်း</li> </ul>
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	<ul style="list-style-type: none"> <li>• တည်ဆောက်ပီး မိလ္လာကန်များအာ ပုံမှန်စစ်ဆေးခြင်းနှင့် ထိန်းသိမ်းခြင်း</li> <li>• ရေဆင်းမြောင်းများအား အမှိုက်များဖြင့် ပိတ်ဆို့မှုမရှိစေရန် စောင့်ကြပ်စစ်ဆေးပေးခြင်း</li> <li>• ဘွိုင်လာစွန့်ထုတ်ရည်များကို ရေမြောင်းထဲသို့သွန်ချစီးဆင်းစေခြင်း</li> </ul>
ခန့်မှန်းကုန်ကျစရိတ်	• တစ်နှစ်လျှင် လျာထားချက် ၃သိန်းခန့်
တာဝန်ယူမည့်ပုဂ္ဂိုလ်	• Manager and EHS officer

**စွမ်းအင်ကဏ္ဍစီမံခန့်ခွဲမှုအစီအစဉ်**

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်	<ul style="list-style-type: none"> <li>• အပူ အအေး မမျှတခြင်းကို ထိန်းချုပ်ရန် သာမိုကီရီယာများနှင့် အလိုအလျောက်ထိန်းချုပ်ခြင်းစနစ်များ တပ်ဆင်ခြင်း</li> <li>• စွမ်းအင်ခြေတာနိုင်ရန် စက်ရုံရှိအလင်းရောင်ဖြန့်ဖြူးထားရှိမှုတွင် စွမ်းအင်သုံးစွဲမှုနည်းသော မီးအလင်းပေးစနစ်များ တပ်ဆင်ခြင်း</li> <li>• စက်ပစ္စည်းများတွင် စွမ်းအင်သုံးစွဲမှုနည်းသော စက်ကီရီယာများကို ရွေးချယ်သုံးစွဲခြင်း</li> <li>• စက်ရုံ၏မလိုအပ်သောနေရာများတွင် လျှပ်စစ်မီးသုံးစွဲမှုကို လျော့ချခြင်း ပိတ်ထားခြင်း။</li> </ul>
ခန့်မှန်းကုန်ကျစရိတ်	• တစ်နှစ်လျှင် ၄သိန်းခန့်
တာဝန်ယူမည့်ပုဂ္ဂိုလ်	• Manager and EHS officer

**ရေသုံးစွဲမှုစီမံခန့်ခွဲမှုအစီအစဉ်**

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်	<ul style="list-style-type: none"> <li>• Install water meter for internal control of water consumption</li> <li>• မြေအောက်ရေသုံးစွဲမှုအတွက် ရေမီတာများတပ်ဆင်ခြင်း</li> <li>• ရေခြေတာသုံးစွဲမှုကို စနစ်တကျဖြစ်စေရန် စက်ရုံလုပ်သားများအား လေ့ကျင့်ပေးထားခြင်း၊</li> <li>• ဆီနှင့် စက်သုံးဆီများ ဝင်ရောက်မှုကြောင့် ရေထုညစ်ညမ်းမှုကို အထူးရှောင်ရှားခြင်း</li> <li>• စက်ရုံပတ်ပတ်လည် သစ်ပင်စိုက်ခင်းများ ထူထောင်ခြင်း</li> </ul>
ခန့်မှန်းကုန်ကျစရိတ်	• တစ်နှစ်လျှင်လျာထားချက် ၃သိန်းခန့်
တာဝန်ယူမည့်ပုဂ္ဂိုလ်	Manager and Mechanical Officer

သဘာဝဘေးအန္တရာယ်နှင့် အရေးပေါ်စီမံခန့်ခွဲမှုအစီအစဉ်

<p>ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်</p>	<ul style="list-style-type: none"> <li>➢ စက်ရုံအနေဖြင့် သဘာဝဘေးအန္တရာယ်များကြောင့် ဖြစ်ပေါ်လာနိုင်သော မီးလောင်ခြင်း၊ ငလျင်များ၊ ဆိုင်ကလုန်းကဲ့သို့အပူပိုင်းမုန်တိုင်းများနှင့် နောက်ဆက်တွဲ ရေလွှမ်းမိုးခြင်းများအတွက် အရေးပေါ်အစီအစဉ်များကို ကြိုတင်စီစဉ်ထားရမည်။</li> <li>➢ စက်ပစ္စည်းချို့ယွင်းမှုနှင့် မတော်တဆပေါက်ကွဲမှုများအတွက် မီးငြိမ်းသတ်ရေးကိရိယာများကို စက်ရုံ၏ ကဏ္ဍအလိုက်နေရာများတွင် ထားရှိရမည်။</li> <li>➢ မြန်မာနိုင်ငံတွင်အဖြစ်များသော ငလျင်လှုပ်ခြင်းများအတွက် အလုပ်သမားများကို ငလျင်လှုပ်ခတ်စဉ် ခိုင်ခံ့သောစားပွဲအောက်ယာယီခိုအောင်းခြင်း၊ အဆောက်အအုံအထဲနှင့် သစ်ပင် တိုင်လုံးများအောက်နေထိုင်ခြင်းကို အထူးဂရုပြု ရှောင်ရှားခြင်း အစရှိသည့် အရေးပေါ်အခြေနေတွင်း လိုက်နာရမည့်နည်းလမ်းများကို သင်တန်းပေးခြင်း၊</li> <li>➢ အရေးပေါ်အခြေအနေတွင် လွတ်မြောက်နိုင်မည့် အရေးပေါ်ထွက်ပေါက်၊ စုရပ်နှင့် အရေးပေါ်မြေပုံကိုစက်ရုံတွင် တပ်ဆင်ထားခြင်း</li> <li>➢ စက်ရုံအလုပ်သမားများအား အဆိပ်ရှိသတ္တဝါများနှင့် အဆောက်အအုံများ၏ထိခိုက်နိုင်သော အနေအထားများကို နားလည်ထားအောင် ပညာပေးခြင်း၊</li> <li>➢ စက်ရုံဆေးအဖွဲ့အနေဖြင့် ရှေးဦးသူနာပြုစုခြင်းကို အဆင်သင့်ပေးနိုင်ရန် ပြင်ဆင်ထားခြင်း၊</li> <li>➢ အရေးပေါ်အခြေအနေအရပ်ရပ်အတွက် ဆက်သွယ်နိုင်မည့် လိပ်စာများ၊ ဖုန်းနံပါတ်များကို စက်ရုံ၏ထင်သာမြင်သာရှိသောနေရာများတွင် ချိတ်ထားခြင်း၊</li> <li>➢ မီးသတ်အဖွဲ့နှင့် ကယ်ဆယ်ရေးအဖွဲ့ကို စနစ်တကျဖွဲ့စည်းထားရှိခြင်း</li> <li>➢ သဘာဝဘေးဖြစ်ရပ်များ၊ မီးဘေးလုံခြုံရေးနှင့် လုပ်ငန်းခွင်ဘေးအန္တရာယ်ကင်းရှင်းရေးအတွက် အလုပ်သမားများအား သင့်တင့်သော သင်တန်းများပို့ချခြင်း။</li> </ul>
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**Environmental Management Plan**

ခန့်မှန်းကုန်ကျစရိတ်	တစ်နှစ်လျှင် ၁၅သိန်းခန့်
တာဝန်ယူမည့်ပုဂ္ဂိုလ်	Manager, Safety Officer and EHS officer
အရေးပေါ်ဆက်သွယ်ရမည့်လိပ်စာများ	<p>လိုင်သာယာမြို့နယ်</p> <p>မီးသတ်ဌာန (၀၁-၇၀၇၅၅၀, ၆၄၅၀၁၇)</p> <p>အရေးပေါ်လူနာတင်ယာဉ်ဝန်ဆောင်မှု (၀၉-၂၀၆၀၉၉၉၉)</p> <p>ဧရာဝတီဖောင်ဒေးရှင်း (၀၁-၂၂၅၈၂၉, ၂၂၅၈၃၇)</p> <p>YGH (192)</p> <p>ပန်းလှိုင်ဆေးရုံ (+၉၅၁၃၆၈၄၃၂၃၊ ၃၆၈၄၃၂၅၊ ၃၆၈၄၃၃၆)</p> <p>ရန်ကုန်ရဲစခန်း (၀၁-၇၀၇၅၅၀၊ ၆၄၅၀၁၇)</p>

**အဓိကရုန်းဖြစ်စဉ် စီမံခန့်ခွဲမှုအစီအစဉ်**

စီမံခန့်ခွဲမှုအစီအစဉ်	<ul style="list-style-type: none"> <li>➢ စက်ရုံအနေဖြင့် အရေးပေါ်အခြေအနေများဖြစ်သော အဓိကရုန်းဖြစ်စဉ်များ၊ နိုင်ငံရေးပဋိကွဖြစ်ရပ်များနှင့်အကြမ်းဖက်ဖြစ်ရပ်များအတွင်း ရှောင်လွှားနိုင်မည့်နည်းလမ်းများနှင့်ပြင်ဆင်မှုများကို ဆောင်ရွက်ထားခြင်း၊</li> <li>➢ ကိုဗစ်နိုင်တင်းကပ်ရောဂါကာကွယ်မှုအဖြစ် ကာကွယ်ထိန်းချုပ်ရေးနည်းလမ်းများကို တင်းကြပ်စွာ လိုက်နာခြင်း၊</li> <li>➢ အဓိကရုန်းကာလအတွင်း အလွယ်တကူပေါက်ကွဲနိုင်သော ပစ္စည်းများကို စနစ်တကျ သိုလှောင်ထားခြင်း၊</li> <li>➢ အထက်ပါဖြစ်ရပ်များကို ကြိုတင်ကာကွယ်မှုအဖြစ် အရာရှိများ၊ အလုပ်သမားများအား လုံလောက်သောသင်တန်းများ စနစ်တကျပေးထားခြင်း။</li> </ul>
ခန့်မှန်းကုန်ကျစရိတ်	တစ်နှစ်လျှင် ခန့်မှန်းချေ ၁၀သိန်းခန့်
တာဝန်ယူမည့်ပုဂ္ဂိုလ်	Manager, OHS team, and Firefighting officer.

အဆိုပြုလုပ်ငန်း၏ လူထုအကျိုးတူပူးပေါင်းပါဝင်မှုများအဖြစ် အကျိုးအမြတ်၏ ၂% ကို ကျန်းမာရေး၊ ပညာရေးနှင့် နယ်ပယ်ဖွံ့ဖြိုးတိုးတက်ရေးများတွင် ထည့်ဝင်လှူတန်းသွားမည်ဖြစ်ပါသည်။ အဆိုပြုလုပ်ငန်း၏ ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုရေးလုပ်ဆောင်ရမည့် လုပ်ငန်းစဉ်များနှင့် ဖြေရှင်းရမည့်နည်းလမ်းများကိုလဲ ထည့်သွင်းဖော်ပြထားပါသည်။

**Environmental Management Plan**

**သက်ဆိုင်သူများနှင့် တွေ့ဆုံဆွေးနွေးခြင်း**

သက်ဆိုင်သူများနှင့် တွေ့ဆုံဆွေးနွေးခြင်း အစီအစဉ်ကို ၁၈ ရက်၊ မတ်လ၊ ၂၀၂၁ ခုနှစ်တွင် အနော်ရထာ စီမံခန့်ခွဲရေးရုံး၊ အနော်ရထာ စက်မှုဇုန်တွင် ပြုလုပ်ခဲ့ပါသည်။ တွေ့ဆုံပွဲ အစည်းဝေးတွင် သက်ဆိုင်ရာ အစိုးရအဖွဲ့ရုံး၏ တာဝန်ရှိပုဂ္ဂိုလ်များ၊ စက်မှုဇုန်စီမံခန့်ခွဲမှုကော်မတီ၏ တာဝန်ရှိပုဂ္ဂိုလ်များ အပါအဝင် ၁၆ဦးခန့်တက်ရောက်ခဲ့ပြီး လိုအပ်သည်များကို အကြံပေးခြင်း၊ စီမံကိန်း၏ အစီရင်ခံစာတွင် လိုအပ်သည်များကို ဖြည့်စွက်ပေးရန် အကြံပြုချက်များပေးခဲ့ပါသည်။ ပြုလုပ်ခဲ့သည့် အစီအစဉ်အကျဉ်းကိုပါ ထည့်သွင်းဖော်ပြထားပါသည်။

အချိန်	ဗုဒ္ဓဟူးနေ့၊ မတ်လ ၁၈ရက်၊ ၂၀၂၁ ပြည့်နှစ်။
နေရာ	အစည်းအဝေးခန်းမ၊ ရေးသံလှေစက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ်၊ ရန်ကုန်မြို့။
အစီအစဉ်အကျဉ်း	စက်ရုံနောက်ခံအကြောင်း စက်ရုံလုပ်ငန်းအကြောင်း ပတ်ဝန်းကျင်ထိခိုက်မှုနှင့် လျော့ချရေးအစီအစဉ် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့် စောင့်ကြပ်ကြည့်ရှုမှုအစီအစဉ် အမေးအဖြေကဏ္ဍ
တက်ရောက်သူဦးရေ	၁၆ ဦး
အကြံပြုချက်များ	ဦးအောင်နိုင်ဝင်း (ရပ်ကျေးအုပ်ချုပ်ရေးမှူး) <ul style="list-style-type: none"> <li>စက်ရုံလည်ပတ်ခြင်းမှ ရရှိလာမည့် အသားတင်အမြတ်ငွေများထဲမှ ဒေသ၏ ပညာရေး၊ ကျန်းမာရေး၊ လူမှုစီးပွားရေးနှင့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးတို့တွင် ကူညီထောက်ပံ့ပေးပါရန်၊</li> </ul> <p>ဦးကျော်ကျော် (လက်ထောက်ကြီးကြပ်ရေးမှူး- ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနှင့် မြို့တော်သန့်ရှင်းသာယာရေးဌာန)</p> <ul style="list-style-type: none"> <li>ထိခိုက်ဒဏ်ရာများအတွက် ဆေးဝါးအလုံအလောက်ထောက်ပံ့ပေးရန်</li> <li>စွန့်ပစ်အမှိုက် (အစိုင်အခဲ) စွန့်ပစ်ရာတွင် ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးကော်မတီမှချမှတ်ထားသော လမ်းညွှန်ချက်များကို လိုက်နာဆောင်ရွက်ရန်</li> <li>အလုပ်သမားများအတွက် လုံလောက်ကောင်းမွန်သော မိလ္လာစနစ်ကို စီစဉ်ထားပေးရန်</li> </ul>

**Environmental Management Plan****နိဂုံး**

နိဂုံးချုပ်အားဖြင့် ယခုစီမံကိန်းသည် ဆောက်လုပ်ရေးကာလ၊ လုပ်ငန်းလည်ပတ်သည့်ကာလနှင့် လုပ်ငန်းဖျက်သိမ်းသည့် ကာလသုံးခုလုံးတွင် ဒေသခံပြည်သူများကိုအလုပ်အကိုင် အခွင့်အလမ်းများ ဖန်တီးပေးနိုင်သည်။ ကာလသုံးခုလုံးတွင် ဖြစ်ပေါ်လာနိုင်သော ထိခိုက်မှုများကို လျှော့ချနိုင်မည့် နည်းလမ်းများနှင့် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်အား အကောင်အထည်ဖော်ခြင်းဖြင့် လျှော့ချနိုင်သည်။ ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုမှု အစီအစဉ်အား စီမံကိန်း၏ ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေးကို စောင့်ကြပ်ကြည့်ရှုရန် မဖြစ်မနေ အကောင်အထည်ဖော်ပေးရမည်။ စီမံကိန်းကောင်အထည်ဖော်သူသည် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာနမှ ယခုအစီရင်ခံစာအား စစ်ဆေးပီးနောက် ပြန်လည်ပေးပို့လာသော သဘောထားမှတ်ချက်နှင့် အကြံပြုချက်များကိုလိုက်နာရမည်။ ထို့ပြင် စီမံကိန်းအကောင်အထည်ဖော်သူသည် မြန်မာနိုင်ငံ၏ ပတ်ဝန်းကျင်နှင့် သက်ဆိုင်သောမူဝါဒများ၊ ဥပဒေများ၊ နည်းဥပဒေများ၊ သတ်မှတ်ချက်များကို လိုက်နာရန်လိုအပ်ပါသည်။

## **EXECUTIVE SUMMARY**

### **Introduction**

Environment Management Plan is required for ensuring sustainable development. It should not affect the surrounding environment adversely. The management plan presented in this chapter needs to be implemented by the proposed expansion of Myanmar Bestex Garment Company Limited. The Environmental Management Plan (EMP) aims at controlling pollution at source with available and affordable technology followed by treatment measures. Waste minimization and waste recycling measures are emphasized. In addition to the Industry specific control measures, the proposed industry should adopt following guidelines.

The project is new investment for manufacturing of High Quality Garment by Contract Manufacturing Process (CMP) basic company from China. The project is issued by the Yangon Region Investment Committee (YRIC) on 27 January 2020 with the Endorsement No. (YGN- 323/2020). YRIC notified for the environmental approval and comments of the Ministry of the Natural Resources and Environmental Conservation (MONREC) on the proposed project and had approved the proposal for investment in Manufacturing of Garment on CMP basis under the name of Myanmar Bestex Garment Company Limited as a solely owned foreign investment from the China.

According to the Myanmar Environmental Conservation Law (2012), it requires that the proponents of every development project in the country submit either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) to Ministry of Natural Resources and Environmental Conservation (MONREC). As per the comments of Environmental Conservation Department (ECD), said project requires an Environmental Management Plan (EMP) to meet the environmental assessment requirements of Notification No. Yaka- 1/3/4 (EIA) (2695/2019) on 2 December 2019. Therefore, Myanmar Bestex Garment Company Limited commissioned Myanwei Environmental Solutions Company Limited for EMP report study. The specific objectives of this study are;

- ✓ Identify the major impacts that are may arise from the activities of the proposed project on natural environmental and socio-economic environment of the project area
- ✓ Describe the mitigation measures to minimize these impacts
- ✓ Prepare and implement Environmental Management Plan for the project
- ✓ Make sure that EMP is developed sufficiently and sound for the proposed project and
- ✓ Corporate Social Responsibility Plan (CSR Plan) plays an essential part for the improvement of the social welfare of community as well as development of the region.

The proposed project aims to manufacturing of garment under CMP system and 100% export to foreign country.

The main purpose of this EMP report is to obey the rule and regulation of Local and International Environmental Protection programs and harmonize with the environmental and also describes the responsible person and his responsibility.

### **Policy, Legal and Institutional Framework**

National Laws and Regulations, international guidelines are referred for Environmental Management Plan of the proposed project.



**Environmental Management Plan**

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1. The Constitution Law, 2008
2. The Environmental Conversation Law, 2012
3. The Environmental Conversation Rule, 2014
4. Environmental Impact Assessment Procedure, 2015
5. National Environmental Quality (Emission) Guideline, 2015
6. National Myanmar Environmental Policy, 2019
7. Foreign Investment Law, 2012
8. Foreign Investment Rule, 2013
9. Myanmar Investment Rule, 2017
10. Myanmar Insurance Law, 1993
11. Payment of Wages Law, 2016
12. The Payment of Wages Act, 1936
13. Yangon City Development Committee Law, 2018
14. The Amended Law for Factories Act, 1951 (2016)
15. The Private Industrial Enterprise Law
16. The Export and Import Law, 2012
17. The Prevention of Hazard from Chemical and Related Substances Law, 2013
18. The Underground Water Act
19. Myanmar Fire Brigade Law, 2015
20. Fire Safety Procedure
21. The Electricity Law, 2014
22. Boiler Law, 2015
23. Labor Dispute Settlement Law, 2012
24. The Law Amending the Settlement of Labor Dispute Law, 2019
25. The Social Security Law, 2012

**Environmental Management Plan**

26. The Employment and Skill Development, 2013
27. The Worker's Compensation Act, 1923
28. The Leave and Holidays Act (1951, partially reused in 2014)
29. The Minimum Wage Law, 2013
30. Public Health Law, 1972
31. Prevention and Control of Communicable Disease Law (1995 Amendment in 2011)
32. Occupational Safety and Health Law, 2019
33. The Law on Standardization
34. လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သော ဝတ္ထုပစ္စည်းများဆိုင်ရာ ဥပဒေ (2018)
35. The Motor Vehicles Law, 2015
36. The Conservation of Water Resources and River Law, 2006
37. The Commercial Tax Law (1990 Amended 2014)

**Project Description**

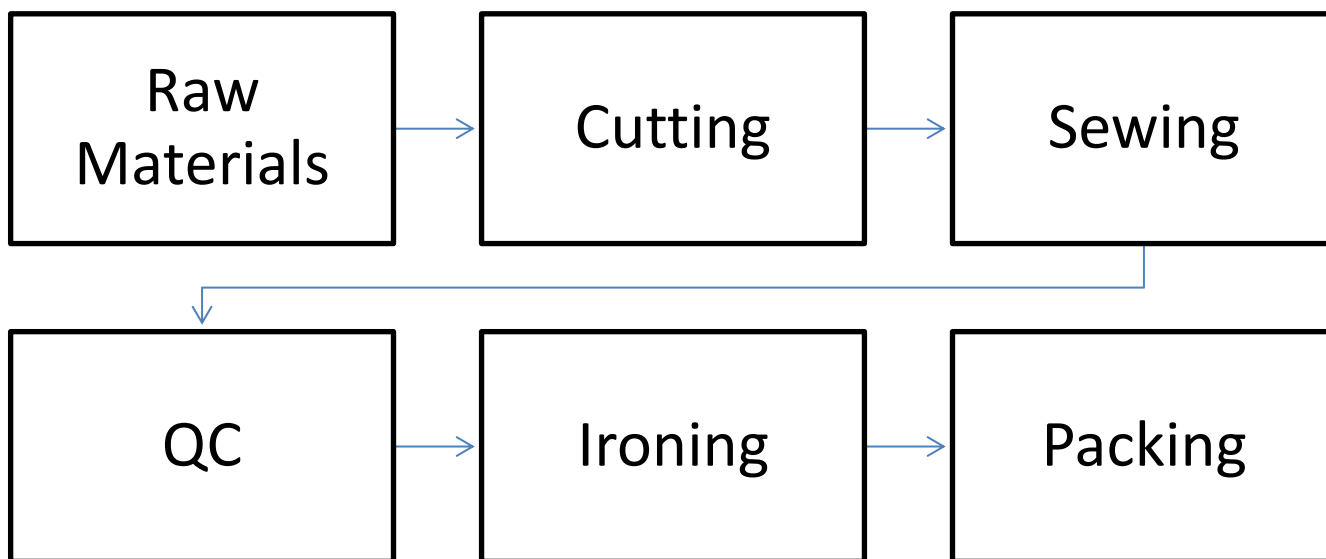
Type of Proposed Business	Manufacturing of Garment on CMP Basis
Type of investment	100% Foreign Investment
Name of Company	Myanmar Bestex Garment Company Limited
Land lease year	35 years
Total land area	1 acre of 2.762 acres (4046.86 sq-m)
Type of land	Industrial Land
Construction Period	1 year
Address of Proposed Project	Plot No. (117), Myay Taing Block No.14, Shwe Than Lwin Industrial Zone, Hlaing Thar Yar Township, Yangon Region.
Contact Address	Daw Thandar Aung 09-697066291 xiao Cheng2007@163.com

The proposed project is located at Yangon region. The total area of project site is 1 acre of 2.762 acres (4046.86 sq-m). Main structure is designed into production area for three building. 300,000Kwh per year will be proposing to consume for the factory and general usage of water for the factory is 2000 gallons per month and 3000 gallons per month for boiler water. The main water source will be utilize from underground water. 0.7 MPa capacity boiler will be using and the wood pallet as the fuel is 0.5 ton per week. Diesel usage for generator and vehicles is estimated amount of 20 gallons per month and

**Environmental Management Plan**

systemically storing in fuel can. These machines and office equipments will be purchase from other countries. Discharges solid wastes are separately storing and will be rom the factory

Transformer room and generator room are separated by main factory building structure. The factory layout plan which is also can be seen in this report. The main product of the Myanmar Bestex Garment Company Limited is ladies' T-shirts and shorts. The Utilities for proposed factory include electrical power, fuel oil for emergency used generator and water for domestic use. Electric power is used for the purpose of to provide lighting.

**Production Process of Myanmar Bestex Garment Factory**

Production rate of Myanmar Bestex Garment factory is produced between first year of operation and ten-years operation as 102,300 to 112,530 pieces annually. It is required of work force (5) foreigners technician and (306) local employees for first year operation to 10 years operation.

**Brief Description of Surrounding Environment and Analysis Results**

Primary data and secondary data collections are very imported to assess environmental impacts. Primary data collections (environmental quality measurements and monitoring) play an important role for conducting EMP. Therefore, Myanwei Consulting Group Limited conducted air quality, temperature and humidity, noise level measurement and light pollution measurement on 17 February 2020 and compared with the National Environmental Quality (Emission) Guidelines and also described how to reduce the impact and how to maintain the pollutions. It was observed that the air quality of NO<sub>2</sub> and SO<sub>2</sub> concentration level are within the limit of NEQ (emission) guideline but particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>) are highly above the National Environmental Quality (Emission) Guidelines. Air pollutants a little bit can have affect on ambient air quality as in environmentally. Accroding to the results of noise and light measurements that are in normal condition. Also described the weather conditions, rainfalls and socio-economic component of the proposed project.

**Potential Environmental Impact and Mitigation Measure**

**Environmental Management Plan**

Possible effects, such as impacts on environmental resources, ecological resources, human and waste disposal due to construction, operation and decommissioning processes. Potential impacts for the proposed projects are normally differentiated into three main categories, viz, Construction phase, Operation phase and Decommissioning phase.

The relative importance of each impact is assessed based on the understanding that general mitigation measures will be integrated into the baseline project. Therefore, when the general mitigation measures reduce impacts to the point of rendering them negligible they are excluded from further analysis. Once the significance of the impact is established as more than negligible, it is described and additional, specific mitigation measures may be proposed to allow optimal integration of the project into the environment.

**Evaluation and Perdition of Significant Impacts**

<b>Environmental Impact</b>	<b>Project Activities</b>	<b>Impact Significance</b>	<b>Mitigation Measure</b>
Air pollution	<ul style="list-style-type: none"> <li>Dust and GHGs emission from vehicles used for transporting raw materials and final products</li> <li>Particulate matters emission from the activities of production process</li> <li>Emission of smoke from steam boiler (rice briquettes) and kitchen</li> <li>Emission from emergency diesel generator</li> </ul>	Moderate	<ul style="list-style-type: none"> <li>Install the efficient stack high in boiler and generators and must be careful to reduce the expense and CO<sub>2</sub> emission.</li> <li>Plant and grass plantation programs must be provided at project site</li> <li>Using the modern machinery.</li> <li>Machinery and vehicles regular check and maintain</li> <li>Install good ventilation system in order to reduce the indoor air pollution</li> </ul>
Water pollution	<ul style="list-style-type: none"> <li>Sewage disposed of from the toilets</li> <li>Oil spill and grease leaks from transporting vehicles and machinery equipment used in operation phase</li> </ul>	Low	Install water meter for internal control of water consumption <ul style="list-style-type: none"> <li>Channeling and retention of water to reduce erosion and situation</li> <li>Collection and treatment of sewage and organic waste</li> <li>Increased recycling and reuse of water</li> <li>Neutralization and sedimentation of wastewater</li> </ul> Dewatering of sludge and appropriate disposal of solids

**Environmental Management Plan**

<b>Environmental Impact</b>	<b>Project Activities</b>	<b>Impact Significance</b>	<b>Mitigation Measure</b>
Soil Contamination	<ul style="list-style-type: none"> <li>Accidental spillage of oil used by vehicles operating</li> </ul>	Very Low	Carefully hand the machines and to cover the oil spillage
Noise Pollution	<ul style="list-style-type: none"> <li>Generating noise from the production machinery</li> <li>Noise from the generating of the emergency generators</li> </ul>	Low	<p>Ensure all the machineries are well maintained to reduce noise</p> <ul style="list-style-type: none"> <li>Heavy duty muffler systems on heavy equipment</li> <li>Emergency use of diesel generator must be ensured by soundproof</li> <li>Noise level monitoring programs must be designed and conducted by trained specialists at production area</li> </ul>
Fire Hazard	<ul style="list-style-type: none"> <li>Poor electrical installations</li> <li>waste disposed area</li> <li>Raw materials storage</li> </ul>	Low	<ul style="list-style-type: none"> <li>Separately assembly the raw materials and use the dangerous electricity utility</li> </ul>
Solid waste	<ul style="list-style-type: none"> <li>residual pieces of fabric scraps from the production lines</li> <li>Waste from packaging materials</li> <li>Waste from kitchen, dormitory and office.</li> </ul>	Moderate	<ul style="list-style-type: none"> <li>Recycle and reuse the solid wastes and discharges at the dumping site</li> </ul>
Liquid waste	<ul style="list-style-type: none"> <li>Septic system and sewage.</li> <li>Domestic liquid waste disposal from office, kitchen and dormitory.</li> </ul>	Moderate	<ul style="list-style-type: none"> <li>Use of less excessive and more environmentally friendly packaging materials</li> <li>Regularly inspection must be carried out of all bulk containment on site prevent leakage and product loss</li> <li>Train both cleaners and employees for proper good housekeeping practice at production area</li> <li>Regular check the temporary storage site of generated solid waste from the whole factory</li> <li>All employee must be followed and practiced by the principle of waste reduction, recycling, recovery and reusing</li> <li>Solvents and Oil waste must be collected by designated jerry cans</li> </ul>

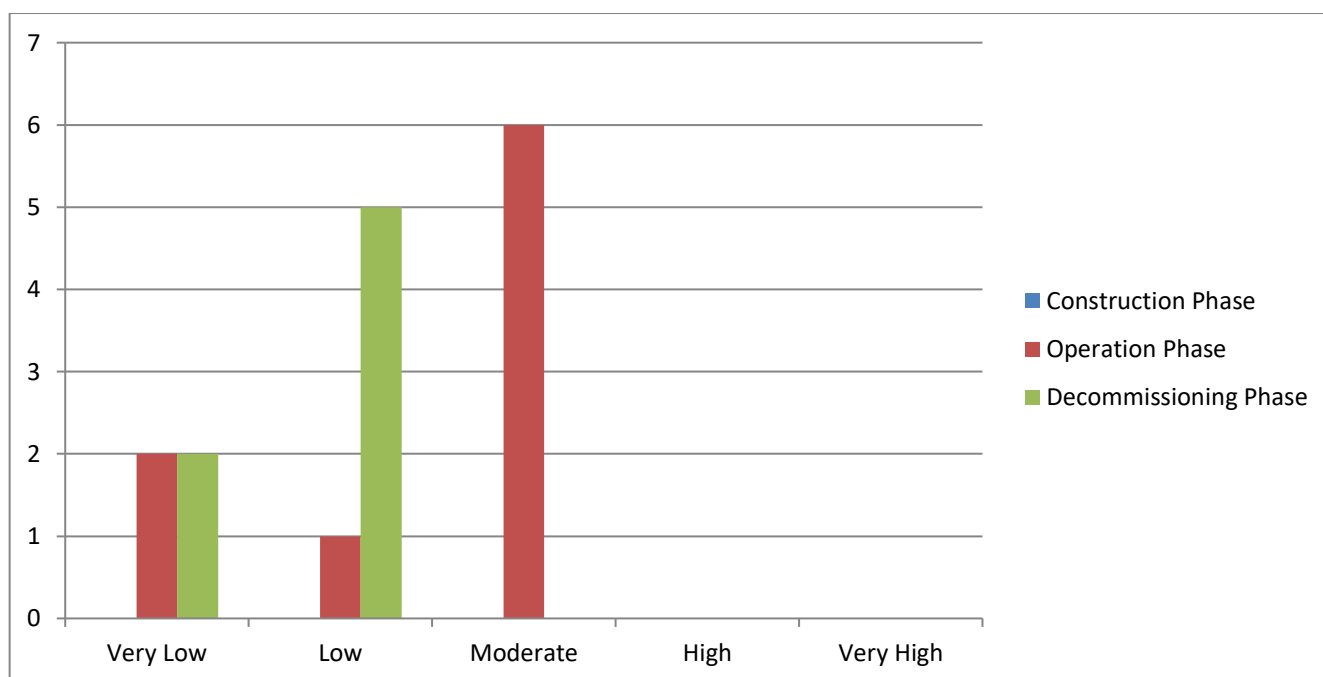
**Environmental Management Plan**

<b>Environmental Impact</b>	<b>Project Activities</b>	<b>Impact Significance</b>	<b>Mitigation Measure</b>
			<ul style="list-style-type: none"> <li>• Provide appropriate control devices in storage of solvents, diesel to avoid possible leakages</li> <li>• Dispose at permitted areas specially designed to receive the waste</li> <li>• Separate areas must prepare for rejected products, waste materials and chemicals.</li> <li>• All waste must be disposed of any applicable environmental regulation</li> <li>• Ensure that all inside and outside areas, buildings, facilities and equipment are kept clean and in good state to function as intended and to prevent contamination</li> </ul>
Hazardous waste	<ul style="list-style-type: none"> <li>• Engine oil leaks, spills at diesel storage and during fuel refueling.</li> <li>• Used oil and lubricant discharged from the maintenance of vehicles and machines.</li> </ul>	Very Low	<ul style="list-style-type: none"> <li>• Systemically store the fuel oil and hazardous materials</li> </ul>
Occupational Health and Safety (Accidents, Injuries)	<ul style="list-style-type: none"> <li>• Accidental cases cause by operating machines.</li> <li>• Electricity and emergency diesel generators.</li> <li>• Unloading, mixing, cutting, pressing and packaging activities.</li> <li>• Accidental cases of thermic fluid heater</li> </ul>	Moderate	<ul style="list-style-type: none"> <li>• Monitor and strict of employee and workers to wear the uniform and full personal protective equipment (PPE) during working at operation area</li> <li>• Arrange appropriate health check-up facilities</li> <li>• Measure the PM 10 and PM2.5 concentrations in production area by quarterly and compare with NEQ (emission) guideline</li> <li>• Plant must implement the safety and health program designed to identify, evaluate, monitor and control safety and health hazards</li> <li>• All employee must not be exposed at noise</li> </ul>

**Environmental Management Plan**

Environmental Impact	Project Activities	Impact Significance	Mitigation Measure
			<p>level greater than 85 dB(A) for a duration of more than 8 hours per day without hearing protection.</p> <ul style="list-style-type: none"> <li>• Use of hearing protection must be enforced actively when the equipment sound level over 8 hours reaches 85 dB (A)</li> <li>• Ensure all rooms are well ventilated and Lighting</li> <li>• Ensure factory laws are strictly followed</li> <li>• Clearly display warning signs or symbols for dangerous areas at the factory</li> <li>• Monitoring plan must be prepared by accredited professionals</li> <li>• Regular maintenance of the road and Use of traffic signs</li> </ul>

According to the result of analysis, it can be concluded that most of the project activities have low significance on environment, in all phases. Project activities that can produce solid waste and liquid waste are moderate significance. Moreover, project activities that emit dust and GHGs and accidental cases are moderately significant. Fire hazard potential of the proposed project and noise pollution are highly significant. But this can be prevented or mitigated by using the following mitigation measures. The following figure shows the impact significance of the proposed project.

**Environmental Management Plan****Impact Significance of the Proposed Project****Environment Management Program**

The proposed project of environmental management plan, which need to made the Environmental Management System (EMS). In that plan, it includes not only reducing to the environmental and social-economic impact but also includes the environmental management plan and the monitoring plan. In this EMP to implement the health, safety and occupational for the industry, they need to create a team and to must be implemented that. The EMP for Myanmar Bestex Garment Company Limited has been prepared to address potential issues based upon discussion with factory management, workers, local community's view, stakeholder consultation and from the site visit of experts. The EMP is additional to and compliments the factory's safety management system. The following environmental issues that require environmental management plans based upon the potential impacts of activities by for Myanmar Bestex Garment Company Limited are as follows:

**Air Pollution and Dust Management Plan**

Management Action	<ul style="list-style-type: none"> <li>➤ Must be plant around the proposed project to reduce carbon emission</li> <li>➤ Should be prohibited burning of waste material at the proposed project site</li> <li>➤ Must be control air pollution, the vehicles, generators and machineries have to check and maintain regularly.</li> <li>➤ Install the efficient chimney for generators and biomass steam boiler and regular check the generators and boiler for minimizing the emissions of smoke from these.</li> <li>➤ Must be ensuring vehicles, compressor and generator are well maintained.</li> </ul>
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**Environmental Management Plan**

	➤ The factory should install appropriate boiler stack height and regularly maintain the using industrial boiler in order to recover the emission of air pollutants from boiler.
Estimated Cost	Approximately 2,000,000 Kyats per year
Responsible Person	Management of the proposed factory; <ul style="list-style-type: none"> <li>▪ Head of maintenance: Total implementation of above of air pollution management plan</li> <li>▪ Production manager: Air quality in the production area is good enough</li> <li>▪ Manager: To hire organization/ independent third-party testing air quality</li> <li>▪ EHS officer: Monitor the hygiene of ambient air quality in surrounding of the factory</li> </ul>

**Noise Management Plan**

Management Plan	<ul style="list-style-type: none"> <li>• Building noise insulated generator room and ensure satisfactory maintenance of relevant equipment</li> <li>• Impose speed limit to track and vehicles at the transportation route.</li> <li>• Emergency use of diesel generator must be ensured by soundproof</li> <li>• Noise level monitoring programs must be designed and conducted by trained specialist at production area</li> </ul>
Estimated Cost	<ul style="list-style-type: none"> <li>• Approximately 300,000 Kyats per year</li> </ul>
Responsibility	<p>Manager</p> <ul style="list-style-type: none"> <li>• To hire organization/independent third party testing noise level</li> <li>• Ensure that all workers use PPE during operation</li> </ul>

**Solid Waste Management Plan**

Management Plan	<ul style="list-style-type: none"> <li>• The factory does not dispose the any sort of solid wastes on the factory premises or not dump in the surface water like a local pond, canal or river, etc.</li> <li>• The solid wastes are stored properly and separately in a certain location in proper manner such as cloth scrap waste need to collect at one place and poly/carton waste should collect at another place. Metal/Hazardous material waste such as fudge electric bulbs and empty chemical container is stored another in separate place of storage area.</li> <li>• Recycle wastes like cloth scrap, carton box, plastic sheet, etc. are hand over to local buyer for reuse and waste-tracking record shall be kept every day.</li> <li>• The metal or glass waste of electric bulb is taken by the suppliers to recycle them.</li> <li>• The daily domestic waste of worker hand-over to YCDC waste collector to collect every day</li> </ul>
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**Environmental Management Plan**

	<ul style="list-style-type: none"> <li>Daily wastes are stored clearly labeled containers and in such a manner that all related personnel are provided proper training about the relevant issues.</li> </ul>
Estimated Cost	<ul style="list-style-type: none"> <li>Approximately 800,000 Kyats per year</li> </ul>
Responsibility	<p>Manager (HR)</p> <ul style="list-style-type: none"> <li>Responsible for overall site cleanliness and waste management</li> <li>Regular waste collection to minimize excessive waste storage</li> </ul>

**Liquid water Management Plan**

Management Plan	<ul style="list-style-type: none"> <li>Ensure that drainage lines and sewage system of factory and the nearest public drainage are watertight and sufficient capacity</li> <li>Regular check and maintain sewerage facility.</li> <li>Clean the factory drainage to avoid odor emission and to avoid the block of water flow</li> <li>Regularly monitor and check the discharge temperature from boiler wastewater before directly discharge into factory's final drainage</li> </ul>
Estimated Cost	<ul style="list-style-type: none"> <li>Approximately 300,000 Kyats per year</li> </ul>
Responsibility	<ul style="list-style-type: none"> <li>Manager -To hire organization/independent third party testing wastewater quality</li> <li>EHS officer-Monitor the condition of factory's drainage and sewerage system</li> </ul>

**Energy Management Plan**

Management Plan	<ul style="list-style-type: none"> <li>Installation of timers and thermostats to control heating and cooling</li> <li>Energy saving light installed in different area of the factory for saving energy</li> <li>Used of energy saving devices must be installed</li> <li>Ensure that good housekeeping measures such as turning off equipment and lights when not in use</li> </ul>
Estimated Cost	<ul style="list-style-type: none"> <li>Approximately 400,000 Kyats per year</li> </ul>
Responsibility	<p>Manager</p> <ul style="list-style-type: none"> <li>To arrange energy, audit technical personnel</li> <li>To monitor and record electricity consumption, other related energy issues and take necessary actions if any problem arises</li> </ul>

**Water Management Plan**

Management Plan	<ul style="list-style-type: none"> <li>Install water meter for internal control of water consumption</li> <li>All staff trains and makes aware conservation practices and proper methods of water use must be place in toilets and other areas of water consumption</li> <li>The contamination of water is avoided by suitable management of oil and fuel used in machineries and vehicles</li> </ul>
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**Environmental Management Plan**

	<ul style="list-style-type: none"> <li>• Trees plantation surrounding the factory</li> </ul>
Estimated Cost	<ul style="list-style-type: none"> <li>• Approximately 300,000 Kyats per year</li> </ul>
Responsibility	<p>Manager</p> <ul style="list-style-type: none"> <li>• Arrange audit on water usage controls environmental officer</li> </ul>

**Emergency Response and Disaster Management Plan**

Management Action	<ul style="list-style-type: none"> <li>➤ The factory management has taken proper measures to handle any emergency situations like fire, earthquakes, cyclones and floods</li> <li>➤ Provision and inspection of firefighting equipments and fire hydrant system in all the sections for the accidental cases of explosions and mechanical malfunctionings</li> <li>➤ Workers are informed about what to do in earthquake like stay in a safe place such as under table of desk, not to try move outside during earthquake, workers who will be outside during earthquake shall remain stay out of the building, trees, lump post, etc. Other relevant safety instruction of emergency situation it informed to workers by training</li> <li>➤ Periodic inspection of safety relief valve provided with pressure vessels and equipment, preventive maintenance; aware the workers about electric shock by necessary training.</li> <li>➤ A detail evaluation plan (fire exist, emergency exit door, etc.) is established and communicated with workers</li> <li>➤ Workers are aware of dangers from physical hazards such as obstacles covered by floodwater (storm debris, drainage opening, ground erosion) and from displaced reptiles (Snake) or other animals.</li> <li>➤ A medical team has been prepared for primary treatment (First Aid)</li> <li>➤ Prepare an emergency contact directory consisting contact numbers of nearest fire service, local police station, hospitals, etc. and display it in a place that everybody can see it easy.</li> <li>➤ Build a safety committee which from firefighting team, rescue team. The committee arrange a meeting every month to discuss about safety management</li> <li>➤ Ensure proper training of the employees about the disaster management, fire safety as well as occupational health and safety</li> </ul>
Estimated cost	Approximately 1,500,000 Kyats per year
Responsibility	<p>Manager and EHS officer</p> <ul style="list-style-type: none"> <li>➤ Arrange firefighting training after every 3 months</li> <li>➤ Responsible for fire control and response</li> <li>➤ Monitoring daily danger warning and bans</li> </ul>
Emergency contacts	Hlaing Tharyar Township

**Environmental Management Plan**

	Fire Station (01-707550, 645017) Emergency Ambulance Service (09-21060999) Ayawaddy Foundation (01-225829, 225837) YGH (192) Pun Hlaing Hospital (+9513684323, 3684325, 3684336) Yangon Police Station (01-707550, 645017)
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**Crisis situation Management Plan**

Management Action	<ul style="list-style-type: none"> <li>➤ The factory management has taken appropriate escape ways to handle any emergency situations like crisis, political cases and other criminal cases.</li> <li>➤ Strictly Follow the prevention measures of COVID-19 during pandemic periods</li> <li>➤ Prepare the factory from losing of unexpected adverse offensive and move all easily flammable materials are in or not in free crisis area</li> <li>➤ Build a safety committee which from firefighting team, rescue team. The committee arrange a meeting every week to discuss about safety management of the factory within crisis periods.</li> <li>➤ Ensure proper training of the employees about the crisis management, fire safety as well as I health and safety.</li> </ul>
Estimated cost	Approximately 1,000,000 Kyats per year
Responsibility	Manager, OHS team, and Fire fighting officer.

**Public Consulting**

This chapter presents results of public consultation and information disclosure conducted for the Myanmar Bestex Garment Company Limited. Public participation can consider as the required element of the EMP process. In this study various stakeholder participation were made. Public consultation during preparation of EMP report was conducted on March 18, 2020, following the EIA procedure. The project's stakeholders in this category are key officials or representatives of the regional and local authorities who have direct responsibilities for the administration of the EMP process for environmental and social clearance and issuing operation permits for proposed development projects. For this factory, relevant key offices at the national level are Environmental Conservation Department (ECD) and Industry Supervision and Inspection Department. Relevant key office at the regional level is Yangon City Development Committee (YCDC), General Administrative Department, Fire Department, Factories and General Labor Law Inspection Department, Public Health Department, Industrial Supervision and Inspection Department.

Time and Date	Wednesday, March 18, 2020 10:30-12:30
Venue	Meeting Room, Shwe Than Lwin Industrial Zone, Hlaing Tharyar Township, Yangon.

**Environmental Management Plan**

Attended Participants	16 persons
Agenda	<p>Presentation on the Background Information of Project, Project Description, Impact Assessment, Environmental Mitigation Environmental Management Plan and Monitoring Plan Received and Answer from feedback of participants</p>
	<p>U Aung Naing Win; Director (General Administration Office)</p> <ul style="list-style-type: none"> <li>To provide 2% of net profit for CSR program according to MIC's guideline for implementation of CSR program for education, health, society, and environment.</li> </ul> <p>Suggestion; U Kyaw Kyaw; Assistant supervisor (Environmental Conservation and Cleaning Department-Industrial Section) YCDC</p> <ul style="list-style-type: none"> <li>To provide the medicines for aliment and must be enough the medicines for injuries</li> <li>To compliance with YCDC procedure for solid waste management and disposed process</li> <li>To implement the sufficient septic tank system and facilities for workers</li> </ul>

**Conclusion & Recommendation**

In Conclusion, the environmental management practices, procedures and responsibilities are defined here in to get full compliance with the existing environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar. All the feed backs, desired and needs of local public recorded in public consultation meetings are well addressed and incorporated in formulation of EMP. It has been figured out that, the proposed garment factory is going to generate local employment opportunities and enhance capabilities and working skills of employees. Consequently, their socio-economic standard is expected to be improved and undertaking corporate social responsibilities (CSR) as recommended. The study further concluded that positive impacts will be of immense benefit to the local community and national development as well.

This is recommended that;

- All appropriate environmental management measures detailed in this report, together with any other environmental management commitments should be implemented throughout the entire life of the factory
- Solid wastes and liquid wastes need to dispose according to YCDC rules and regulation
- Workers should be provided proper training and it should be ensured that workers use PPE during factory operation area.
- Daily, monthly and annual action plan shall be formulated based on this EMP and practiced at operation level.

**Environmental Management Plan**

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- Keep full records of environmental management activities and present to annual independent third party environment audit.
- Abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

Finally, the proponent should follow the comments and suggestions made by ECD after reviewing this EMP report. Once concerned authorities approve EMP, effective implementation of EMP by the project proponent is essential. The proponent should abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

Here with the Commitment of Environmental Service Provider, Myanwei Environmental Solutions Company Limited which has prepared this report with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking into account of the resources devoted to it by agreement with the client. We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

We strongly commit that this report was prepared in compliance with Myanmar Environmental Laws and Regulations.

Commitment of Proponent Company, Myanmar Bestex Garment Co.,Ltd

We refer to the captioned EMP report, which has been prepared by Myanwei Environmental Solutions Co., Ltd. (Third Party Consultant) in compliance with EIA procedure (2015) and other related laws/rules.

We believe, to the best of our knowledge at the time of writing, that;

- The EMP report is accurate and complete
- The EMP report has been prepared in strict compliance with all applicable laws, rules, regulations and procedures in force.

Myanmar Bestex Garment Company Limited will at all times comply fully with all commitment and obligations in the EMP report.

## **1. INTRODUCTION**

Environment Management Plan is required for ensuring sustainable development. It should not affect the surrounding environment adversely. The management plan presented in this chapter needs to be implemented by the proposed expansion of Myanmar Bestex Garment Company Limited. The Environment Management Plan (EMP) aims at controlling pollution at source with available and affordable technology followed by treatment measures. Waste minimization and waste recycling measures are emphasized. In addition to the Industry specific control measures, the proposed industry should adopt following guidelines.

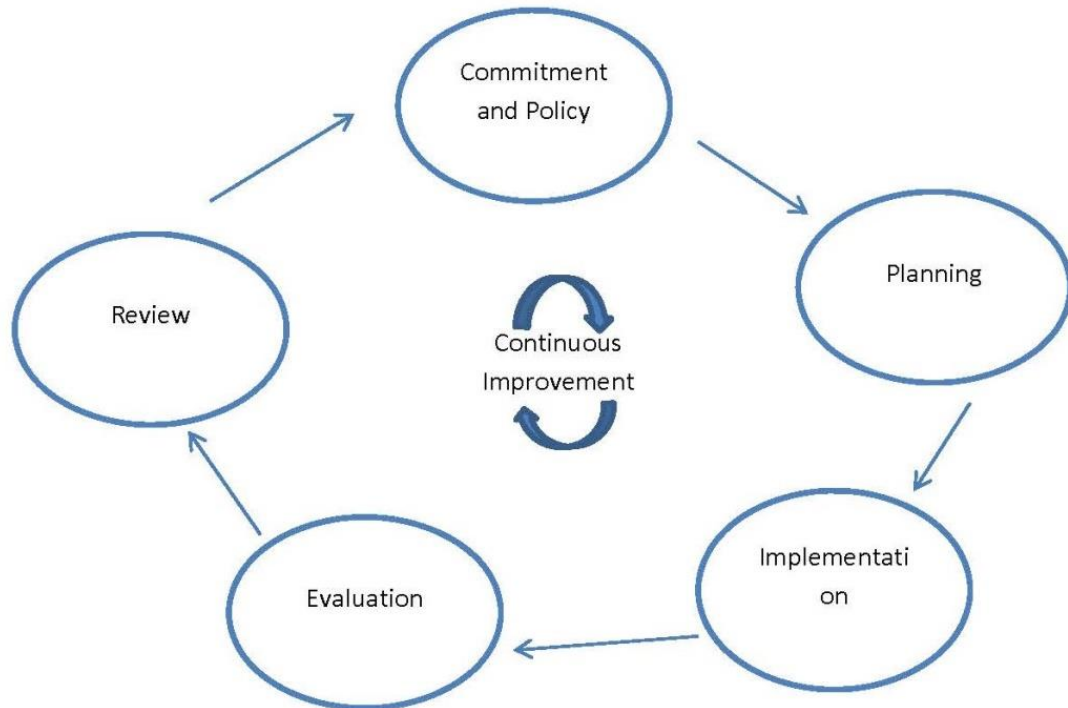
- ✓ Identify the major impacts that are may arise from the activities of the proposed project on natural environmental and socio-economic environment of the project area
- ✓ Describe the mitigation measures to minimize these impacts
- ✓ Prepare and implement Environmental Management Plan for the project
- ✓ Make sure that EMP is developed sufficiently and sound for the proposed project and
- ✓ Corporate Social Responsibility Plan (CSR) plays an essential part for the improvement of the social welfare of community as well as development of the region.

### **1.1. OBJECTIVE OF ENVIRONMENTAL MANAGEMENT PLAN**

An Environment Management System (EMS) is a framework that helps an organization achieves its environmental goals through consistent review, evaluation, and improvement of its environmental performance. The assumption is that this consistent review and evaluation will identify opportunities for improving and implementing the environmental performance of the organization. The EMS itself does not dictate a level of environmental performance that must be achieved; each organization's EMS is tailored to its own individual objectives and targets.

An EMS encourages an organization to continuously improve its environmental performance. The system follows a repeating cycle The organization first commits to an environmental policy, then uses its policy as a basis for establishing a plan, which sets objectives and targets for improving environmental performance. The next step is implementation. After that, the organization evaluates its environmental performance to see whether the objectives and targets are being met. If targets are not being met, corrective action is taken. The results of this evaluation are then reviewed by top management to see if the EMS is working. Management revisits the environmental policy and sets new targets in a revised plan. The company then implements the revised plan. The cycle repeats, and continuous improvement occurs.



**Environmental Management Plan****Figure 1-1 Continuous Improvement Circle**

- **Commitment and Policy** – Top management commits to environmental improvement and establishes the organization's environmental policy. The policy is the foundation of the EMS.
- **Planning** – An organization first identifies environmental aspects of its operations. Environmental aspects are those items, such as air pollutants or hazardous waste that can have negative impacts on people and the environment. An organization then determines which aspects are significant by choosing criteria considered most important by the organization. For example, an organization may choose worker health and safety, environmental compliance, and cost as its criteria. Once significant environmental aspects are determined, an organization sets objectives and targets. An objective is an overall environmental goal (e.g., minimize use of chemical X). A target is a detailed, quantified requirement that arises from the objectives (e.g., reduce use of chemical X by 25% by September 1998). The final part of the planning stage is devising an action plan for meeting the targets. This includes designating responsibilities, establishing a schedule, and outlining clearly defined steps to meet the targets.
- **Implementation** – An organization follows through with the action plan using the necessary resources (human, financial, etc.). An important component is employee training and awareness for all employees. Other steps in the implementation stage include documentation, following operating procedures, and setting up internal and external communication lines.
- **Evaluation** – A company monitors its operations to evaluate whether targets are being met. If not, the company takes corrective action.
- **Review** – Top management reviews the results of the evaluation to see if the EMS is working. Management determines whether the original environmental policy is consistent with the organization's values. The plan is then revised to optimize the effectiveness of the EMS. The review stage creates a loop of continuous improvement for a company.



**Environmental Management Plan**

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**1.1.1. Institutional Requirement**

Myanmar Bestex Garment Company Limited will manage the development of the proposed project. The project proponent should appoint Health, Safety and Environment (HSE) issues throughout the duration of the project phases. HSE team is responsible for implementation and monitoring of EMP and Environmental Monitoring Plan (EMoP) as well as coordination with local authorities and the nearby communities. The HSE Team also makes regular review of EMP to cover all potential impacts, amendments and modifications.

**1.1.2. Responsibilities of the EMP**

In order to ensure the sound development and effective implementation of the EMP, it will be necessary to identify and define the responsibilities. The environmental management practices, procedures, and responsibilities are defined herein to get full compliance with the existing environmental policy, laws, rules and regulations of the Republic of the Union of Myanmar. The following entities should be involved in the implementation of this EMP:

**Myanmar Bestex Garment Company Limited.:** The proponent will be charged with the responsibility for ensuring that the proposed development has been accomplished in an environmentally sound manner. This can be achieved by inclusion of environmental specifications in the tender specifications, selection of environmentally conscious contractors, and supervision to ensure that the objectives of this EMP are met. The implementation of Environmental Management Plan (EMP) process will prepare and follow up by appointed persons for health, safety, and environmental management under the instruction of management team of Myanmar Bestex Garment Company Limited for EMP implementation facilities.

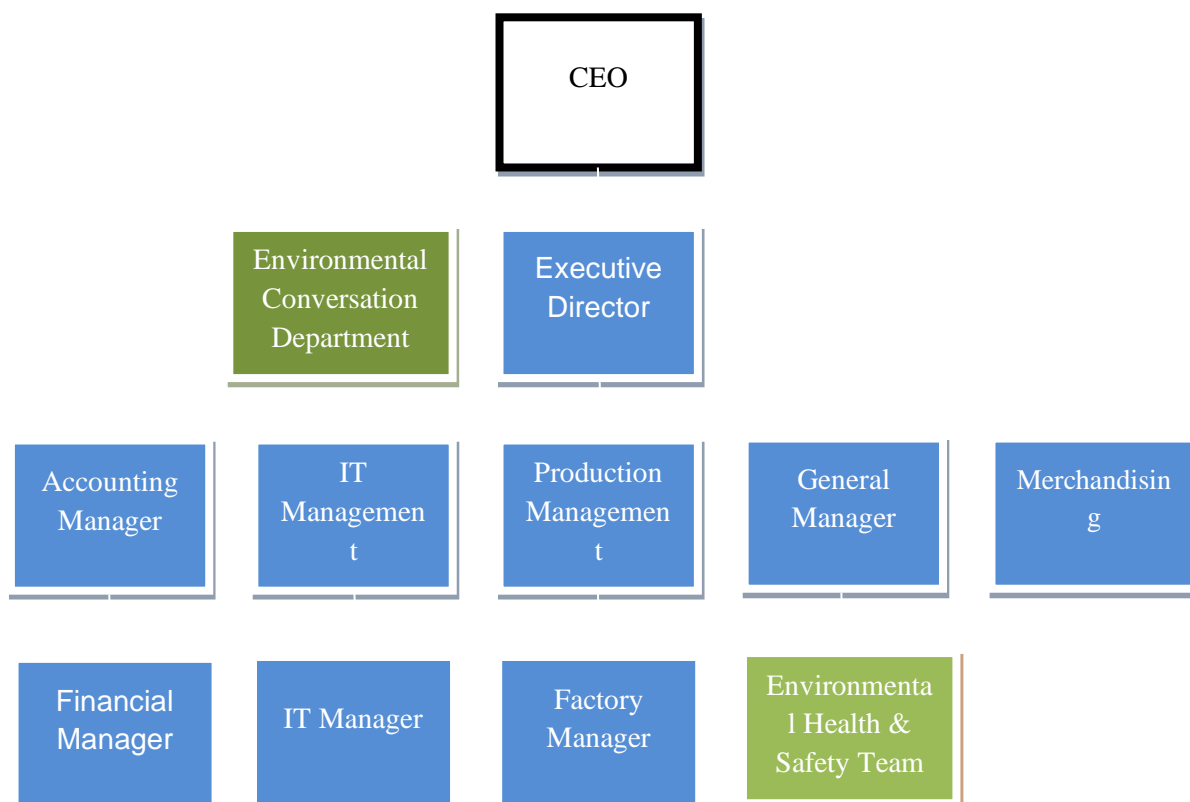
**ECD (Yangon Region):** The responsibility of ECD is to exercise general supervision and coordinating over all matters relating to the environment and to be instrumental in providing guidance for recognized regulatory frameworks.

**Third-Party Environmental Consultant:** The environmental consultant will have to ensure that the proposed EMP is up to date and is being followed properly by the proponent. Periodic audits of the EMP will have to be done to ensure that its performance is as expected, by comparing with operating standards so that any corrective actions can be taken.

**1.1.3. Structure and Responsibilities for the EMP Development and Implementation**

The HSE officer is responsible to the HSE components of the project and on matters relating to the implementation of the EMP throughout operation life. The S&E officer will have responsibilities that include:

- Ensure a monitoring system is in place to track and report all health, safety and environmental incidents;
- Carry out a thorough initial site inspection of environmental controls prior to work commencement;
- Record and provide a written report to the General manager and production team of non-conformances with the EMP and require the HR supervisor to undertake mitigation measures to avoid or minimize any adverse impacts on environment or report required changes to the EMP.

**Environmental Management Plan****Figure 1-2 Organization Structure of Environmental Management****Table 1-1 Responsibilities of HSE Membes**

<b>Roles</b>	<b>Responsibilities</b>
General Manager	<p>The General Manager will be assisted by the Operations Manager and also the HR and HSE Officer. In terms of environmental protection commitments, the Operation Manager will be the key driving force and will be responsible for:</p> <ul style="list-style-type: none"> <li>• Establishing overall environmental direction and policy</li> <li>• Ensuring the implementation of the EMP</li> <li>• Ensuring investigation of all environmental incidents are reviewed and that reports are submitted on time</li> <li>• Ensuring an effective system of internal and external communication is in place</li> <li>• Providing advice regarding the environmental program</li> </ul>
Operation Manager	<p>The Operation Manager will assist the General Manager in looking into the overall environmental matters during the operational phase of the Project. The Operation Engineer will also be responsible for:</p> <ul style="list-style-type: none"> <li>• Adherence to the overall environmental direction and policy</li> <li>• Ensuring the implementation of the recommended actions in the investigation of all environmental incidents</li> <li>• Managing resources for operation wastes</li> </ul>
HR Manager	<p>The HR Manager will carry out the day-to-day management of workers and social issues in the factory. The HR Manager will be responsible for:</p> <ul style="list-style-type: none"> <li>• Assisting the management in publicising and implementing corporate and local policies, objectives and programs</li> <li>• Maintaining key environmental-related documents and information</li> </ul>

**Environmental Management Plan**

<b>Roles</b>	<b>Responsibilities</b>
	<ul style="list-style-type: none"> <li>Communicating/ liaising with the local authorities on environmental issues</li> </ul>
HSE Officer	<p>The HSE Officer will be the key person in charge of all environmental matters pertaining to the site. The HSE Officer will be responsible for:</p> <ul style="list-style-type: none"> <li>Coordinating the implementation of environmental programs, including monitoring of the project site environmental performance</li> <li>Performing periodic internal environmental audits and inspections to ensure compliance with the legal environmental requirements</li> <li>Ensure a monitoring system is in place to track and report all health, safety and environmental incidents;</li> <li>Carry out a thorough initial site inspection of environmental controls prior to work commencement;</li> <li>Record and provide a written report to the General Manager and production team of non-conformances with the EMP and require the HR Manager to undertake mitigation measures to avoid or minimize any adverse impacts on environment or report required changes to the EMP.</li> </ul>

**1.2. PROJECT BACKGROUND**

The project is new investment for manufacturing of High Quality Clothes Product by Using High Quality Garment on Contract Manufacturing Process (CMP) basic company from China. The Yangon Region Investment Committee (YRIC) issues the project on 27 January 2020 with the Endorsement No. (YGN- 323/2020). YRIC notified for the environmental approval and comments of the Ministry of the Natural Resources and Environmental Conservation (MONREC) on the proposed project and had approved the proposal for investment in manufacturing of Garment on Cutting, Making and Packaging (CMP) basis under the name of Myanmar Bestex Garment Company Limited.

According to the Myanmar Environmental Conservation Law (2012), it requires that the proponents of every development project in the country submit either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) to Ministry of Natural Resources and Environmental Conservation (MONREC). As per the comments of Environmental Conservation Department (ECD), said project requires an Environmental Management Plan (EMP) to meet the environmental assessment requirements of Notification No. Yaka- 1/3/4 (EIA) (2695/2019) on 2 December 2019. Therefore, Myanmar Bestex Garment Company Limited commissioned Myanwei Environmental Solutions Company Limited (Myanwei) for EMP report study.

**1.3. PROJECT PROPONENT PROFILE**

This is the information of project proponent from the MIC's registration that is describing in below Table 1-2 and summary of project information is presented in Table 1-3.

**Table 1-2 Information of Investor**

Investor Name:	Mr.Wang Xiaocheng
ID No. :	EH 3505688
Citizenship:	Chinese

**Environmental Management Plan**

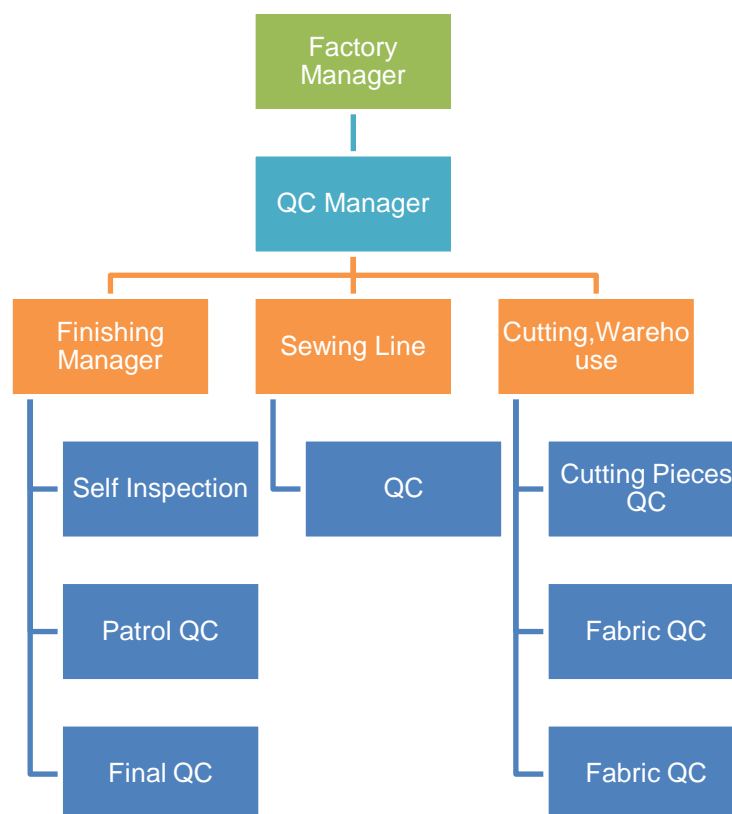
Address of Registration office: Weihai Shiny Star Clothing Co., Ltd,	No.1011, No.96, Qingdao Middle Road, Economic and Technological Development Zone, Weihai, Shandong, The People's Republic of China.
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**1.3.1. Director List**

<b>Name of Shareholder</b>	<b>Citizenship</b>	<b>Percentage</b>
Weihai Shiny Star Clothing Co., Ltd Representative by; Mr. Wang Xiaocheng	Chinese	100%

**Table 1-3 Salient features of the project**

Type of Proposed Business	Manufacturing of Garment on CMP Basis
Type of investment	100% foreign investment
Type of Share	Ordinary Share
Type of land	Industrial Land
Total land area	1 acre of 2.762 acres (4046.86 sq m)
Total building area	(260 × 150 sq ft) Factory Building (25 × 25 sq ft) Office Building
Land lease year	35 years
Construction period	1 year
Operation starting date	35 years investment permit
Address	Plot No. (117), Myay Taing Block No.14, Shwe Than Lwin Industrial Zone , Hlaing Thar Yar Township, Yangon Region.
Contact person	Daw Thandar Aung 09-697066291
Email Address	aric@whunionstar.com

**Environmental Management Plan****Figure 1-3 Organization Chart of Myanmar Bestex Garment Company Limited****1.4. ENVIRONMENTAL CONSULT PROFILE**

Myanwei Environmental Solutions Company Limited prepare the EMP for the proposed project. The field studies were carried out by Myanwei having experiences in conducting environmental assessments for various types of projects in Myanmar. The Myanwei team conducted field survey, assessment activities, and prepared the report. A reconnaissance study was performed on the proposed project site and baseline environmental data were collected from possible sources using the appropriate measuring devices. Data interpretation and analysis were made based on those collected data for the present and potential future conditions. Suitable measures were proposed for the impacts to be mitigated to reduce to acceptable ones. The environmental study was carried out by the study team and the following is a summary of team member's responsibilities during the study period.

**Table 1-4 Member of EMP Study Team**

<b>Member List</b>	<b>Responsibility</b>
Dr. Hein Lynn Aung (Director) M.B, B.S (Yangon), Master of Management from Australia	Health Impact Assessment, Mitigation and Monitoring Report Reviewing
Mr. Lin Htet Sein (Environmental Consultant) MSc (Regional Geology) BSc (Hons) Geology	Base Line Data Collecting Management, Project Description, Legal Assessment, Impact Assessment, Mitigation Measure, Monitoring plan, Report Preparation and Reviewing
Mr. Kyaw Win Han (Member)	Baseline Data Monitoring, Site Surveying

**Environmental Management Plan**

<b>Member List</b>	<b>Responsibility</b>
B.E. Chemical Engineering B. Tech Chemical Engineering	Communication with Stakeholder in Project Area
Mr. Aung Kyaw Moe (Member) B.E. Chemical Engineering B. Tech Chemical Engineering	Report Writing, Secondary Data Study
Mr. Saw Yan Naung (Member) B.E. Chemical Engineering B. Tech Chemical Engineering	Baseline Data Monitoring, Site Surveying, Communication with Stakeholder in Project Area
Mr. Myat Ko Ko (Member) B.Sc (Hons) Geology M.Sc (Economic & Mining Geology)	Baseline Data Monitoring, Site Surveying, Communication with Stakeholder in Project Area
Mr. Si Yan Hein (Member) B.Sc (Geology)	Baseline Data Monitoring, Site Surveying, Communication with Stakeholder in Project Area
Ms. Khin Thuzar Myint (Member) B.E. Materials and Metallurgy Engineering Diploma in Environmental Planning and Management	Report Writing, Secondary Data Study
Mr. Htoo Nanda Aung (Member) B.Sc (Forestry)	Baseline Data Monitoring, Site Surveying, Communication with Stakeholder in Project Area
Ms. Wah Wah Zaw (Member) B.E. Material and Metallurgy Diploma in Environmental Planning and Management M.S Environmental Planning and Management	Report Writing, Secondary Data Study
Mr. Kaung Sett Lwin (Member) BSc (Hons) Geology	Baseline Data Monitoring, Site Surveying, Communication with Stakeholder in Project Area



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01-501221, 09774431703

**Environmental Management Plan****2. POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK**

This section provides a brief summary of relevant national environmental legislations established by the MONREC and overview of current local and international environmental and social policies including related international or regional convention for the proposed project.

**2.1. MYANMAR REGULATORY FRAMEWORK**

Myanmar has 24 ministries under the Office of the President as of May 2016. The leading ministries in-charge of environmental and social considerations is the Environmental Conservation Department (ECD) of the MONREC that was reorganized Ministry of Environmental Conservation and Forestry (MOECF) in April 2016.

**2.1.1. Laws and Regulations Related to Environmental and Social Considerations**

Requirements related to environmental (and social) impact management for development projects are described in Table 2-1.

**Table 2-1 List of Myanmar's Law Relating to Environmental Management**

<b>Law and Regulation</b>	<b>Description</b>
National Environmental Policy of Myanmar, (Notification No. 26/94 dated 5 December 1994)	To achieve harmony and balance between socioeconomic, natural resources and environment through the integration of environmental considerations into the development process enhancing the quality of the life of all its citizens.
<b>Constitution 2008</b>	
Section 37, (a)	The Union is the ultimate owner of all lands and all-natural resources above and below the ground, above and beneath the water and in atmosphere in the Union.
Section 37, (b)	The Union shall permit citizens rights of private property, right of inheritance, right of private initiative and patent in accord with the laws.
Section 372	The Union guarantees the right to ownership, the use of property and the right to private invention and patent in the conducting of business if it is not contrary to the provisions of this Constitution and the existing laws.
Section 45	The Union shall protect and conserve natural environment.
Section 390, (a), (b), (c), (d)	Every citizen has the duty to assist the Union in preserving and safeguarding the cultural heritage, conserving the environment, striving for the development of human resources, and protecting and preserving the public property.
<b>Environmental Conservation Law, 30 March 2012</b>	
Objectives	to contract a healthy and clean environmental and to conserve natural and cultural heritage for the benefit of present and future generations; to maintain the sustainable development through effective management of natural resources and to enable to promote international, regional and bilateral cooperation in the matters of environmental conversation.
Section 3	c) to enable to emerge a healthy and clean environment and to enable to conserve natural and cultural heritage for the benefit of present and future generations; (d) to reclaim ecosystems as may be possible which are starting to degenerate and disappear;

**Environmental Management Plan**

	(e) to enable to manage and implement for decrease and loss of natural resources and for enabling the sustainable use beneficially;
Provisions of Duties and Powers relating to the Environmental Conservation of the Ministry: Section 7	<p>(a) To specify categories and classes of hazardous wastes generated from the production and use of chemicals or other hazardous substances in carrying out industry, agriculture, mineral production, sanitation and other activities;</p> <p>(b) To prescribe categories of hazardous substances that may affect significantly at present or in the long run on the environment;</p> <p>(c) To promote and carry out the establishment of necessary factories and stations for the treatment of solid wastes, effluents and emissions which contain toxic and hazardous substances;</p> <p>(j) To prescribe the terms and conditions relating to effluent treatment in industrial estates and other necessary places and buildings and emissions of machines, vehicles and mechanisms;</p> <p>(m) To lay down and carry out a system of EIA and SIA as to whether or not a project or activity to be undertaken by any Government department, organization or person may cause a significant impact on the environment;</p> <p>(o) To manage 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.</p>
Chapter VI Environmental Quality Standards: Section10	<p>The Ministry may, with the approval of the Union Government and the Committee, stipulate the following environmental quality standards:</p> <p>(a) suitable surface water quality standards in the usage in rivers, streams, canals, springs, marshes, swamps, lakes, reservoirs and other inland water sources of the public;</p> <p>(b) water quality standards for coastal and estuarine areas;</p> <p>(c) underground water quality standards;</p> <p>(d) atmospheric quality standards;</p> <p>(e) noise and vibration standards;</p> <p>(f) emissions standards;</p> <p>(g) effluent standards;</p> <p>(h) solid wastes standards;</p> <p>(i) other environmental quality standards stipulated by the Union Government.</p>
Section 14	A person causing a point source of pollution shall treat, emit, discharge and deposit the substances which cause pollution in the environment in accord with stipulated environmental quality standards.
Section 15	The owner or occupier of any business, material or place which causes a point source of pollution shall install or 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.
Section 16	<p>A person or organization operating business in the industrial estate or business in the SEZ or category of business stipulated by the Ministry:</p> <p>(a) is responsible to carry out by contributing the stipulated cash or kind in the relevant combined scheme for the environmental conservation including the management and treatment of waste;</p> <p>(b) shall contribute the stipulated users' charges or management fees for the environmental conservation according to the relevant industrial estate, SEZ and business organization;</p>



**Environmental Management Plan**

	(c) shall comply with the directives issued for environmental conservation according to the relevant industrial estate, SEZ or business.
Section 24	The project proponent has to allow relevant governmental organization or department to inspect whether performing is conformity with the terms and condition include in prior permission, stipulated by the ministry, or not.
Section 25	The project proponent has to comply with the terms and conditions include in prior permission.
Section 29	The project proponent has to abide by the stipulations included in the rules, regulations, by-law, order, notification and procedure, which are issued by said law.
<b>Environmental Conservation Rules, 2014</b>	
Rules 58	The Ministry shall form the EIA Report Review Body with the experts from the relevant Government departments, organizations.
Rules 59	The Ministry may assign duty to the Department to scrutinize the report of EIA prepared and submitted by any organization or person relating to EIA and report through the EIA Report Review Body.
Rules 61	The Ministry may approve and reply on the EIA report o IEE or EMP with the guidance of the Committee.
Sub-rule (a) of rule 68	The project proponent has to avoid emit, discharge or dispose the materials which can pollute to environment, or hazardous waste or hazardous material prescribed by notification in the place where directly or indirectly injure to public.
Sub-rule (b) of rule 68	The project proponent has to avoid performing to damage to ecosystem and the environment generated by said ecosystem.
<b>Environmental Impact Assessment Procedure (December 2015)</b>	
Objectives	<p>The project proponent has to be liable for all adverse impacts caused by doing or emitting of project owner or contractor, sub-contractor, officer, employee, representative or consultant who is appointed or hired to perform on behalf of project owner, under sub-paragraph (a) of paragraph 102.</p> <p>The project proponent has to support, after consulting with effected persons by project, relevant government organization, government department and other related persons, to resettlement and rehabilitation for livelihood until the effected persons by the project receiving the stable socio-economy which is not lower than the status in pre-project, under sub-paragraph (b) of paragraph 102</p> <p>The project proponent has to fully implement all commitments of project and conditions included in EMP. Moreover, the project proponent has to be liable for contractor and sub-contractor who perform on behalf of him/her have to fully abide by the relevant laws, rules, this procedure, EMP and all conditions, under paragraph 103.</p> <p>The project proponent has to be liable and fully &amp; effectively implement all requirements included in ECC, relevant laws and rules, this procedure and standards under rule 104.</p> <p>The project proponent has to inform the completed information, after specifying the adverse impacts caused by the project, from time to time, under paragraph 105.</p> <p>The project proponent has to continuously monitor all adverse impacts in the pre-construction phrase, construction phrase, operation phrase, suspension phrase, closure phrase and post-closure phrase, moreover has to implement the EMP with abiding the all conditions included in ECC, relevant laws &amp; rules and this procedure, under paragraph 106.</p>

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	<p>The project proponent has to submit, as soon as possible, the failures of his or her responsibility, other implementation, ECC or EMP. If dangerous impact caused by this failure or failure should be known by the Ministry the project proponent has to submit within 24 hours and other than this situation has to submit within 7 days from knowing it, under paragraph 107.</p> <p>The project proponent has to submit the monitoring report dually or prescribed time by Ministry in line with the schedule of EMP, under paragraph 108.</p> <p>The project proponent has to prepare the monitoring report in accord with the rule 109.</p> <p>The project proponent has to show this monitoring report in public place such as library, hall and website and office of project for the purpose to know this report by public within 10 days from the date which the report is submitted to the Ministry. Moreover, has to give the copy of this report, by email or other way which way agreed with the asked person, to any asked person or organization, under paragraph 110.</p> <p>The project proponent has to allow inspector to enter and inspect in working time and if it is needed by Ministry has to allow inspector to enter and inspect in the office and work-place of project and other work-place related to this project in any time, under paragraph 113.</p> <p>The project proponent has to allow inspector to immediately enter and inspect in any time if it is emergency or failure to implement the requirements related to social or environment or caused to it, under paragraph 115.</p> <p>The project proponent has to allow inspector to inspect the contractor and sub-contractor who implement on behalf of project, under paragraph 117.</p>
Screening: Section 23	<p>a) The project proponent shall submit the Project Proposal to the Ministry for Screening.</p> <p>b) The Ministry will send the Project Proposal to the Environmental Conservation Department to determine the need for environmental assessment.</p> <p>c) Following the preliminary Screening and verification that the Project Proposal contains all required documents and related materials, subject to Articles 8, 9, 10, 11, 26 and 27 the Department shall make a determination in accordance with Annex 1=Categorization of Economic Activities for Assessment Purposes', taking into account Article 25 and the additional factors listed in Article 28 in order to designate the Project as one of the following, and then submit it to the Ministry:</p> <p>i) An EIA Type Project, or</p> <p>ii) An IEE Type Project, or</p> <p>iii) A Non IEE or EIA Type, and therefore not required to</p>
<b>National Environmental Quality (Emission) Guidelines (NEQG) (December 2015)</b>	
Objectives	To provide the basis for regulation and control of noise and vibration, air emissions, and liquid discharges from various sources in order to prevent pollution for purposes of protection of human and ecosystem health.
<b>National Myanmar Environmental Policy (2019)</b>	

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National Environmental Policy Vision & mission	<p><b>Vision</b></p> <p>A clean environment, with healthy and functioning ecosystem, that ensures includes development and wellbeing for all people in Myanmar.</p> <p><b>Mission</b></p> <p>To establish national environmental policy principle for guiding environmental protection and sustainable development and for mainstreaming environmental consideration into all policies, laws, regulation, plans, strategic, programmes and projects in Myanmar.</p>
<b>Foreign Investment Law, 2012</b>	
Section 8	<p>(a) To support the primary objectives of the national economic development plan, and for businesses that cannot yet be run by the State and citizens or businesses that have insufficient funds and technology.</p> <p>(b) Development of employment activities</p> <p>(l) Protection and conservation of the environment.</p> <p>(q) Appearing the required modern services for the Union and citizens.</p>
Section 17	<p>(a) To abide by the existing laws of the Republic of the Union of Myanmar.</p> <p>(b) To carry out the business by forming a company under the existing laws of Myanmar by the investor.</p> <p>(h) To carry out not to cause environmental pollution or damage in accord with existing laws in respect of investment business.</p> <p>(k) To carry out the systematic transfer of high technology relating to the business which are carried out by the investor to the relevant enterprises, departments or organizations in accord with the contract.</p>
<b>Foreign Investment Rule, 2013</b>	
Rule 54	<p>The promoter or investor shall:</p> <p>(a) comply with Environmental Protection Law in dealing with environmental protection matters related to the business;</p> <p>(b) shall carry out socially responsible investment in the interest of the Union and its people;</p> <p>(c) shall co-operate with authorities for occasional or mandatory inspection;</p> <p>(d) shall exercise due diligence to be in conformity and harmony with norms and standards prescribed by relevant Union Ministry in conducting construction of factories, workshops, buildings, and other activities;</p> <p>(e) shall enforce Safety and Health</p>
<b>Myanmar Investment Rules, 2017</b>	
Rule 202	The project proponent has to comply with the conditions of the permit issued by the MIC and applicable laws when making the investment
Rule 203	The project proponent has to fully assist while negotiating with the authority for settling the grievance of the local community which has been affected due to investment
Rule 206.	The project proponent has to submit the passport, expert evidence or document of degree and profile to the MIC office for approval if decide to appoint a foreigner as senior management, technician expert or consultant according to subsection (a) of section 51 of Myanmar Investment Law
<b>Myanmar Insurance Law (1993)</b>	<p>Section 15 - If the project proponent uses the owned vehicles the project owner has to ensure the insurance for the injured person.</p> <p>Section 16 - The project proponent has to ensure insurance to compensate for general damages because the project may cause damages to the environment and injury to the public.</p>

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<b>Payment of Wages Law (2016)</b>	
Section 3 & 4	The project proponent has to pay the wages in accord with section 3 and 4 of said law,
Section 5	The project proponent has to submit with the agreements of employees & reasonable ground to the department if it is difficult to pay because of force majeure included in a natural disaster
Section 7-13	The project proponent has to abide by the provisions of section 7 to 13 in the chapter (3) in respect of deduction from wages.
Section 14	The project proponent has to pay the overtime fees, prescribed by law, to the employees who work over working hours
<b>Yangon City Development Committee Law (2018)</b>	
Section (317)	The proponent shall not block the natural river channel, change the course, and disrupt the water channel, filling with soil within the city boundaries without the consent of the Committee
Section (318)	The project proponent shall not construct buildings, factories, and industries without sewage, toilet, septic tanks, and wastewater treatment system
Section (322)	The project proponent is not allowed to make activities that will produce noise pollution, water pollution, air pollution, and soil pollution to impact the environment within the city's boundaries
<b>The Amended Law for Factories Act, 1951 (2016)</b>	
Hygiene in Working Environment: Section 3	Mentions responsibilities of employer and manager regarding waste disposal, ventilation, extreme temperature, dust and gas generation, minimum space for each worker, lighting, portable drinking water and toilets for employees.
Safety in Working Environment: Section 4	States responsibilities of employer and manager concerning with machine guarding, personal protective equipment, housekeeping, aisles and exits, chemical storage and fire protection system to avoid accident.
<b>The Private Industrial Enterprise Law, 1990</b>	
Basic Principles: Section 3	<p>Private Industrial Enterprises shall be conducted in accordance with the following basic principles:</p> <p>(a) to enhance the higher proportion of the manufacturing value added in the gross national product and value of services, and to increase the production of the respective economic enterprises which are related to the industrial enterprise;</p> <p>(b) to acquire modern technical know-how for raising the efficiency of industrial enterprises and to establish the sale of finished goods produced by the industrial enterprise not only in the local market, but also in the foreign market;</p> <p>(d) to cause narrowing down of the gap between rural development and urban development by causing the development and improvement of industrial enterprises;</p> <p>(e) to cause opening up of more employment opportunities;</p> <p>(f) to cause avoidance of or reduction of the use of technical know-how which cause environmental pollution;</p> <p>(g) to cause the use of energy in the most economical manner.</p>
<b>The Export and Import Law (2012)</b>	

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Objectives	<p>The objectives of this law are as follows:</p> <p>a) To enable to implement the economic principles of the State successfully.</p> <p>b) To enable to lay down the policies relating to export and import that supports the development of the State.</p> <p>c) To cause the policies relating to export and import of the State and activities are to be in conformity with the international trade standards.</p> <p>d) To cause to be streamlined and speedy in carrying out the matters relating to export and import.</p>
Prohibitions: Section 5	No persons shall export or import restricted, prohibited and banned goods.
Prohibitions: Section 6	Without obtaining license, no person shall export or import the specified goods which are to obtain permission.
Prohibitions: Section 5	A person who obtained any license shall not violate the conditions contained in the license.
<b>The Prevention of Hazard from Chemical and Related Substances Law, 2013</b>	
<p>This law was enacted with the objectives of:</p> <p>a. To protect from being damaged the natural environment resources and being hazardous any living beings by chemical and related substances;</p> <p>b. To supervise systematically in performing the chemical and related substances business with permission for being safety;</p> <p>c. To perform the system of obtaining information and to perform widely educative and research for using the chemical and related substance systematically;</p> <p>d. To perform the sustainable development for the occupational safety, health and environmental conservation.</p> <p>Regarding the chemical management and storage, currently, regulations governing chemicals management are divided between various Acts, mostly dating from colonial times; hence the legislation is in many respects related to the British framework. The Factory Act and the Public Health Act contain the provisions for chemicals management and storage. Some chemicals are likely to require permits.</p>	
<b>Underground Water Act</b>	
<p>The underground water act enacted on the date of 21st June in 1930 whereas it is expedient to conserve and protect underground sources of water supply in the Union of Burma. This act prohibits sinking of a tube for the purpose of obtaining underground water except under and in accordance with the terms of a license granted by the water officer. Township Officer or sub-divisional officer had power to close a license tube after exercising jurisdiction over the local area concerned and the expense of such closure shall be recoverable from the owner of the tube as if it were an arrear of land-revenue.</p>	
<b>Myanmar Fire Brigade Law (2015)</b>	
<p>The Pyidaungsu Hluttaw enacted this law by Law No.11/2015 on the date of 17th March, 2015 with the following objectives:</p> <p>(a) to take precautionary and preventive measures and loss of state own property, private property, cultural heritage and the live and property of public due to fire and other natural disasters</p> <p>(b) to organize fire brigade systemically and to train the fire brigade</p> <p>(c) to prevent from fire and to conduct release work when fire disaster, natural disaster, epidemic disease or any kind of certain danger occurs</p> <p>(d) to educate, organize and inside extensively so as to achieve public corporation</p> <p>(e) to participate if in need for national security, peace for the citizens and law and order</p>	
<b>Section-8 Fire Safety Procedures</b>	
Rule17	<p>The relevant Government Department or organization shall, for the purpose of precaution and prevention obtain the approval of the Fire Force Department before granting permission for the following cases:</p> <p>a. Constructing three-storied and above buildings market and condominium buildings,</p>

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	b. Operating hotel, motel, guest house enterprise c. Constructing factory, workshop, storage facilities and warehouse d. Operating business expose to fire hazard by using in inflammable materials or explosive materials e. Producing and selling fire-extinguishing apparatuses f. Doing transport business, public utility vehicles train, airplane, helicopter, vessel, ship, tonkin tug
Rule18	The relevant government department or organization shall obtain the opinion of the Fire Services Department for the purpose of fire precaution and prevention, when laying down plans for construction for town, village and downtown or village development plans
<b>The Electricity Law (2014)</b>	
<p>In 2014, the new Electricity Law, a comprehensive piece of legislation covering licensing, a new regulatory commission, standards, inspection, tariff, and restrictions, replaced the Electricity Law of 1984. The Electricity Law divides projects into “small” (up to 10 MW), “medium” (between 10 MW to 30 MW) and large (upwards of 30 MW); the states and regions can issue permits for small and medium power plants. In case these plants are not connected to the national grid, the Union Government Ministry is not the primary authority involved. The authorities have a legal right to use land for the purpose of power plants under the Electricity Law, and have the right to expand and maintain their facilities. The law also provides that the authorities can build transmission lines in accordance with existing laws.</p>	
<b>Boiler Law (2015)</b>	
Chapter (2) Objective	<p>The objectives of this law are as follows:</p> <p>(a) To obtain boilers in compliance with Myanmar Standards or International Standards</p> <p>(b) To prevent the country and citizens from hazards caused by boiler accidents</p> <p>(c) To use boilers in compliance with Myanmar Standards or International Standards within the country</p> <p>(d) To develop boiler technology and to produce experts capable of manufacturing, handling, repair, and maintenance of boilers</p> <p>(e) To optimize the use of boilers through effective utilization of fuel energy</p> <p>(f) To reduce the environmental, social and health impacts through long-lasting use of boilers.</p>
Chapter (3) 4. With the permission of the Ministry, the inspector general can:	<p>Notify the inspection methods and instructions according to the national or international standards for safe operations of boilers in line with this law, procedures and instructions</p> <p>Only the results obtained from the prescribed boiler standards and inspection methods will be approved.</p>
Chapter (4). Boiler Registration	<p>5. Anybody who would like to use a boiler in any kind of business should be registered.</p> <p>6. Boiler should be manufactured according to Myanmar Standards or International Standards.</p> <p>7. Those who would like to apply for boiler registration according to Section 5 should apply to the inspector with the application, documents and vouchers related to boiler</p> <p>8. If the application regarding registration of boiler according to Section 7, the Registration Officer should conduct necessary inspection and submit results of the findings to the Inspector General.</p> <p>9. The Inspector General should assess and inspect the submission of the Registration Officer according to Section 8 and could allow or reject for registration of the boiler.</p>



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	10. The Inspector General shall define boiler size according to heated surface area in accordance with adopted procedures.
Chapter (13) Prohibitions	<p>59. According to Section 21, nobody must alter, change, deface, deform or make embossed registration unnoticeable illegitimately.</p> <p>60. Nobody is allowed to repair a boiler without boiler repair certificate.</p> <p>61. Nobody is allowed to maintain a boiler without boiler maintenance certificate.</p> <p>62. Nobody must alter safety relief valve in order to exceed the allowable pressure due to his consent or direction given by the owner.</p> <p>63. Nobody must manufacture boilers against Section 25, Subsection 25 (a) and (b) enacted.</p>
<b>Labor Dispute Settlement Law (28 Mar 2012 replacing 1929 version)</b>	
The Pyidaungsu Hluttaw hereby enacts this Law for safeguarding the right of workers or having good relationship between employer and workers and making peaceful workplace or obtaining the rights fairly, rightfully and quickly by settling the dispute of employer and worker justly.	
<b>The Social Security Law (2012)</b>	
The Social Security Law, enacted in 2012, was amended the Social Security Act in 1954. It stipulates the formation and implementation of social security systems.	
Section 53(a)	The employers and workers shall co-ordinate with the Social Security Board or insurance agency in respect of keeping plans for safety and health in order to prevent employment injury, contracting disease and decease owing to occupation and in addition to safety and educational work of the workers and accident at the establishment;
<b>Labor Dispute Settlement Law (28 Mar 2012 replacing 1929 version)</b>	
This law was enacted for safeguarding the right of workers or having good relationship between employer and workers and making peaceful workplace or obtaining the rights fairly, rightfully and quickly by settling the dispute of employer and worker justly. It stipulates that employer in which more than 30 workers are employed shall form the workplace coordinating committee consisting of the representatives of workers and the representatives of employer.	
Section 23	A party, employer or worker, may complain individual dispute relating to his grievance to the Conciliation Body and if he is not satisfied with the conciliation of such body in accord with stipulated manners, may apply to the competent court in person or by the legal representative.
Section 24	The relevant Conciliation Body shall, in respect of the collective dispute known or received by the complaint of either party, employer or worker, in respect of the dispute; information sent by the Minister or the Region or State Government or any other means, carry out as follows: (a) conciliating so as to be settled within three days, not including the official holidays, from the day of knowing or receipt of such dispute; (b) concluding mutual agreement if the settlement is reached in conciliating under sub-section (a), before the Conciliation Body.
Section 25	The Conciliation Body shall refer the collective dispute which does not reach settlement to the relevant Arbitration Body and inform the persons relating to the dispute.
Section 38	No employer shall fail to negotiate and coordinate in respect of the complaint within the prescribed period without sufficient cause.
Section 39	No employer shall alter the conditions of service relating to workers concerned in such dispute at the consecutive period before commencing the dispute within the period under investigation of the dispute before the Arbitration Body or Tribunal, to affect the interest of such workers immediately.

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Section 40	The project proponent has to not close the work without negotiation, discussion on dispute in accord with this law, decision by Tribunal
Section 51	The project proponent has to pay the compensation decided by Tribunal if violates any act or any emission to omission to damage the interest of labour by reducing of product without efficient cause.
Section 46	Any employer who violates any prohibition contained in sections 38 and 39 shall, on conviction, be punished with a fine for a minimum of one-lakh kyats.
<b>The Employment and Skill Development (2013)</b>	
This law was enacted for safeguarding the right of workers or having skillful of workers and making peaceful workplace or obtaining the rights fairly, rightfully and quickly by settling the dispute of employer and worker justly. Employer shall conduct occupational training to enhance the skills of workers.	
Section 5	The project proponent has to appoint employees with the contract in line with the provision of section 5 of said law.
Section 14	Employer shall conduct occupational training to enhance the skills of workers who are to be employed as well as workers who are presently employed in accordance with the requirements of the enterprise and the policy of the Skills Development Agency.
<b>The Worker's Compensation Act, 1923</b>	It stipulates that employer is required to make payments to employees who become injured or who die in any accidents arising during and in consequence of their employment. Such compensation also must be made for diseases which arise as a direct consequence of employment, such as carpal tunnel syndrome.
<b>The Payment of Wages Act, 1936</b>	The Payment of Wage Act defines the payment obligation to the workers employed in the factories or railway administration. It stipulates the method of payment stating that the payment should be made in cash on a regular payday, and allows legal action against delayed payment or un-agreeable deduction.
<b>The Leave and Holidays Act (1951, partially revised in 2014)</b>	This act has been used as the basic framework for leaves and holidays for workers with minor amendment in 2006 and 2014. This defines the public holidays that every employee shall be granted with full payment. It also defines the rules of leaves for workers including medical leave, earned leave and maternity leave.
<b>The Minimum Wage Law (2013)</b>	The minimum wage law, passed in March 2013, was replaced the 1949 Minimum Wage Act. The law provides a framework for minimum wage determination: the presidential office establishing a tripartite minimum wage committee shall decide minimum wage with industrial variation based on a survey on living costs of workers possibly every two years. This also stipulates equal payment.
<b>Public Health Law (1972)</b>	<b>Chapter 2; Prevention of Public Health</b>
Objectives	<p>To ensure the public health include not only employees but also resident people and cooperation with the authorized person or organization of health department. This law focuses as follows</p> <p>The project owner has to cooperate with the authorized person or organization in line with the section 3 and 5 of said law.</p> <p>The project proponent has to abide by any instruction or stipulation for public health under the section 3 of said law.</p> <p>The project proponent has to allow any inspection, anytime, anywhere if it is needed under the section 5 of said law.</p>
<b>Prevention and Control of Communicable Disease Law 1995 (Amendment in 2011)</b>	
Chapter 2 Prevention	4. When a Principal Epidemic Disease of a Notifiable Disease occurs;



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	<p>Immunization and other necessary measures shall be undertaken by the Department of Health, in order to control the spread thereof;</p> <p>The public shall abide by measures undertaken by the Department of Health under sub-section (a).</p>
Chapter 4 Environmental Sanitation	<p>For prevention of the outbreak of Communicable Disease and effective control of Communicable Disease when it occurs, the public shall under the supervision and guidance of the Health Officer of the relevant area, undertake the responsibility of carrying out the following environmental sanitation measures;</p> <p>Indoor, outdoor sanitation or inside the fence outside the fence sanitation;</p> <p>Well, ponds and drainage sanitation;</p> <p>Proper disposal of refuse and destruction thereof by fire;</p> <p>Construction and use of sanitary latrines;</p> <p>Other necessary environmental sanitation measures.</p>
<b>Occupational Safety and Health Law (2019)</b>	
Purpose:	To effectively implement measures related to safety and health in every industry and to set occupational safety and health standards;
Section-26 Sub-section (e)	The project proponent has to provide adequate and relevant personal protective equipment to workers free of charge and make them wear it during work so as not to expose workers to any serious occupational diseases or hazards.
Section-26 Sub-section (1)	The project proponent has to arrange and display occupational safety and health instructions, warning signs, notices, posters, and signboards.
Section-30 Sub-section (a)	The worker shall wear or use at all times any protective clothes, equipment and tools provided by the employer for the purpose of safety and health.
Section-30 Sub-section (d)	The worker shall proper and systematic use any equipment and tools, machines, any parts of the machines, vehicles, electricity and other substances being used at the workplace.
Section-30 Sub-section (e)	The worker shall take reasonable care for the safety and health of himself/ herself and of other persons who may be affected by his/ her acts or omissions at work.
<b>The law on Standardization</b>	
Objectives	<p>The Objectives of this Law are as follows:</p> <ul style="list-style-type: none"> <li>to enable to determine Myanmar Standard</li> <li>to enable to support export promotion by enhancing quality of production organizations and their product, production processes and services</li> <li>to enable to protect the consumers and user by guaranteeing imports and products are not lower than prescribed standard, and safe from health hazards</li> <li>to enable to support protection of environment related to products, production process and services from impact, and conservation of natural resources</li> <li>to enable to protect manufacturing, distributing and importing the disqualified goods which do not meet the prescribed standard and those which are not safe and endangered to the environment</li> <li>to support on establishing the ASEAN Free Trade Area and to enable to reduce technical barriers to trade</li> <li>to facilitate technological transfer and innovation by using the standards for the development of national economic and social activities in accordance with the national development programme.</li> </ul>

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Chapter 7 Taking Action by Committee No. 19	The committee may, if it is found out that holder of certificate of certification violates any term or condition contained in the relevant recommendation, pass any of the following administrative order: warning suspending the certificate of certification for limited period cancelling the certificate of certification
<b>လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သော ဝတ္ထုပစ္စည်းများဆိုင်ရာဥပဒေ (၂၀၁၈)</b>	
ရည်ရွယ်ချက်	လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သော ဝတ္ထုပစ္စည်းများကို စနစ်တကျပြုလုပ်ခြင်း၊ တင်သွင်းခြင်း၊ သယ်ယူခြင်း၊ သိုလှောင်ခြင်းနှင့် သုံးစွဲခြင်းတို့ပြုနိုင်ရန်၊ ယမ်းဘီလူးနှင့် ဆက်စပ်သုံးပစ္စည်းများ အသုံးပြုသည့် လုပ်ငန်းခွင်ဘေးအန္တရာယ် ကင်းရှင်း၍ လုံခြုံမှုရှိစေရန်၊ လုပ်ငန်းခွင်သုံး ပေါက်ကွဲစေတက်သော ဝတ္ထုပစ္စည်းများ ပြုလုပ်သုံးစွဲမှုများကို စနစ်တကျ ကြီးကြပ်နိုင်ရန်။
အခန်း ၇ တားမြစ်ချက်များ အမှတ် ၁၈	လိုဏ်စင်ရရှိသူနှင့် ခွင့်ပြုချက်ရရှိသူ မည်သူမျှ စစ်ဆေးရေးအရာရှိချုပ် သို့မဟုတ် စစ်ဆေးရေးအရာရှိ၏ စစ်ဆေးခြင်းကို ခံယူရန် ငြင်းပယ်ခြင်းမပြုရ။
အမှတ် ၁၉ (ခ)	ပုဒ်မ ၈ အရ ကာကွယ်ရေးဌာနကောင်စီ အမှုဆောင်အဖွဲ့၏ အတည်ပြုချက်မရရှိဘဲ လုပ်ငန်းခွင် ပေါက်ကွဲစေတက်သော ဝတ္ထုပစ္စည်းများကို ဖျက်ဆီးခြင်းမပြုရ။
အမှတ် ၁၉ (ဂ)	ဤဥပဒေအရ ထုတ်ပြန်သည့် နည်းဥပဒေ၊ စည်းမျဉ်း၊ စည်းကမ်း၊ အမိန့်ကြော်ငြာစာ၊ အမိန့်နှင့် ညွှန်ကြားချက်များနှင့်အညီ ဆောင်ရွက်ရန် ပျက်ကွက်ခြင်း မရှိစေရ။
<b>The Motor Vehicles Law (2015)</b>	
Objectives	When the constructions periods and if it is needed in operation and production period for all vehicles <ul style="list-style-type: none"> <li>The project proponent has to promise to abide by the nearly all provisions of said law and rules, especially the provisions related to air pollution, noise pollution and life safety.</li> </ul>
<b>The Conservation of Water Resources and Rivers Law (2006)</b>	
Aims	The aims of this Law are as follows: <ul style="list-style-type: none"> <li>(a) to conserve and protect the water resources and rivers system for beneficial utilization by the public;</li> <li>(b) to smooth and safety waterways navigation along rivers and creeks;</li> <li>(c) to contribute to the development of State economy through improving water resources and river system;</li> <li>(d) to protect environmental impact.</li> </ul>
Chapter 5 Prohibitions No. 8	No person shall: <ul style="list-style-type: none"> <li>(a) carry out any act or channel shifting with the aim to ruin the water resources and rivers and creeks.</li> <li>(b) cause the wastage of water resources wilfully.</li> </ul>
No. 10	No person shall anchor the vessels where vessels are prohibited from anchoring in the rivers and creeks.
No.11 (a)	No person shall: dispose of engine oil, chemical, poisonous material and other materials which may cause environmental damage, or dispose of

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	explosives from the bank or from a vessel which is plying, vessel which has berthed, anchored, stranded or sunk.
No. 12	No person shall carry out growing of garden, digging, filling, silt trapping, closing pond, dyke building or erecting spur in the river-creek boundary, bank boundary and waterfront boundary without the permission of the relevant government department and organization.
No. 15	No person shall carry out the construction of switchback, dockyard, wet dockyard, water-tight dockyard, building of jetty, pier, landing stage or vessel landing by drainage in the river-creek boundary, bank boundary and waterfront boundary without the permission of the Directorate.
<b>The Commercial Tax Law (1990) Amended 2014</b>	
Chapter 5 Registration and Intimation of Commencement of Enterprise 11 (b)	Any Person who commences operation of a goods production enterprise or service enterprise shall furnish letter of intimation on the commencement of the operation as such to the relevant Township Revenue Officer as stipulated by regulations.
Chapter 6 Monthly Payment of Tax and Sending of Three-Monthly Return 12 (a)	Any person who has taxable proceed of sale or receipt from service within a year, shall pay due monthly tax within ten days after the end of the relevant month. Moreover, a three-monthly return shall be furnished to the relevant Township Revenue Officer within one month after the end of relevant three-month.
12 (b)	The Township Revenue Officer may intimate any person to pay due monthly tax and send three-monthly return if there is cause to consider that he has taxable proceed of sale or receipt from service within a year.
12 (c)	If it is failed to pay tax under sub-section (a) or (b), or if there is cause to consider that the tax paid is less than the tax payable, the Township Revenue Officer may, based on the information received, estimate and claim the tax payable or the additional tax payable.
12 (d)	The tax paid under sub-section (a), (b) or (c) shall be set-off from the tax due in the assessment.
12 (e)	The tax payable on goods imported under sub-section (c) of section 4 of the Law shall be collected together with the customs duties by the Customs Department in accord with the manner of collecting customs duties.

**2.2. NATIONAL ENVIRONMENTAL QUALITY (EMISSION) GUIDELINES**

As specified in the EIA Procedure, all projects are obliged to use, comply with and refer to applicable national guidelines or standards or international standards adopted by the Ministry. As specified in the EIA Procedure, following project approval a project shall commence implementation strictly in accordance with the project EMP and any additional requirements set out in the project ECC, which will encompass conditions relating to emissions. While these Guidelines generally apply to all projects subject to the EIA Procedure, it is the prerogative of the Ministry to decide how the Guidelines should be applied to existing projects as referred to in the EIA Procedure.

According to the Environmental Conservation Law, MOECF shall set standards of environmental qualities as agreed by the Union Government and the Environmental Conservation Committee to provide the basis for regulation and control of noise and vibration, air emissions and liquid

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discharges from various sources in order to prevent pollution for purposes of protection of human and ecosystem health.

**2.2.1. General Guidelines**

General guidelines of related environmental impact guideline for proposed project are -

**2.2.1.1. Air emission**

Projects with significant sources of air emissions, and potential for significant impacts to ambient air quality, should prevent or minimize impacts by ensuring that: (i) emissions do not result in concentrations that reach or exceed national ambient quality guidelines and standards, or in their absence current World Health Organization (WHO) Air Quality Guidelines<sup>1</sup> for the most common pollutants as summarized below; and (ii) emissions do not contribute a significant portion to the attainment of relevant ambient air quality guidelines or standards (i.e. not exceeding 25 percent of the applicable air quality standards) to allow additional, future sustainable development in the same air shed. Industry-specific guidelines summarized hereinafter shall be applied by all projects to ensure that air emissions conform to good industry practice. Reference should be made to WHO's Air Quality Guidelines for Europe<sup>2</sup> for air pollutants not included in the following Table 2-2.

**Table 2-2 WHO's Air Quality Guideline**

<b>Parameter</b>	<b>Averaging Period</b>	<b>Guideline Value</b>
Nitrogen Dioxide	1-year	40
	1-hour	200
Ozone	8-hour	100
Particulate Matter PM10 <sup>a</sup>	1-year	10
	24-hour	50
Particulate Matter PM2.5 <sup>b</sup>	1-year	10
	24-hour	25
Sulfur dioxide	24-hour	20
	10-minute	500

<sup>a</sup> Particulate matter 10 micrometers or less in diameter

<sup>b</sup> Particulate matter 2.5 micrometers or less in diameter

**2.2.1.2. Wastewater**

Industry-specific guidelines apply during the operations phase of projects and cover direct or indirect discharge of wastewater to the environment. They are also applicable to industrial discharges to sanitary (domestic) sewers that discharge to the environment without any treatment. Wastewater generated from project operations includes process wastewater, wastewater from utility operations, runoff from process and storage areas, and miscellaneous activities including wastewater from laboratories, and equipment maintenance shops. Projects with the potential to generate process wastewater, sanitary sewage, or storm water should incorporate the necessary precautions to avoid, minimize, and control adverse impacts to human health, safety or the environment. Industry-specific guidelines summarized hereinafter shall be applied by all projects, where applicable, to ensure that effluent emissions conform to good industry practice.

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For project types where industry-specific guidelines are not set out in these Guidelines, the following general guideline values, or as stipulated on a case-by-case basis, apply during project operations.

**Table 2-3 Wastewater, Storm Water Runoff, Effluent and Sanitary Discharges (general application)<sup>1</sup>**

Parameter	Unit	Guideline Values
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	S.U. <sup>a</sup>	6-9
Phenols	mg/l	0.5
Selenium	mg/l	0.1
Silver	mg/l	0.5
Sulphide	mg/l	1
Temperature increase	°C	<3 <sup>b</sup>
Total coliform bacteria	100 ml	400
Total phosphorus	mg/l	2
Total suspended solids	mg/l	50
Zinc	mg/l	2

<sup>a</sup> Standard Unit

<sup>b</sup> 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

<sup>1</sup> Pollution prevention and abatement handbook. 1998. Toward cleaner production. World Bank Group in collaboration with United Nations Environment Programme and the United Nations Industrial Development Organization.

**Environmental Management Plan****2.2.1.3. Noise levels**

Noise prevention and mitigation measures should be taken by all projects where predicted or measured noise impacts from a project facility or operation exceed the applicable noise level guideline at the most sensitive point of reception. Noise impacts should not exceed the levels shown below, or result in a maximum increase in background levels of three decibels at the nearest receptor location off-site.

**Table 2-4 Noise Levels of National Environmental Quality (Emission) Guideline**

Receptor	One Hour LAeq (dBA) <sup>a</sup>	
	Daytime 07:00 – 22:00 (10:00 – 22:00 for Public holidays)	Nighttime 22:00 – 07:00 (22:00 – 10:00 for Public holidays)
Residential, institutional, education	55	45
Industrial, commercial	70	70

<sup>a</sup> Equivalent continuous sound level in decibels

**2.2.2. Garment, Textile and Leather Products Manufacturing**

This guideline applies to textile manufacturing using natural fibers, synthetic fibers (made entirely from chemicals), 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.

**2.2.2.1. Effluent levels**

Parameter	Unit	Guideline Value
5-day Biochemical oxygen demand	mg/l	30
Absorbable organic halogens	mg/l	1
Ammonia	mg/l	10
Cadmium	mg/l	0.02
Chemical oxygen demand	mg/l	160
Chromium (hexavalent)	mg/l	0.1
Chromium (total)	mg/l	0.5
Cobalt		0.5
Color		7 (436 nm <sup>a</sup> , yellow) 5 (525 nm, red) 3 (620 nm, blue)
Copper	mg/l	0.5
Nickel	mg/l	0.5
Oil and grease	mg/l	10
Pesticides		0.05-010 <sup>b</sup>

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pH	S.U. <sup>c</sup>	6-9
Phenol	mg/l	0.5
Sulfide	mg/l	1
Temperature increase	°C	<3 <sup>d</sup>
Total coliform bacteria	100 ml	400
Total nitrogen	mg/l	10
Total phosphorus	mg/l	2
Total suspended solids	mg/l	50
Zinc	mg/l	2

a Nanometers

b 0-05 mg/l for total pesticides (organ phosphorus pesticides excluded); 0.10 mg/l for organo phosphorus pesticides

c 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

**2.2.2.2. Air emission levels**

Parameter	Unit	Guideline Value
Ammonia	mg/Nm <sup>3a</sup>	30
Carbon disulfide	mg/Nm <sup>3</sup>	150
Chlorine	mg/Nm <sup>3</sup>	5
Formaldehyde	mg/Nm <sup>3</sup>	20
Hydrogen sulfide	mg/Nm <sup>3</sup>	5
Particulates	mg/Nm <sup>3</sup>	50 <sup>b</sup>
Volatile organic compounds	mg/Nm <sup>3</sup>	2/20/50/75/100/1 150 <sup>c, d</sup>

a Milligrams per normal cubic meter at specified temperature and pressure

b as the 30-minute mean for stack emissions

c Calculate as Total carbon

d As the 30-minute mean for stack emissions; 2 mg/Nm<sup>3</sup> for volatile organic compounds classified as carcinogenic or mutagenic with mass flow greater than or equal to 10 g/hr; 20 mg/Nm<sup>3</sup> for discharges of halogenated volatile organic compounds with a mass flow equal or greater than 100 g/hr; 50 mg/ Nm<sup>3</sup> for waste gases from drying of large installations (solvent consumption > 15 tons/year); 75 mg/Nm<sup>3</sup> for coating application processes for large installations (solvent consumption > 15 tons/year); 100 mg/Nm<sup>3</sup> for small installations (solvent consumption < 15 tons/year); if solvent is recovered from emissions and reused, the guideline value is 150 mg/Nm<sup>3</sup>**2.2.3. IFC EHS Guidelines**

The EHS Guidelines<sup>1</sup> by International Finance Cooperation (IFC) are technical reference documents with general and industry-specific examples of Good International Industry practice (GIIP), as defined in IFC's Performance Standard 3: Resources Efficiency and Pollution Prevention. The EHS Guidelines contain the performance levels and measures that are normally acceptable to IFC, and that are generally considered to be achievable in new facilities at reasonable costs by existing technology.

There are two kinds of guidelines, General EHS Guidelines and Industry Sector Guidelines. The General EHS Guidelines contain information on cross-cutting environmental, health, and safety issues potentially applicable to all industry sectors in the following section: (1) Environment, (2) Occupational Health and Safety, (3) Community Health and Safety and (4) Construction and Decommissioning. Table 2-5 shows the contents of the section of Community Health and Safety.



**Environmental Management Plan****Table 2-5 Community health and safety contents**

<b>Contents</b>	<b>Brief Description</b>
Water Quality and Availability	Drinking water sources should at all times be protected so that they meet or exceed applicable national acceptability standards or in their absence the current edition of WHO Guidelines for Drinking-Water Quality.  Project activities should not compromise the availability of water for personal hygiene needs and should take account of potential future increases in demand. The overall target should be the availability of 100 liters per person per day.
Structural Safety of Project Infrastructure	Reduction of potential hazards is best accomplished during the design phase when the structural design, layout and site modifications can be adapted more easily. The following issues should be considered and incorporated as appropriate into the planning, siting, and design phases of a project (1) inclusion of buffer strips or other methods of physical separation around project sites to protect the public from major hazards associated with hazardous materials incidents or process failure (2) incorporation of siting and safety engineering criteria to prevent failures due to natural risks posed by earthquakes, tsunamis, wind, flooding, landslides and fire, and (3) application of locally regulated or internationally recognized building codes, standards and regulations, and mitigation measures.
Traffic Safety	Traffic safety should be promoted by all project personnel during displacement to and from the workplace, and during operation of project equipment on private or public roads. Prevention and control of traffic related injuries and fatalities should include the adoption of safety measures that are protective of project workers and of road users, including those who are most vulnerable to road traffic accidents.
Transport of Hazardous Materials	Projects should have procedures in place that ensure compliance with local laws and international requirements applicable to the transport of hazardous materials.
Disease Prevention	Recommended interventions against the communicable diseases at the project level include (1) providing surveillance and active screening and treatment of workers, (2) preventing illness among workers in local communities by undertaking health awareness and education initiatives, training health workers in disease treatment and conducting immunization programs for workers, and (3) providing treatment through standard case management in on-site or community health care facilities.
Emergency preparedness and Response	All projects should have an Emergency preparedness and Response Plan that is commensurate with the risks of the facility and that includes the following basic elements: (1) Administration (policy, purpose, distribution, definitions, etc.) (2) Organization of emergency areas (command centers, medical stations, etc.) (3) Roles and responsibilities, (4) Communication systems, (5) Emergency response procedures, (6) Emergency resources, (7) Training and updating, (8) Checklists (role and action list and equipment checklist), and (9) Business Continuity and Contingency.

Source: IFC, Environmental, Health, and Safety (EHS) Guidelines, General EHS Guidelines: Community Health and Safety (April 30.20070)

### 2.3. INSTITUTIONAL ARRANGEMENT

The Ministry of Environmental Conservation and Forestry (MOECF) was reformed as the Ministry of Natural Resources and Environmental Conservation (MONREC) on 30th March, 2016 in order to undertake both environmental and natural resources conservation and management more effectively. Under Section 3 of the Environmental Impact Assessment Procedure (2015), pursuant to section 21 of the law and Articles 52, 53 and 55 of the Environmental Conservation Rules, all projects and project expansions undertaken by any organization, which may cause impact on environmental quality that, are required to obtain prior permission. This is to be in accordance with section 21 of the Environmental Conservation Law, and Article 62 of the Environmental Conservation Rules, having the potential to cause adverse impacts, that are required to undertake IEE or EIA or to develop an EMP, and to obtain an Environmental Compliance Certificate (ECC) in accordance with this EIA procedure.



#### **2.4. COMMITMENT OF MYANMAR BESTEX GARMENT CO.,LTD AND MYANWEI ENVIRONMENTAL SOLUTIONS CO.,LTD.**

Myanmar Bestex Garment Company Limited shall be responsible for the preservation of the environment at and around the area of project site. In addition to this, it shall carry out as per instructions made by Ministry of Natural Resources and Environmental Conservation (MONREC) in which to conduct an EMP which describe the measure to be taken for preventing, mitigation and monitoring significant environment impacts resulting from the implementation and operation of proposed project or business or activity has to be prepared and submitted and to perform activities in accordance with this EMP and be abided by the environment policy, Environmental Conservation Law and other environmental related rules and procedures.

- a) The accuracy and completeness of the EMP,
- b) That the EMP has been prepared in strict compliance with applicable laws including this Procedure
- c) That the Project will at all times comply fully with the commitments, mitigation measures, and plans in the EMP Report.
- d) We are ready to submit the sustainable improvement programmes if there any other directives from relevant Government during the operation periods.

Myanmar Environmental Solutions Company Limited shall be responsible for the environmental assessment of factory development as follows:

- Monitoring the factory area operations according to EMP and Environmental Monitoring Plan (EMoP)
- Submitting environmental monitoring reports to ECD
- Planning and implementation of CSR activities
- To set up welfare plan such as staff medical checkup, training program and Public talk for getting knowledge, risk prevention, bonus and social security service
- To carry out fire safety assessment and ensure adequate and appropriate fire safety measures for employees.

### 3. PROJECT DISCRIPTION

#### 3.1. LOCATION OF PROPOSED PROJECT

The proposed project is located at Latitude 16°51'48.03"N and Longitude 96° 2'48.25"E, Plot No. (117), Myay Taing Block No.14, Shwe Than Lwin Industrial Zone , Hlaing Thar Yar Township, Yangon Region. The project starting date was 2019 October 17 and commercial operation implemented at 2020 January 27. The location map of the proposed project size is shown in Figure 3-1.

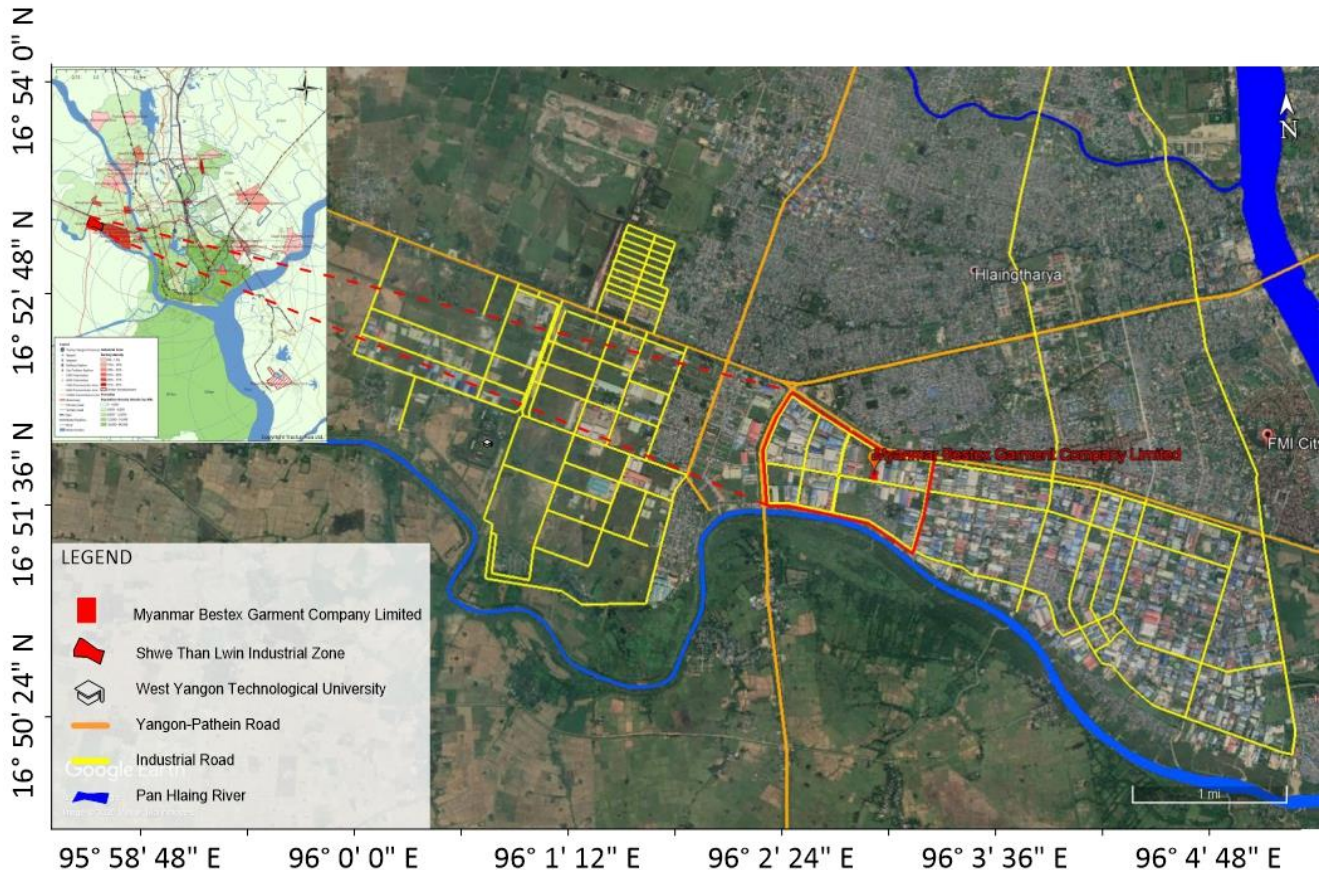


Figure 3-1 Location Map

#### 3.2. OBJECTIVES OF PROPOSED PROJECT

The proposed project intends to manufacture garment on CMP basic and to export 100% of the finished products. (AB LINDEX (publ.)) will supply raw materials for garment in People Republic of China. (AB LINDEX (publ.)) agrees to supply to ready make products and pay CMP charges to Myanmar Bestex Garment Company Limited.

##### 3.2.1. Site Description of Proposed project site

The total land area is 2.258 acres and build main factory buildings, warehouse, kitchen, canteen, maintenance house, etc. which were built on its land area. Also, factory layout drawing is able to seen in Figure 3-2 and Figure 3-3.

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1.Office 2.Security Gate 3.Fire Safety Pump 4.Generator Room 5.Transformer  
6.Warehouse 7.Packing Area 8.Sewing & Cutting Area 9.QC Area 10.Toilets

**Figure 3-2 Factory Aerial Photo**

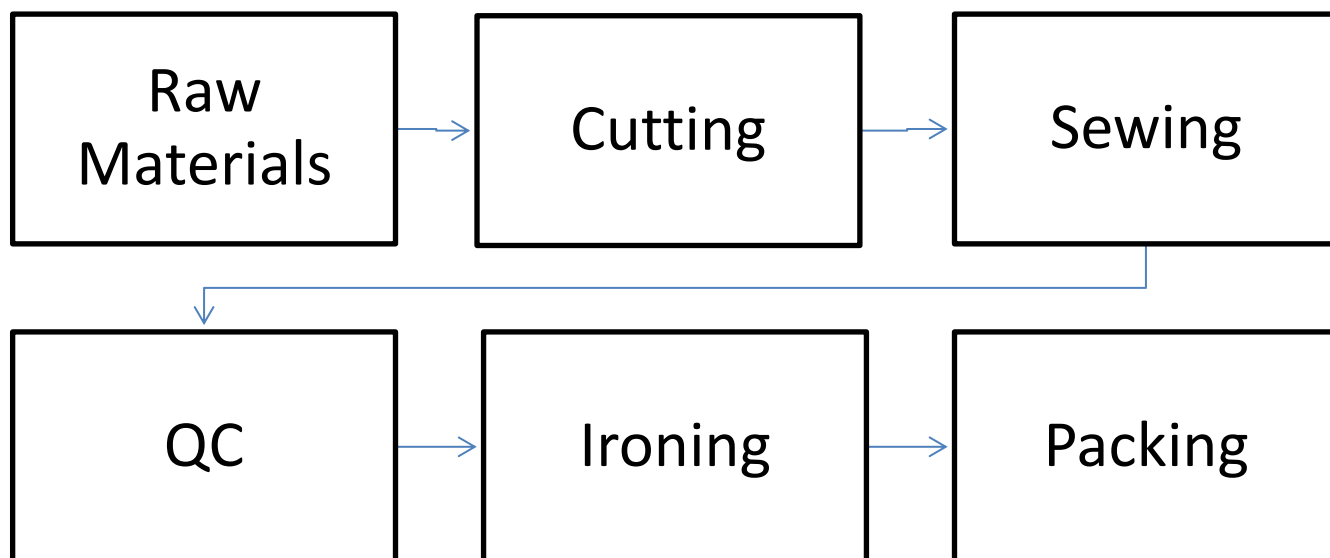


**Figure 3-3 Factory Layout Drawing**



**Environmental Management Plan****3.2.2. Production Process**

The production process is based on CMP system in which the production on consignment in which the main raw materials (fabrics, thread, label etc.) are provided by overseas buyers and imported free of charge, then cut, sewn and packed in the domestic factories, after which all of the finished products are exported. The main operation of the proposed factory is sewing. The sewing was operated one and two needle sewing machine and checked by quality control supervisor on each sewing line. The ironing process is completed after QC process. Then garment packing is completed and prior to shipping to destinations. The process flow diagram for garment manufacturing is illustrated in Figure 3-4. During operation, the proposed factory is expected to produce garment products as per Table 3-1.



**Figure 3-4 Production Flow Diagram of Myanmar Bestex Garment Company Limited**



**Raw Materials**



**Cutting**



Sewing



QC



Ironing



Packing

**Figure 3-5 Production Photos of Myanmar Bestex Garment Company Limited**

**Table 3-1 Annual Production Rate**

No	Particular	Unit	Year 1-3	Year 4-5	Year 6-10
Production (Pcs)					
1.	Ladies T-shirt #1	Pcs	15,600	17,160	17,160
2.	Ladies T-shirt #2	Pcs	18,000	19,800	19,800
3.	Ladies T-shirt #3	Pcs	18,000	19,800	19,800
4	Ladies T-shirt #4	Pcs	16,200	17,820	17,820
5	Ladies T-shirt #5	Pcs	13,500	14,850	14,850
6	Ladies Top	Pcs	10,800	11,880	11,880
7	Ladies T-shirt #6	Pcs	10,200	11,220	11,220

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No	Particular	Unit	Year 1-3	Year 4-5	Year 6-10
<b>Total</b>			<b>102,300</b>	<b>112,530</b>	<b>112,530</b>



Ladies T-shirt #1



Ladies T-Shirt #2



Ladies T-Shirt #.



Ladies T-Shirt #4



Ladies T-Shirt #5



Ladies Top



Ladies T-Shirt #6

**Figure 3-6 Products Photo****3.3. UTILITIES****3.3.1. Raw Material**

The main Raw Materials are fabric, lining, button, zipper, reflective tape, hanger, which imported from China. List of Raw materials are described in Table 3-2.

**Table 3-2 List of Raw Materials Requirement**

No	Particular	Unit	Year 1-3	Year 4-5	Year 6-10
Production (Pcs)					
1.	Fabrics	Yard	98,760	108,636	108,636

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No	Particular	Unit	Year 1-3	Year 4-5	Year 6-10
2.	Thread ( 500 meter)	Coil	53,610	58,971	58,971
3.	Label	Pcs	204,600	225,060	225,060
4	Logo	Pcs	102,300	112,530	112,530
5	Hanger	Pcs	10,800	11,880	11,880
6	Tag	Pcs	102,300	112,530	112,530
7	Plastic bag	Pcs	102,300	112,530	112,530
8	Carton	Pcs	102,300	112,530	112,530
9	Seal Tape	Pcs	102,300	112,530	112,530
Total					

**3.3.2. Machinery and Equipment**

List of machinery and equipment required for Myanmar Bestex Garment Company Limited is following in Table 3-3.

**Table 3-3 List of Machinery**

No.	Description	Unit	Quantity
1.	<b>Boiler</b>		
	Seamless steel pipe	Set	56
	Seamless steel pipe	Set	120
	Seamless steel pipe	Set	90
	Pressure gauge	Set	1
	Pressure gauge elbow	Set	1
	Three-way cock	Set	1
	Expansion joint	Set	2
2.	<b>Pumping System</b>		
	Float flanged trap	Set	3
	Flanged plunger valve	Set	9
	Flanged filter valve	Set	3
	Flange	Set	12
	Flange gasket	Set	21
	90 elbow	Set	6
	Three links	Set	6
	Bolt	Set	84
	Pipe buckle	Pcs	90
3.	<b>Air Compressing System</b>		



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No.	Description	Unit	Quantity
	Shut-off valve	Set	2
	Flange	Set	2
	Flange gasket	Set	2
	Bolt	Set	8
	Stamping elbow	Set	12
	High temperature ball valve	Pcs	60
	Check valve	Set	1
	Live connection	Set	1
	Direct	Set	1
	Three links	Set	2
<b>4.</b>	<b>Heat preservation part</b>		
	Glass fiber insulation tube,	Meter	266
	Outsourcing aluminum skin	Meter	266
	Foil tape	Box	1
	Paint	barrel	2
<b>5.</b>	<b>Building structures</b>		
	External tooth joint (single head)	Pcs	60
	Angle iron	Pcs	100
	<b>Total</b>		<b>7,842</b>

**Table 3-4 Operating Machines of Myanmar Bestex Garment Co.,Ltd.**

No	Description	HS Code	Quantity
1	Biomass Steam Generator (0.33Ton)	8402	1
2	Air Snap Machine	8452	6
3	Electronic Bartacking Machine	8452	2
4	Electronic lockstitch button holding machine	8452	2
5	Cutting Machine	8441	4
6	Cloth Inspection Machine	8451	2
7	Fusing Press Machine	8451	2
8	Needle Inspection Machine	8543	2
9	Cutter Machine	8441	8
10	Cutter Machine	8441	6
11	Decontamination Machine	8421	2



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No	Description	HS Code	Quantity
12	Auot Label Cutting Machine	8451	2
13	1-Needle, Lockstitch Machine	8452	120
14	Overlock Sewing Machine (four lines)	8452	204
15	Interlock Sewing Machine	8452	50
16	Vacum & Blow Ironinig Machine	8451	16
17	Dehumidifier	8415	1

**3.3.3. Human Resource**

Human resource required by foreign experts/technicians and local persons for administrative and production process are about 518 persons which are also described in Table 3-5. Official working days is 262 dys and assigned working hours is 8:00AM to 5:00PM per daily.

**Table 3-5 Employment Schedule of Myanmar Bestex Garment Company Limited**

No	Position	Local Person	Foreign Technicians
1	Manager	1	2
2	HR Manager	1	
3	Fire Safety Officer	1	
4	Supervisor	25	3
5	Garment Technician		5
6	Quality Controller		5
7	Staff	65	
8	Operation Section Manager	10	
9	Operation Leader	50	
10	Operators	350	
Total		503	15
		518	

**3.3.4. Water Requirement**

Shwe Than Lwin Industrial zone has no centralized water supply system and the factory gets water from the tube wells installed inside the factory compound. Groundwater from this tube well is pumped into the storage tanks for the manufacturing and domestic use. The main water use in the proposed project is for domestic usage such as for personal washing, food preparation, and washing of utensils. Drinking water will be provided by outsource suppliers. Figure 3-7

**Environmental Management Plan**

**found.** is described by water storage tank and drinking water supply for Myanmar Bestex Garment factory. Estimated water utility for proposed is partition by 2000 gallon per month for domestic and 3000 gallons per week for boiler water.



Water facility and usage for employees



Water storage for boiler and vehicles usage

**Figure 3-7 Water facilities photos**

### 3.3.5. Electricity and Fuel Requirement

The proposed project intended to get required electricity supply form Yangon City Electricity Supply Board (YESB) and distributed by 315 kVA of Transformer and another sources of energy 375 kVA and 30 kVA generators which also be kept as the emergency generator if normal electricity supply could not provide for the proposed project. Diesel fuel for reserving generator are storing in the diesel storage tank and that reserve generator will be used when the main electricity supply is at irregular intervals. Estimate amount of diesel comsumption is 20 gallons per month and electricity utility is between 240000units and 340000units per month.



**Figure 3-8 Electricity Facilities at Myanmar Bestex Garment Factory**

### **3.3.6. Boiler**

The factory has LHS-03-0.7-M, wood boiler is used in ironing process for manufacturing process. Fuel for boiler will be use of wood chip pallets and estimated amount is 0.5ton per week. Specification of boiler is presented in Table 3-6 and installed photo is shown in Figure 3-9.

**Environmental Management Plan****Table 3-6 Specification of Boiler**

Model No	LHS-03-0.7-M
Brand Name	SMANOW
Brief Description	Easy operation automatic control, high efficiency good evaporation, high safety devices for water level pressure
Rated Working Pressure	0.7 MPa
Rated Steam Output	3 t/H
Type	Biomass Steam Boiler
Structure	Fire Tube
Application	Industrial
Style	Vertical
Rated Steaming Temperature	193°C
Fuel	Wood Pellet
Kind	Once Through
Product ID	1901031

Typical boiler efficiencies range from about 90% for the best solid biomass fuel boilers to close to 95% for oil- and natural gas-fired boilers, Table 3-7. The main reason for the poorer performance of biofuels is the high moisture content of the fuel, which increases flue gas losses.

**Table 3-7 Typical Boiler Efficiencies**

<b>Fuel</b>	<b>Efficiency, %</b>
Natural Gas	94-95
Oil	92-95
Coal	88-92
Wood Chips	87-91
Bark	85-90
Peat	85-89





**Figure 3-9 Boiler Photo at Myanmar Bestex Garment Company Limited**

### **3.4. GENERATION OF WASTE, EMISSION AND DISTURBANCES**

#### **3.4.1. Status of the Factory**

Myanmar Bestex Garment Company Limited is using ground water for both industrial and household purpose, which is supplied by deep tube well. The factory also has generators for electricity distribution. The fuel used in the industry is Diesel. The sanitary liquid waste of the factory is stored in septic tank.

Solid wastes (recycle waste) such as broken machine parts, paper box, fabric scraps, etc. are hand over to local waste buyer. Although the factory causes some pollution but also has a positive side and that is the factory has created employment for many people, due to this factory local community has built up daily.

#### **3.4.2. Industrial Wastes**

Wastes generated from the garment manufacturing factory are cloth scraps of 50% from cutting section, 35% from sewing section and 15% from packing section. In addition, packing waste of plastic sheet, carton box and fabric paper tube are generated from cutting line and packing section. Total amount of waste about maximum 40 kg per day are generated from operation process.

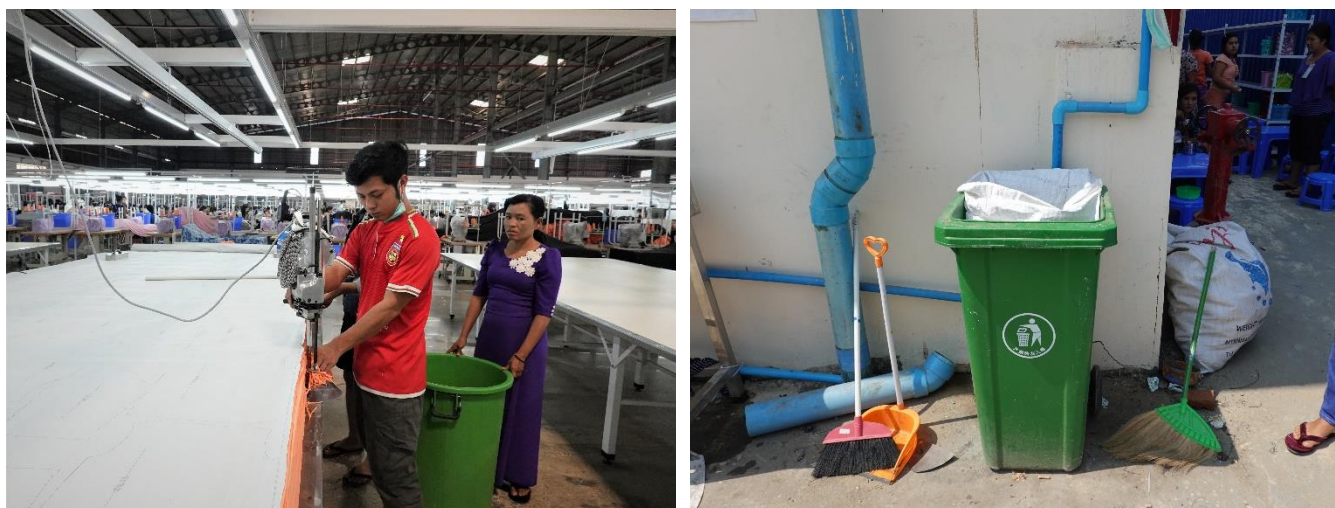


Figure 3-10 Solid Waste Disposal photos at Proposed Project



Figure 3-11 Water Drainage planning photo for Wastewater Discharge

### 3.4.3. Waste Generation

The project will be generated solid waste, liquid waste, and hazardous waste from the operation of the Young Clothing Company Limited. Detail description of waste generation and waste amount are shown in below.

Table 3-8 Waste Generation & Waste Amount

Waste		Type of wastes	Estimated waste amount	Source of generation
Solid waste	Re-usable	Residual pieces of fabric scraps	40 kg / day*	Material store, Production line, cutting line and packaging
	Non re-usable	Food residues, domestic waste	-	Canteen, Kitchens, dormitory
Liquid waste		Sanitary discharge water	90.3 m <sup>3</sup> /day*	Toilet facility, kitchen and canteen



**Environmental Management Plan**

Hazardous waste	Residual chemicals, use chemical container	-	Chemical usage and store area
	Oil leakage and spills	-	Operation of generator and movements of vehicles

\* The Yangon City solid waste generation rate as of 2012 is 0.39 kg per person per day (Pollution Control and Cleansing Department, Yangon City Development Committee, 2014).

\*The domestic wastewater generation was based on typical wastewater generation rate of 0.1 m3 per person per day (Metcalf & Eddy, 2004)

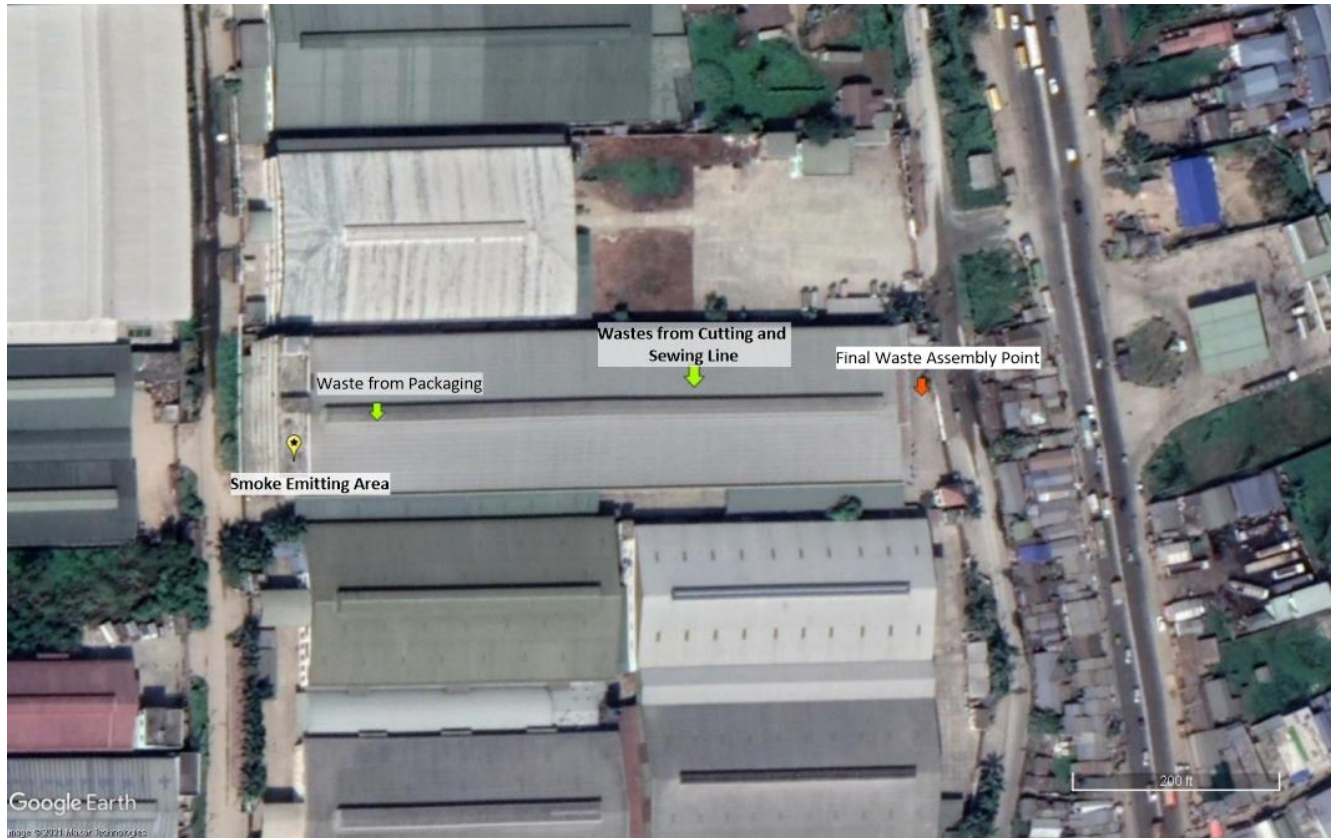


Figure 3-12 Solid waste and liquid waste assembly area

## **4. BRIEF DESCRIPTION OF SURROUNDING ENVIRONMENT**

The purpose of this Chapter is to predict how environmental and socio-economic conditions will affect because of the implementation of the proposed Project. This requires a sound understanding of the baseline conditions at the project site, which established through desktop study research, site surveys, primary data collection and projections for future developments. Findings provide the current and future characteristics of the project site and the value and vulnerability of the key environmental and socio-economic resources and receptors. The following sections provide a description of the environmental and socio-economic aspects of the project.

### **4.1. METHODOLOGY FOR DATA COLLECTION AND ANALYSIS**

The followings methodologies are used for Environmental Management Plan (EMP) for this report preparation;

- Onsite Measurements and Analysis – Baseline parameters such as Indoor temperature, humidity, operation light conditions, noise and water quality of the project site during operation phase were measured onsite. The analyzed results are mentioned in this chapter.
- Secondary data collection of proposed project site area – Socio economic condition, physical/biological environment, and weather data are collected from official township data of Hlaing Thar Yar Township, Yangon Region.

### **4.2. PHYSICAL COMPONENT IN PROJECT AREA**

#### **4.2.1. Topography**

The proposed project area is situated Shwe Than Lwin Industrial Zone, Hlaing Thar Yar Township, and its topographic condition is flat. The proposed project site is primarily agricultural land, but now is initiated into the industrial zone area.

#### **4.2.2. Geology**

The Yangon area is underlain by alluvial deposits (Pliocene to Recent), the non-marine fluvial sediments of Irrawaddy formation (Pliocene), and hard, massive sandstone of Pegu series (early-late Miocene). Alluvial deposits are composed of gravel, clay, silts, sands and laterite which lie upon the eroded surface of the Irrawaddy formation at 3-4.6 m above mean sea level (MSL). The rock type in Yangon is mainly soft rocks, which consist of sandstone, shale, limestones and conglomerate. Geological map of Yangon Regional area is shown in Figure 4-1.



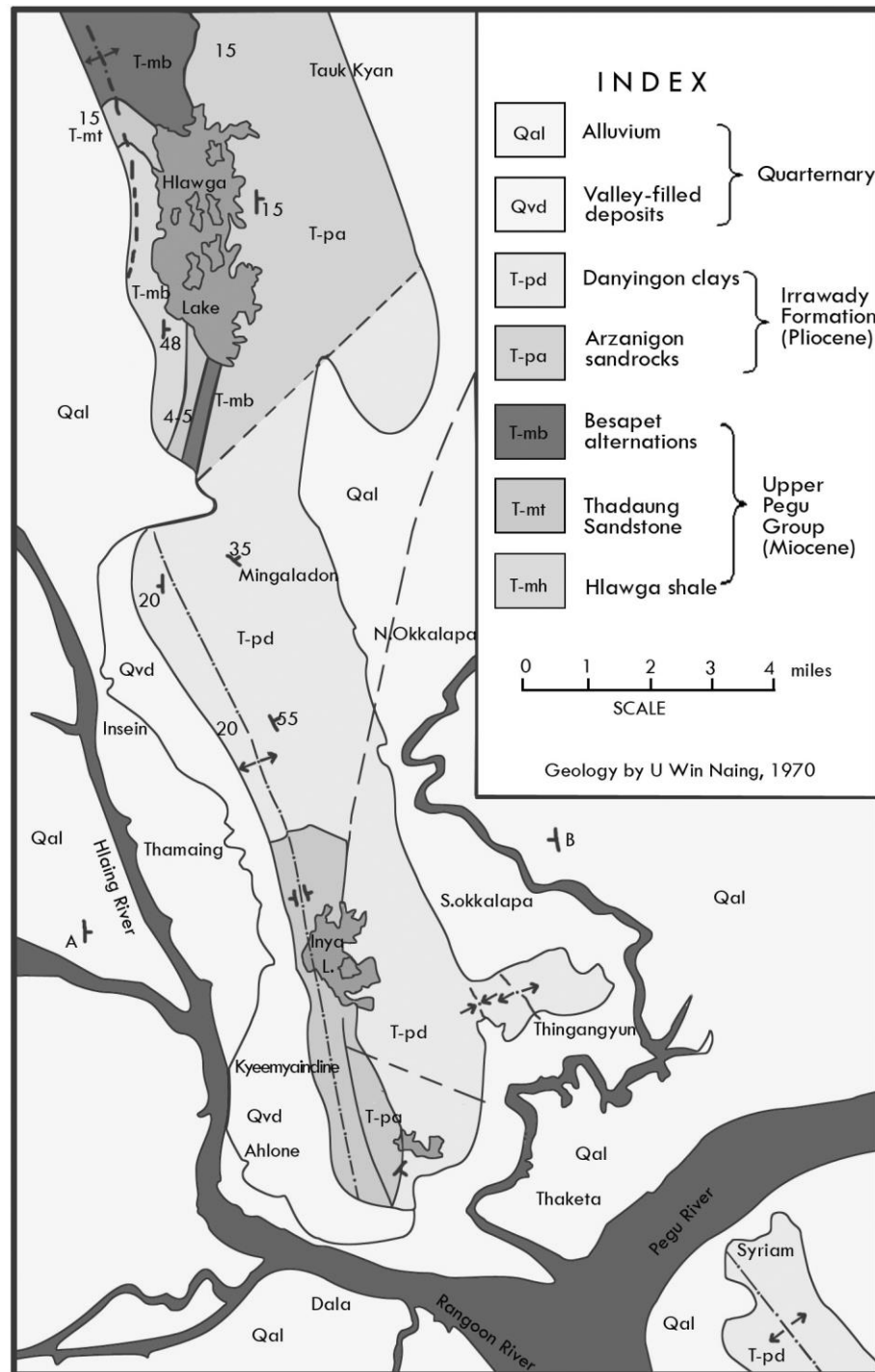


Figure 4-1 Geological Map of Yangon Region

#### 4.2.3. Tectonics

Yangon is situated in the southern part of the Central Lowland which is one of the three major tectonic provinces of Myanmar. The Taungnio Range of the Gyophyu catchments area of Taikkyi District, north of Yangon, through the Thanlyin Ridge, south of Yangon forming a series of isolated hills probably resulted from the progressive deformation of the Upper Miocene rocks as the eastern continuation of the subduction or stretching and compression along the southern part of the Central Basin and regional uplifting of the Pegu Yoma (Aung Lwin 2012).

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**4.2.4. Soil**

The underlying soil type at the Project Site and its surroundings is characterized as the Meadow and Meadow Alluvial Soil. Meadow Soil is soil which occurs near the river plains exposed to occasional tidal floods, is non-carbonate and usually contains a large amount of salt. Both materials mainly comprise silty clay loam and neutral soil rich in plant nutrient. The upper layers (approximately 0 to 7 m) of the soil at the Project Site comprise largely of cohesive layers with traces of sand and gravel, followed by sand layers with low silt content and trace gravel from 7 to 35 m. The lower layers comprise denser silt layer with traces of sand and gravel from approximately 57 to 70 m. Standard Penetration Test (SPT) results obtained from testing at the Project Site indicate that the soil strength generally increases with depth. The STP results showed that the current soil quality can accommodate the construction of the Project.

[2]

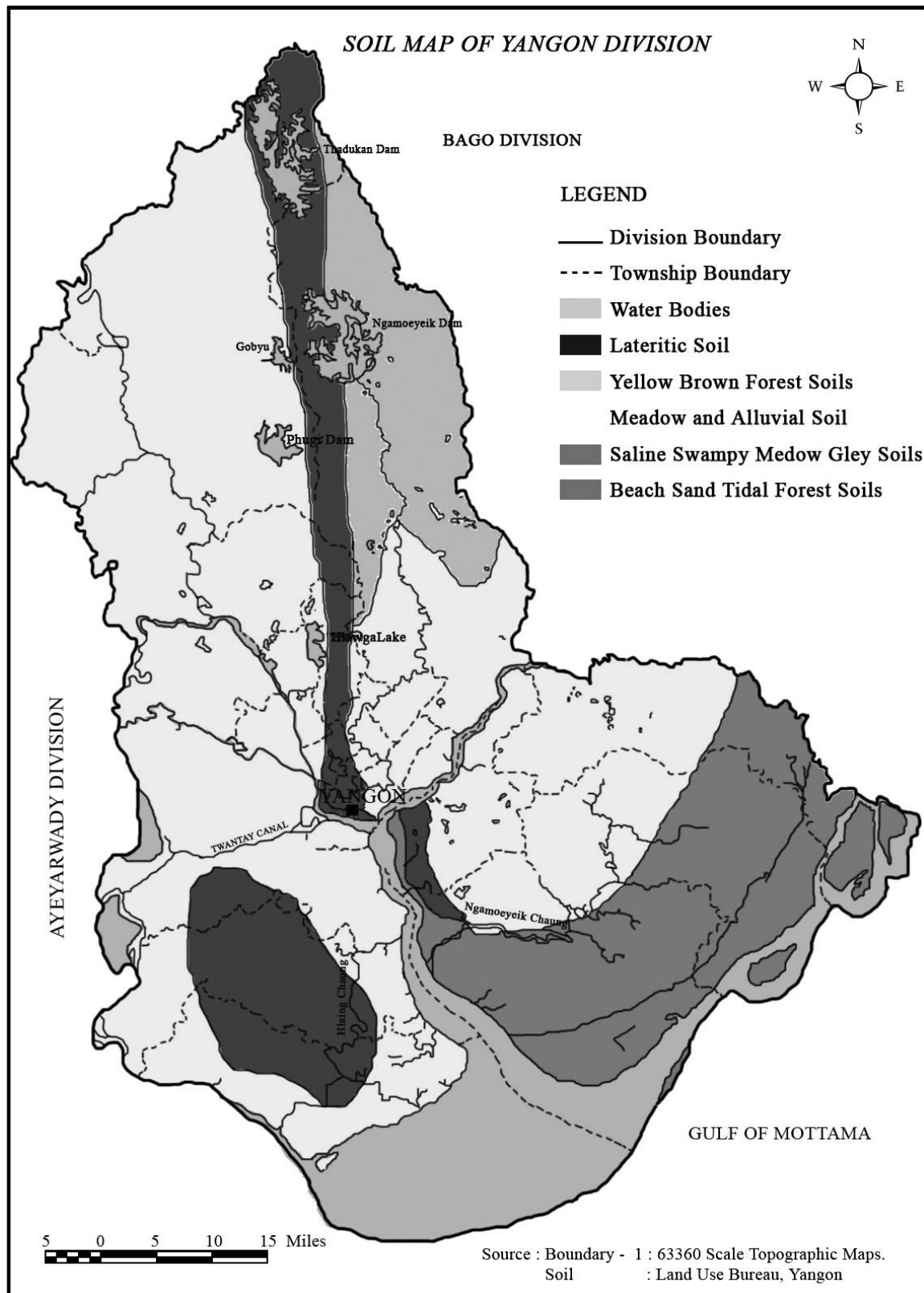


Figure 4-2 Soil map of Yangon (Source: Land use of Bureau of Yangon)

**Environmental Management Plan**

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**4.2.5. Hydrogeology**

Yangon is rich in groundwater resources conserved by unconsolidated Tertiary-Quaternary deposits. In Yangon, groundwater is mostly extracted from Valley filled deposits and Ayeyarwady sandstones.

**Groundwater:** Groundwater availability is generally based on the distribution of permeable and relatively impermeable rocks. The nature of openings in the rocks determines permeability of rocks. Based on local geological considerations, potential groundwater source of Yangon can be roughly divided into two sub regions, namely the low potential area and high potential area. Low potential areas are areas with those rock units of Hlawga Shale, Thadugan Sandstones and Basepet Alternation of upper Pegu Group (Miocene epoch) and Danyingon Clays of Irrawaddy rocks. These rocks and formations are a dense, massive and consolidated nature and have impervious characteristic. High potential areas are underlain by Pliocene Series and recent Formations. High potential area covers approximately 85 percent of the Yangon city including Pabedan. Stand pipe piezometers were installed at a depth of up to 30 m from the existing ground level while a pumping well was installed upon completion of the soil investigation works. Based on the results recorded up to the 8th of December 2012, stabilized groundwater level was observed to range between 0.49 m MSL to -1.81 m MSL.

**Water Supply:** The Yangon City Development Committee (YCDC) has an overall responsibility for the management and distribution of water for Yangon City. Presently, YCDC's water supply is obtained from two main sources: (1) reservoir (Hlawga, Gyobu, Pugyi and Ngameoyeik reservoirs) and, (2) groundwater from YCDC's tube wells. Water from these sources is utilized to varying degrees. Areas not supplied with water from the YCDC rely on shallow surface wells and private boreholes. Water supply for the Project Site will be obtained from onsite borewells for both construction and operations due to the poor reliability of municipal supply. Permitting is part of the Planning Consent Application currently underway. The boreholes will be provided and operated by the Developer.

**Hydrology:** The Project Site lies along the catchment of the Pazundaung River which flows east of the site in a southerly direction to converge into the Yangon River. The Yangon River (also known as the Rangoon River or Hlaing River) is formed by the confluence of the Pegu and Myitmaka rivers and flows into the Gulf of Martaban which is part of the larger Andaman Sea. The river flows along a 40 km stretch flowing from southern Myanmar as an outlet of the Ayeyarwady River into the Ayeyarwady delta. A small portion of the Bago River (the estuary) lies within the Yangon Division. The Pazundaung Creek and Bago River joins the Yangon River and from there, flow towards the southwestern direction into Andaman Sea. <sup>[2]</sup>

**4.2.6. Climate and Meteorology**

Yangon has a tropical monsoon climate under the Koppen climate classification system. The city typically experiences a distinct rainy season from the month of May through to October when a substantial amount of precipitation occurs; and dry season, which commences from November and ends in April. During the course of a year, average temperatures show some variance with average highs ranging from 26 °C to 36 °C and average lows occurring between 18 °C and 25 °C. The hottest period is between February and May, with little or no rain. At the end of this season, generally from March to April, the average monthly temperature reaches the upper 30°C. The average temperatures in Yangon range from 24 °C to 36 °C in April during the hot season and it ranges from 18 °C to 32 °C in January during the cooler season.

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**Rainfall and Relative Humidity:** The climate of Myanmar follows a typical monsoon pattern. Historically, the average annual mean rainfall for Yangon is 2,681 mm with the annual average rainy days of 129.3 days. During the course of 2013, the Department of Meteorology and Hydrology (Myanmar) reported an annual precipitation of approximately 2700 mm. The month with the most precipitation was in July. The relative humidity was generally higher from May to October 2013. The dry season occurs from November to April. Based on the historical weather for the last twelve months in Yangon, no precipitation was observed in December 2012, February 2013 and March 2013. The least humid month of the last 12 months was February 2013 with an average daily low humidity of 34%, and the most humid month was September with an average daily high humidity of 80%.

The proposed project is located at ShweThanLwin Industrial Zone, Hlaing Thar Yar Township and Yangon Region. The climate condition of Hlaing Thar Yar Township is the dry season of area in which the project lies starts in December and ends in March. The raining season starts in June and ends in September and the cold season follow with the cooler, drier months of October to January. The highest temperature ranging 38°C and low range 30°C reference from Township Meteorology data, Regional Data of Hlaing Thar Yar Township. 2013 to 2017 Yearly data of rainfall and temperature is presented in Table 4-1. The weather condition during 27 November 2018 shows the average temperature of 22.42 °C while the average humidity is 80.08 percent Table 4-2.

**Table 4-1 Annual Rainfall and Temperature**

Year	Rainfall		Temperature	
	Raining day	Rainfall value (Inches)	Summer season Max (°C)	Winter season Min (°C)
2011	60	170.5	31	18
2012	58	180.2	42	16
2013	65	190.01	45	15
2014	59	187.5	42	18
2015	118	102.5	40	12.5
2016	110	105.27	45	15
2017	80	100.2	31	23

Source: Department of Administrative Hlaing Thar Yar Township, Regional data (www.gad.gov.mm.com)

**Table 4-2 Relative Humidity and Temperature Measure at Proposed Project**

Date and Time	Description	Result value	Environmental parameter air station guideline
17 February 2020 (11:00 am to 2:00 pm)	Relative Humidity RH %	38.9 (%)	Present condition
	Temperature	35.3 °C	Present condition



**Environmental Management Plan**

**Figure 4-3 Temperature and Humidity Measurement**

Wind Speed and Direction. Based on 2013 data, it was reported that the month with the highest wind speed was April 2013 with an average wind speed of 3 m/s while the least windy month was December 2012 with an average wind speed of 1m/s. The highest sustained wind speed was 54 m/s, occurring on September 19, 2013 and the highest daily mean wind speed was 4 m/s, occurred on May 14, 2013.

Natural Hazards: Myanmar is exposed to multiple natural hazards including cyclones, earthquakes, floods and fire. It has been periodically exposed by natural disasters. The Yangon District is in the vicinity of the southern section of the Sagaing Fault which has not been active in the past 50 to 75 years indicating that the faults may be under accumulating stress increasing the potential for an earthquake to occur. The Sagaing Fault is the most prominent active fault in Myanmar trending roughly north to south. It has been the originator of a large proportion of destructive earthquakes in Myanmar. The Project Site is also located in an earthquake zone and therefore the building construction design needs to cater for this hazard with adequate planning on emergency response procedures. Myanmar is exposed to cyclones and associated storm surges from the Bay of Bengal. Annually, there are approximately 10 tropical storms in the Bay of Bengal from April to December. Severe cyclones occur during the pre-monsoon period of April to May and post-monsoon period of October to December. The threat of flooding usually occurs in three waves each year: June, August and late September to October.

#### **4.2.7. Air Quality**

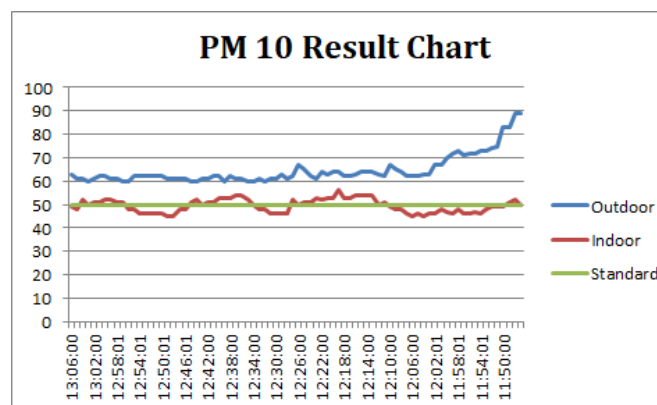
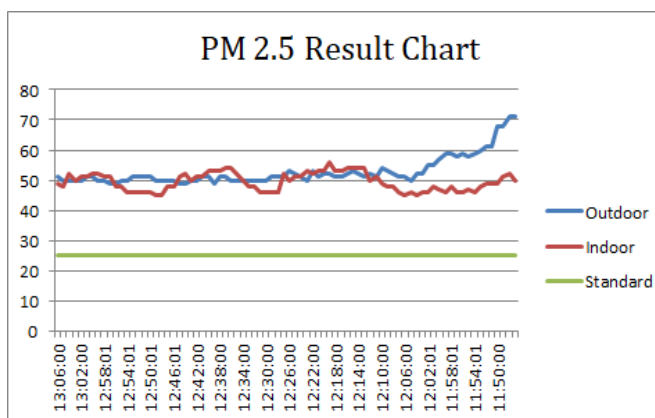
To determine the existing baseline ambient air quality status within the project site on 17, February 2020, 24-hours of working period air pollutants level, which include dust (PM<sub>10</sub> and PM<sub>2.5</sub>) and gases (SO<sub>2</sub>, NO<sub>2</sub>) were measured at the selected site using the OCEANUS AQM-09 air monitoring station. To reveal the existing status of baseline air quality, the average ambient air qualities measured were compared with National Environmental Quality (Emission) Guidelines. The measurement location point is situated at Latitude 16°51'48.03" N and Longitude 96°2'48.25" E.

It was observed that the air quality of NO<sub>2</sub> and SO<sub>2</sub> concentration level are within the limit of NEQ (emission) guideline but particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>) are highly above the National Environmental Quality (Emission) Guidelines because the factory is running the garment production and generate the mass amount of fabric flecks.

**Environmental Management Plan****Table 4-3 Observed Air Quality Results**

Parameters	Observed value	Guideline value	Unit	Organization	Period
<b>Indoor Air Quality</b>					
PM <sub>10</sub>	63.9	50	µg/m <sup>3</sup>	NEQG	24 hrs
PM <sub>2.5</sub>	53.99	25	µg/m <sup>3</sup>	NEQG	24 hrs
<b>Outdoor Air Quality</b>					
PM <sub>10</sub>	64.65	50	µg/m <sup>3</sup>	NEQG	24 hrs
PM <sub>2.5</sub>	52.79	25	µg/m <sup>3</sup>	NEQG	24 hrs
SO <sub>2</sub>	17.68	500	µg/m <sup>3</sup>	NEQG	10 minutes
NO <sub>2</sub>	99.54	200	µg/m <sup>3</sup>	NEQG	1 hour

NEQG = National Environmental Quality (Emission) Guideline



**Environmental Management Plan****Figure 4-4 Indoor and Outdoor Air Quality Measurement Photos****4.2.8. Noise**

The Noise level was measured by using Digital Sound Level Meter for working hours on 17 February 2020. The average noise level in the project site area is presented in Table 4-4 compared with NEQ guideline. However, according to the Noise source monitoring at operation area (inside the production sector) of noise level is in acceptable level of National Environmental Quality (Emission) Guideline.

**Table 4-4 Noise Level Measurement Result**

Date and Time	Location	GPS value	Result value	NEQ Guideline
17.2.2020 (11:00 am to 2:00 pm)	Operation Area	16°51'48.03"N 96° 2'48.25"E	66.87 dBA	70 dBA



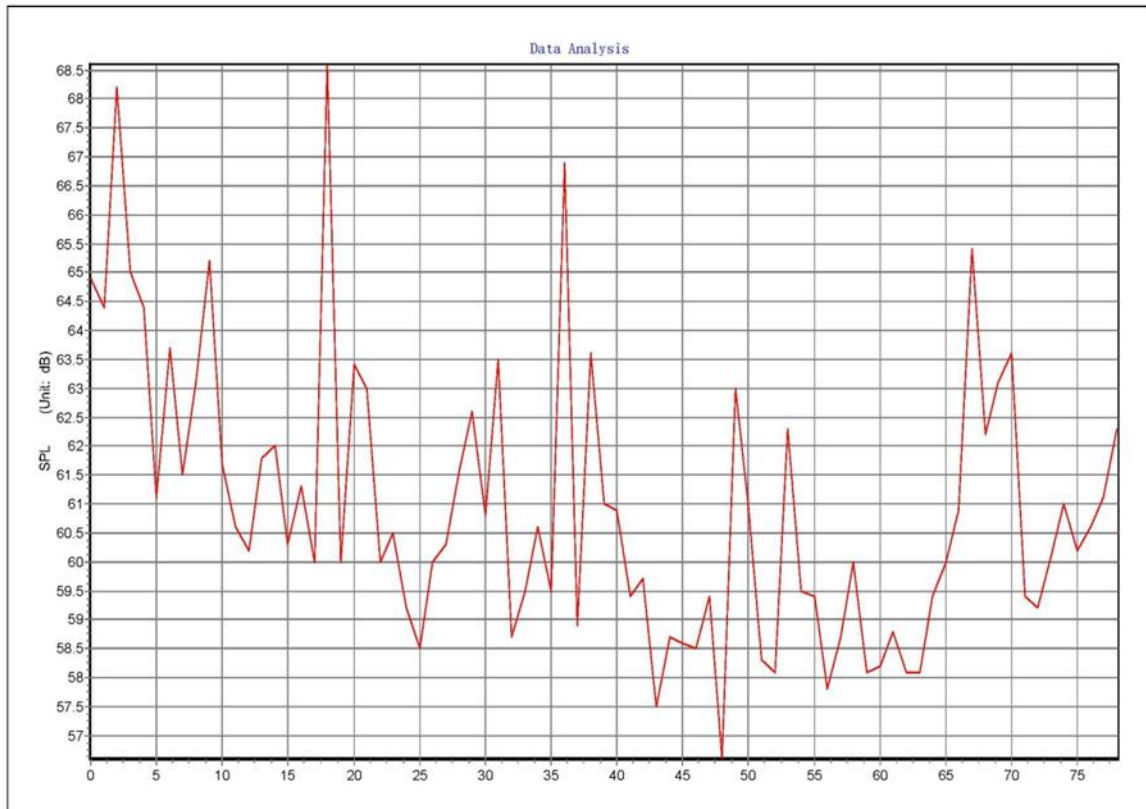


Figure 4-5 Noise Level Result Graph



Figure 4-6 Sound level measurement photo

According to the monitoring results, Myanmar Bestex garment factory the noise level is higher a bit than the NEQ guideline. Therefore, in that factory ought to use the ear protection to all labors. In this way can reduce the noise level.

#### 4.2.9. Light

Activities of the workers in the garment factory are highly dependent on the quality of light. Therefore, the consultant conducted the light measurement in the garment factory and the recorded light

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result is presented in Table 4-5. Fluorescent lamps in the factory are planning the operation area with 3x3 ft spacing and the the whole factory is approximately 15x15 ft spacing the whole factory.

Appropriate lighting is the need for every department, irrespective to the task being handled. Although, there are some areas where focus on maintaining proper illumination is very crucial in a garment factory, like the inspection points (on-floor and in stores), sampling, and the finishing section, as these areas are crucial for the quality of the production. The tasks involved in these areas require high levels of worker focus and accurate lighting to ensure lower errors and defects passing on to the next stage.

However, according to the result of light measurement at operation area (inside the production sector) is in good condition and at the acceptable level of standard.

**Table 4-5 Recommended illumination and limiting glare index based on IES Code, 1968**

Visual test	Illumination (lux)	Glare index
Casual seeing	100	28
Rough task with large detail	200	25-28
Ordinary task medium detail	400	25
Fairly severe task, small detail (e.g. drawing office, sewing)	600	19-22
Severe, prolonged task, very small detail (e.g. fine assembly, hand tailoring)	900	16-22
Very severe, prolonged task, very small detail (e.g. gem cutting, hosiery mending, gauging very small parts)	1,300 -2,000	13-16

Source: Koenigsberger, et al. 1975



**Figure 4-7 Light Quality Measurement Photo**

**Environmental Management Plan****Table 4-6 Result of Light Measurement in Myanmar Bestex Garment Company Limited**

No	Location	Measure value (Lux)	Standard*
1	Sewing Area	1469	2000
2	Cutting Area	1352	2000
3	Ironing Area	1256	1000
4	QC Area	1292	1000
5	Packing Area	986	1000

\* Lighting standards and codes usually provide recommended illuminance ratios between the task area and its surroundings (EN 12464-1 2002) (CIBSE 1997) (IESNA 2000, 676708)

**4.3. BIOLOGICAL COMPONENT**

The proposed project site is not located in or near a sensitive ecosystem as the proposed project area is situated in the Shwe Than Lwin industrial zone. The Project Site is a built-environment and the species of flora surveyed at the site are native species uncommon to the Yangon area. There were no protected species or species of conservation value identified.

**4.4. SOCIO-ECONOMIC COMPONENT****4.4.1. Population**

Myanmar Bestex Garment factory is located across Hlaing Thar Yar Township in Yangon Region. In 2017, the population of Hlaing Thar Yar Township is about 414,209 people as present in Table 4-7. <sup>[1]</sup>

**Table 4-7 Population of Males and Females at Hlaing Thar Yar Township (2017)**

Item	Older 18 year			Younger 18 year			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Urban	105,075	119,903	224,978	44,884	49,782	94,666	149,959	169,685	319,644
Rural	33,257	31,319	64,576	14,953	10,536	29,989	48,210	46,355	94,565
Total	138,332	151,222	289,554	59,837	64,818	124,655	198,169	216,040	414,209

Source: Department of Administrative Hlaing Thar Yar Township, Regional data (www.gad.gov.mm.com)

**4.4.2. Religion**

The different kinds of religion present in Hlaing Thar Yar Township are shown in Table 4-8. More than 90% of the people living in the township are Buddhists. <sup>[1]</sup>

**Table 4-8 Religion in Hlaing Thar Yar Township (2017)**

Township	Buddhist	Christian	Hindu	Muslim	Total
Hlaing Tharyar	395,789	6,400	8,320	3,700	414,209

Source: Department of Administrative Hlaing Thar Yar Township, Regional data (www.gad.gov.mm.com)

**Environmental Management Plan****4.4.3. Local Economy**

Among regional towns, Hlaing Thar Yar Township has a variety of businesses and services operating in the community with other businesses/services, based in the region. Most of the source of livelihood in the Township is employment of factory. Services and facilities available include:

- post office
- beauticians
- butcher
- hairdressers
- furniture and electrical store
- restaurants
- cafes
- shoe and clothing shops
- industrial services
- pharmacy
- veterinarian
- bus service
- gift stores
- music store
- pubs and bars
- florist

**4.4.4. Public Infrastructure and Access****4.4.4.1. Communication and Transportation**

Major transportation route in Hlaing Thar Yar Township are railway, port, and car road as presented in Table 4-9. <sup>[1]</sup>

**Table 4-9 Transportation Route**

Categories	Township		Miles
	From	to	
Sail	Pan Hlaing River and Hlaing confluence	Ngwe pin Lae Industrial	8
Bus line (61,23,68,16,6,69,17,74,20,52,53,54,67) City Bus	WYTU	Downtown area	
Car (Yangon - Patheingyi road)	King Ba Yin Naung bridge	Mya Sein yaung Stream	5.4
Car (Yangon – Nyaung U road)	Aung zaya Bridge	BOC traffic circle	3.2
Car (King Anawmyathari Road)	Shwe Pyi Thar Bridge	Thamakone Traffic circle	4.6

Source: Department of Administrative Hlaing Thar Yar Township, Regional data (www.gad.gov.mm.com)

**Environmental Management Plan****4.4.4.2. Electricity**

The electricity demand of Hlaing Thar Yar Township is higher and higher due to the normally increased in population and infrastructure. <sup>[1]</sup>

**4.4.4.3. Education**

Location of major schools were situated i.e. basic education primary school (B.E.P.S.), basic education middle school (B.E.M.S), basic education high school (B.E.H.S) and university, in the Hlaing Thar Yar Township. The name and the located village tract/ ward of schools are described in . <sup>[1]</sup>

**Table 4-10 List of major school in Hlaing Thar Yar Township**

<b>No.</b>	<b>Name of School</b>	<b>Location</b>
1.	West Yangon Technological University	Outside Padan Village Tract
2.	BEHS (1)	NO (2) ward
3.	BEHS (2)	No (12) ward
4.	BEHS (3)	NO (17). Ward
5.	BEHS (4)	NO (5) ward
6.	BEHS (5)	NO (7) ward
7.	BEHS (6)	Yae Okken
8.	BEHS (7)	NO (16) ward
9.	BEHS (8)	NO (20) ward
10.	BEMS (Branch) (1)	NO (6). Ward
11.	BEMS (Branch) (2)	Nyaung Village Tract
12.	BEMS (Branch) (3)	Dine Su, Nyaung Village
13.	BEMS (Branch) (4)	NO (6) ward
14.	BEMS (Branch) (5)	NO (1) ward
15.	BEMS (Branch) (6)	NO (10) ward
16.	BEMS (Branch) (7)	Outside Padan Village Tract
17.	BEMS (Branch) (8)	NO (18) ward
18.	BEMS (Branch) (9)	Shwe Lin Pan Village Tract
19.	BEMS (Branch) (10)	NO (9). Ward
20.	BEMS (Branch) (11)	NO (12). Ward
21.	BEMS (Branch) (12)	NO (18). Ward
22.	BEMS (Branch) (13)	NO (15). Ward
23.	BEMS (Branch) (14)	NO (14). Ward
24.	BEMS (Branch) (15)	NO (13). Ward
25.	BEMS (Branch) (16)	NO (11). Ward
26.	BEMS (Branch) (17)	NO (7). Ward
27.	BEMS (Branch) (18)	NO (11). Ward
28.	BEPS (1 to 32)	Hlaing Thar Yar

**Environmental Management Plan**

No.	Name of School	Location
29.	Pre School (1 to 6)	Hlaing Thar Yar

Source: Department of Administrative Hlaing Thar Yar Township, Regional data (www.gad.gov.mm.com)

**4.4.4.4. Health Status**

The diseases of high prevalence reported in 2013 are Tuberculosis (TB), followed by Acute Respiratory Infection (ARI), Diarrhea, TB and snakebites. With reference to the Township Health Profile 2014 of Hlaing Thar Yar Township, no accidental work injuries reported to the township hospital in 2013. The common diseases are shown in Table 4-11.

**Table 4-11 Common Diseases in the Hlaing Thar Yar Township**

Disease	Hlaing Tharyar	
	Morbidity	Mortality
Malaria (Per 100000P)	-	-
Dysentery	21	-
Diarrhea (Per 100000P)	37	-
TB (Sputum+) (Per 10000P)	67	-
Hepatitis	5	-

**Table 4-12 Lists of hospital in the Hlaing Thar Yar Township**

Hospital Name	Beds/Services	Responsible
Township Hospital	200	Government
Cottage Hospital (Shwe Lin Pan)	16	Government
Pan Hlaing	95	Private
Tun Foundation	20	Private
Total	330	-

Source: Department of Administrative Hlaing Thar Yar, Regional data (www.gad.gov.mm.com)



## 5. POTENTIAL ENVIRONMENTAL IMPACT AND MITIGATION MEASURES

### 5.1. METHODOLOGY FOR THE ASSESSMENTS

The assessment of each impact is based on consideration of the magnitude, duration, spatial and frequency of activities, which are going to be carried out during three phases and characteristics of the project site. The assessment is qualitative and the significance of each impact is classified into 5 categories in overall.

The following methodology has been applied to assess the environmental impacts of the factory mainly on air, water, land, biodiversity, including human beings. Each source of impact has been assessed by four parameters, magnitude, duration, extent and probability and each assess point have 5 scales as mentioned in Table 5-1.

**Table 5-1 Impact assessment parameters and its scale**

Assessment	Scale				
	1	2	3	4	5
<b>Magnitude (M)</b>	Insignificant	small and will have no effect on working environment	Moderate and will result in minor changes on working environment	High and will result in significant changes on working environment	Very high and will result in permanent changes on working environment
<b>Duration (D)</b>	0 - 1 year	2 - 5 year	6 - 15 year	Life of operation	Post Closure
<b>Extent (E)</b>	Limited to the site	Limited to the local area	Limited to the region	National	International
<b>Probability (P)</b>	Very improbable	Improbable	Probable	Highly probable	Definite

Then, the Significant Point (SP) calculated by following formula.

$$\text{Significant Point (SP)} = (\text{Magnitude} + \text{Duration} + \text{Extent}) * \text{Probability}$$

Impact Significance: Based on calculated significant point, impact significance can categorize as follows:

Significant Point (SP)	Impact Significance
<15	Very Low
15-29	Low
30-44	Moderate
45-59	High
60	Very high

## Environmental Management Plan

### 5.2. IMPACT IDENTIFICATION

The development of infrastructure for the proposed project likely to happen changes in the local environment in terms of physical, biological and socio-economic aspects along with the perspective on both positive and negative impacts. The potential environmental impacts brought by various activities of proposed factory project will be identified and judged by site surveying with checklist, meeting with client team, including plant manager and supervisor, representatives from the factory operators and assessing the environmental baseline information for operation and decommissioning phases along with its mitigation measure.

#### 5.2.1. Positive Impact

During the project implementation, local people can get job opportunities in administrative sectors, office works, transportation sectors, skill and unskilled workers, etc. Due to the implementation of the project, there will be employment opportunities especially for workers from the local community. Employees will also improve more in their professional knowledge and skills. The net effect of job creation is the improvement of the livelihoods and living standards of the beneficiaries and poverty reduction, development of local people's livelihood. Cause of the proposed project is located in ShweThanLwin Industrial Zone, there may have business opportunities to local people. Local people can have a market by selling foods, snacks and drinks nearby the factory.

#### 5.2.2. Negative Impact

The following Figure 5-1 briefly described the potential negative impacts of the proposed project. There are four main types of impacts; impact on environmental resources, impact on ecological resource, impact on human and impact of waste generation.

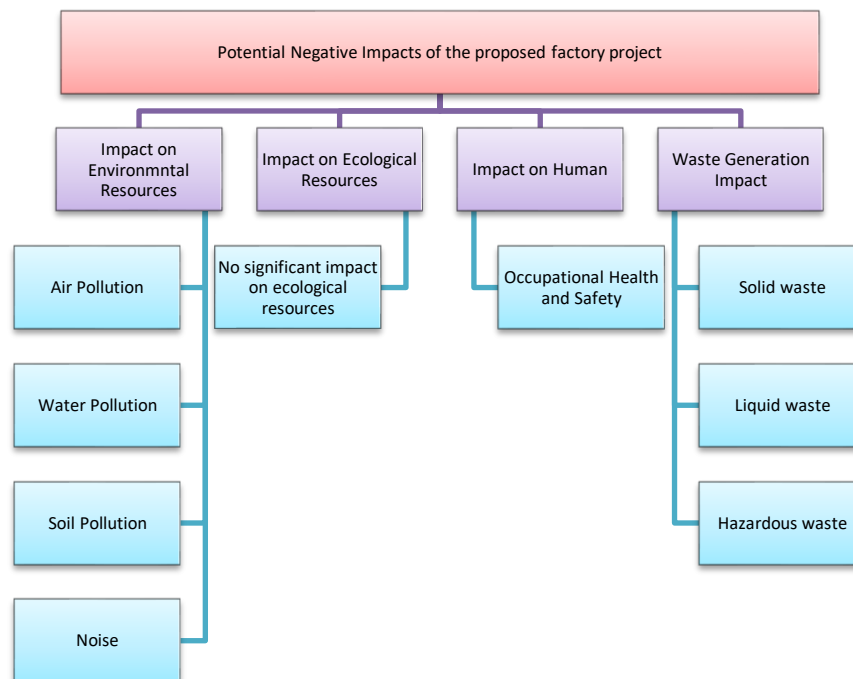


Figure 5-1 Potential negative impact affect from proposed factory project



**Environmental Management Plan****5.3. IMPACT ON ENVIRONMENTAL RESOURCES****5.3.1. Impact on Air Quality**

The project factory is already constructed during environmental assessment study and site visit. During construction phase, dust emission was addressed as potential environmental impact and is expected to be non-significant because the construction phase is a short-term affect. So, we are not assessed potential environmental impact during construction phase.

During the operation phase, there is no emission of smoke from the process of production. Particulate matters are generated during cutting and pressing the raw materials. But that particles amount is low. Dust particles, CO<sub>2</sub> and SO<sub>2</sub> would be emitted from the activities of loading, unloading and transportation of the raw materials and final product. Various activities as cooking from kitchen, using air conditioners in office building, storage of raw materials, vehicles movements, operating diesel generators and boiler combustion would also be a factor slightly affecting the air quality.

Though main electricity source for the factory is the national grid line, sound-proof diesel generators will be set-up in case of electricity shortages. So, 30 kVA and 375 kVA of standby generator will be used for both operation and administration appliances. The proposed project will use annually 3,660 gallons of diesel for vehicles such as transportation vehicle and emergency use of a generator. The following table shows the amount of CO<sub>2</sub> emission coming from the combustion of fuels.

Burning diesel or other fuels creates exhaust gasses. Diesel generators produce carbon dioxide (CO<sub>2</sub>), nitrogen oxide (NO<sub>x</sub>), and particulate matter. These generators and boiler release this into the atmosphere and substantially reduce air quality in the nearby regions. Every liter of fuel has 0.73 kg of pure carbon, 2.6 kg of carbon dioxide released per liter of diesel fuel.

**Table 5-2 Category of GHGs Assessment**

Category	Range
Negligible	no GHG assessment necessary
Low	< 20 kt/y CO <sub>2</sub> -equivalent per year
Medium-Low	20 – 100 kt CO <sub>2</sub> - equivalent per year
Medium-High	100 kt – 1 Mt CO <sub>2</sub> - equivalent per year
High	>1 Mt CO <sub>2</sub> -e equivalent per year

Source: EBRD GHG Assessment Methodology, 2010

**Table 5-3 CO<sub>2</sub> Emission by the Uses of Fuel**

No.	Type	Amount(gallon/year)	Equivalent CO <sub>2</sub> emission (Kilotons)	Status
1	Fuel for generator	3660	0.2947	Negligible

Furthermore, likewise the construction phase, negative impact on ambient air quality such as emissions of dust particles emission from the movement of vehicles used for carrying decommissioned materials and gaseous emission from these vehicles and machines can be expected during the decommissioning phase of the proposed project after its lifespan, 35 years.

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**5.3.2. Impact on Water Quality**

During the construction period, water consumption is for implementation of the construction works and domestic water usage by construction workers. Surface water and ground water could be contaminated from the several activities of construction works such as mixing of the concrete, wetting of dry surfaces, washing of the equipment, etc. Moreover, oil spill from the vehicles and machinery can pollute water quality and can enter into the ground water and run into near river during the rainy season. However, the project factory is already constructed during environmental assessment study and site visit. Therefore, impact on water quality is not assessed for this project.

During operation phase of garment manufacturing factory, there is no water use for processing purpose. Tube well is the main source of raw water for factory waster use. The raw water is provided for the whole factory use of general office facilities such as canteen, toilets and kitchen. Moreover, sewage disposed from the employees, staffs, oils spill and grease leakage from transporting vehicles and machinery equipment used in operating the production of garment can seriously pollute the quality of underground water source. But the factory plans to use separate waste water channels, septic type toilet system and sewage treatment plants in accordance with YCDC guidelines to avoid potential contaminations and hazards by waste water and sewages. So, it can cause low impact to the water quality.

During the decommissioning phase, oil spill from the demolished vehicles and machinery can penetrate into the ground water quality. Water can also be contaminated by activities related with decommissioning works and waste disposed by workers.

**5.3.3. Impact on Soil Quality**

During the construction phase, the excavation works from the construction activities must be the major impact on soil. The soil is compacted by the vehicles and the solid waste disposal improperly by the workers can affect the soil quality. Oil spillage from the vehicles could be also polluted to the soil. However, the project factory is already constructed during environmental assessment study and site visit. Therefore, impact on water quality is not assessed for this project.

During the operational phase, there is no significant impact on soil quality due to garment manufacturing activities because concrete road facilities have been implemented at the whole project site area. However, there may be effect on soil if wastes from the operation period are disposed improperly.

During the decommissioning phase, transportation of decommissioning materials and transferred of heavy machinery may happen oil leakage and lubricants, and thus it can lead to impact on soil. Moreover, hazardous releases of materials or oil utilized in the infrastructure can contaminate the existing soil during the decommissioning phase.

**5.3.4. Impact of Noise**

During the construction phase, significant impact on noise and vibration to surrounding environment must be generated from the movements of vehicles, operating the machinery, excavation activities and transportation of equipment and construction materials by heavy trucks. However, the project factory is already constructed during environmental assessment study and site visit. Therefore, the proposed project is located in industrial zone and already finished the construction, the potential

**Environmental Management Plan**

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impact on noise and vibration is not assessed and short-term affect must be caused the construction period is temporary.

During the operation phase, noise impact may be a significant impact for Garment production sectors. The significant sources of noise impact activities are the operation of various machinery and equipment listed in for sewing line, cutting line and the emergency used of generator, vehicles and automobile movements (short-term noise) will be noise impacts sources. According to the noise results of 8 hours continuously measurement, at the source of operation area inside the factory and within the factory area are slightly exceeding the noise level of 70 dB of NEQ (emission) guideline. Therefore, no obvious influence can be caused expected to environment.

During the decommissioning phase, the heavy vehicles, machineries and equipment used for decommissioning activities can affect the noise level and vibration of the area.

**5.4. IMPACT ON ECOLOGICAL RESOURCES**

The proposed project is located in the industrial zone. Therefore, there is no wildlife, forests, protected area, coastal resource or mangrove area and rare and endangered species are found around the project area. The nearest water body is Pan Hlaing River which is running south to north and later join into the Hlaing River in the east.

**5.5. IMPACT ON HUMAN****5.5.1. Socio-economic**

The proposed project is the long-term investment in the industrial sector. Most of the impacts of the proposed project on socio-economic environment may be positive. Implementation of proposed project may create temporary employment during construction and decommissioning phases and permanent jobs in the operation phase. Subsequently, socio-economic standards of local people will be increased and eventually it may lead to the economic growth at local and regional level.

**5.5.2. Occupational Health and Safety**

During the construction phase, significant accidents and injuries like electric shocks, falling from heights, chemical exposure, crushing injury, fire hazards can be occurred due to the construction activities including metal grinding and cutting, concrete work and welding the metals. Moreover, accidents and injuries to workers and local communities could be caused from heavy vehicles movement for the transport of construction materials and equipment. Small injuries due to slips, headache and sickness must be caused of the noise, air pollution and odor could be affected to the workers and local people. However, the project factory is already constructed during environmental assessment study and site visit. Therefore, impact on water quality is not assessed for this project.

During the operation phase, using the machinery for production process can get injuries. Noise from the generating of the machine and generator may also affect the health of people working in the project area. Fire and explosion hazards are mainly cause from the storage of raw materials and poor management of waste disposal. The usage of fuel must carefully handle because spillage and leakage of oil and grease can cause ignition of fire. Domestic wastewater or grey water produced from canteen, kitchen and toilets will cause enormous breeding of mosquitos, which can lead to diseases like malaria and dengue fever, if not carefully managed.

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During the decommissioning phase, activities related with decommissioning process can cause injuries and can affect the health of decommissioning workers

**5.5.1. Waste Disposal****5.5.1.1. Solid Waste**

During the construction and decommissioning phase, various kinds of solid wastes will be generated. These wastes will be collected and clean every day to avoid any undesirable working condition and environmental impacts. Based on their types (glass, metal, plastic, wood, cement residues, oil spills and paper based), these solid wastes will be collected separately in rubbish bins and regular and proper disposal will be done in accordance with YCDC guidelines.

In the operation phase, major solid wastes of the proposed garment factory may be generated from production lines, cutting and packaging. Factory shall use textile, thread and carton box as raw materials. The residual pieces of the fabric scraps from the production lines and cutting line used carton box, plastic sheet from the packaging are the main source of solid waste. In addition to factory solid waste, canteen, kitchen and dormitory will produce solid wastes mainly personal remnants, household wastes and food residues.

**5.5.1.2. Liquid Waste**

There may be expected no significant liquid waste from the construction and decommissioning phase. The main source of the liquid waste of these two phases may be from the sanitary wastewater.

During the operation phases, sanitary wastewater from the usage of toilet facilities, kitchen and canteens will be discharged as liquid waste. All of the liquid waste will be collected in septic tanks which are attached with proper sewage treatment tanks (as mentioned in factory site plan) and regular monitoring should be done in cooperation with YCDC and follow the YCDC guidelines for proper disposal.

**5.6. PROJECT ACTIVITIES AND ITS SIGNIFICANT IMPACTS**

The relative importance of each impact is assessed based on the understanding that general mitigation measures will be integrated into the baseline project. Therefore, when the general mitigation measures reduce impacts to the point of rendering them negligible they are excluded from further analysis. Once the significance of the impact is established as more than negligible, it is described and additional, specific mitigation measures may be proposed to allow optimal integration of the project into the environment.

**Table 5-4 Evaluation and Perdition of Significant Impacts**

Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
Construction Phase; It is not assessed in this phase, because of construction is already completed during EMP preparation.							
Operation Phase							

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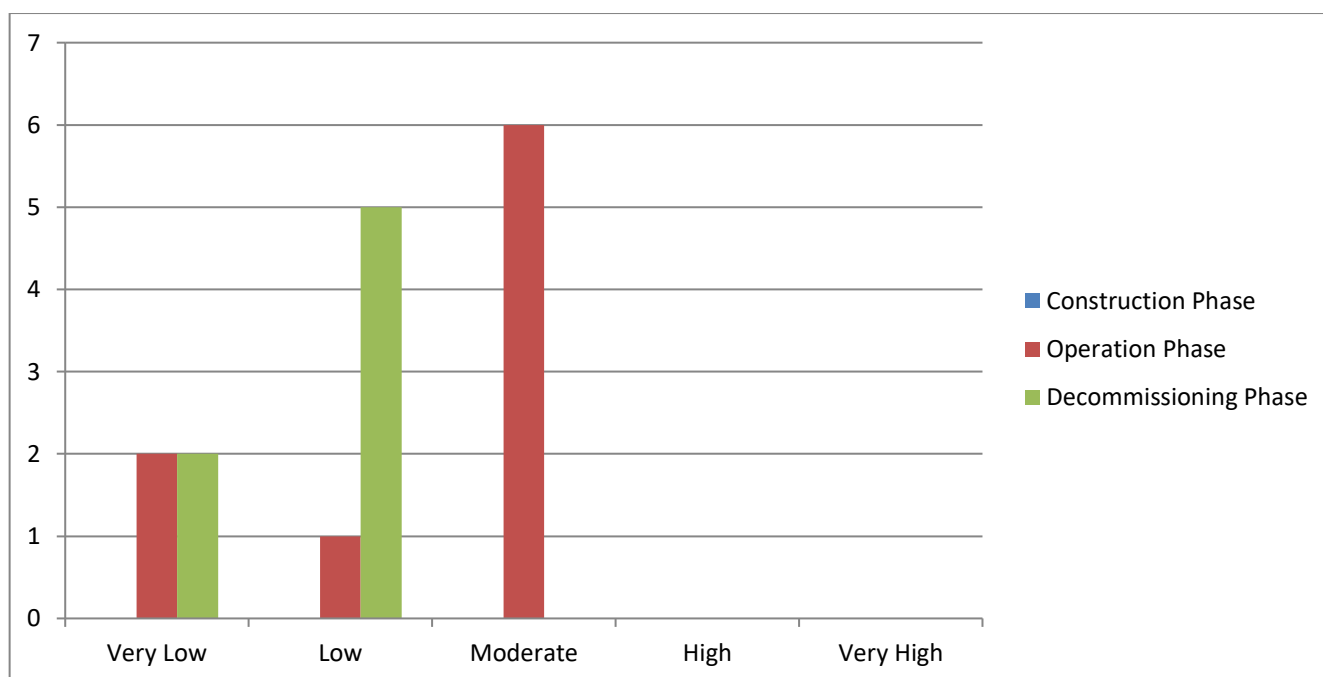
Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
Air pollution	<ul style="list-style-type: none"> <li>Dust and GHGs emission from vehicles used for transporting raw materials and final products</li> <li>Particulate matters emission from the activities of production process</li> <li>Emission of smoke from steam boiler (rice briquettes) and kitchen</li> <li>Emission from emergency diesel generator</li> </ul>	3	4	2	4	36	Moderate
Water pollution	<ul style="list-style-type: none"> <li>Sewage disposed of from the toilets</li> <li>Oil spill and grease leaks from transporting vehicles and machinery equipment used in operation phase</li> </ul>	2	4	2	3	24	Low
Soil Contamination	<ul style="list-style-type: none"> <li>Accidental spillage of oil used by vehicles operating</li> </ul>	1	4	1	2	12	Very Low
Noise Pollution	<ul style="list-style-type: none"> <li>Generating noise from the production machinery</li> <li>Noise from the generating of the emergency generators</li> </ul>	3	4	1	4	32	Moderate
Fire Hazard	<ul style="list-style-type: none"> <li>Poor electrical installations</li> <li>waste disposed area</li> <li>Raw materials storage</li> </ul>	3	5	2	4	40	Moderate
Solid waste	<ul style="list-style-type: none"> <li>residual pieces of fabric scraps from the production lines</li> <li>Waste from packaging materials</li> <li>Waste from kitchen, dormitory and office.</li> </ul>	3	4	1	4	32	Moderate
Liquid waste	<ul style="list-style-type: none"> <li>Septic system and sewage.</li> <li>Domestic liquid waste disposal from office, kitchen and dormitory.</li> </ul>	2	4	2	4	32	Moderate
Hazardous waste	<ul style="list-style-type: none"> <li>Engine oil leaks, spills at diesel storage and during fuel refueling.</li> <li>Used oil and lubricant discharged from the maintenance of vehicles and machines.</li> </ul>	2	4	1	2	14	Very Low
Occupational Health and Safety (Accidents, Injuries)	<ul style="list-style-type: none"> <li>Accidental cases cause by operating machines.</li> <li>Electricity and emergency diesel generators.</li> <li>Unloading, mixing, cutting, pressing and packaging activities.</li> <li>Accidental cases of thermic fluid heater</li> </ul>	3	4	1	4	32	Moderate
Social-economic Condition	<ul style="list-style-type: none"> <li>Job opportunities for local people</li> </ul>	-	-	-	-	-	Positive Impact
<b>Decommissioning Phase</b>							
Air pollution	<ul style="list-style-type: none"> <li>Decommissioning of buildings and related materials</li> </ul>	3	1	1	4	20	Low

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Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
	<ul style="list-style-type: none"> <li>Transportation of demolished materials</li> </ul>						
Water pollution	<ul style="list-style-type: none"> <li>Sewage form decommissioning workers</li> <li>Demolition machinery equipment</li> </ul>	3	1	1	3	15	Low
Soil Contamination	<ul style="list-style-type: none"> <li>Decommissioning of buildings and related materials</li> <li>Transportation of demolished materials</li> </ul>	3	1	1	3	15	Low
Noise Pollution	<ul style="list-style-type: none"> <li>Decommission activities</li> <li>Transportation of demolished materials</li> </ul>	3	1	1	3	15	Low
Waste disposal	<ul style="list-style-type: none"> <li>Sewage system</li> <li>Demolished debris such as bricks, concrete materials</li> </ul>	2	1	1	3	12	Very Low
Hazardous waste	<ul style="list-style-type: none"> <li>Used lubricants from decommissioning vehicles and machines</li> </ul>	2	1	1	3	12	Very Low
Occupational Health and Safety (Accidents, Injuries)	<ul style="list-style-type: none"> <li>Decommissioning activities</li> <li>Transportation of demolished materials</li> </ul>	3	1	2	3	18	Low
Social-economic Condition	<ul style="list-style-type: none"> <li>Temporary job opportunities for local people</li> </ul>	-	-	-	-	-	Positive Impact

According to the result of analysis, it can be concluded that most of the project activities have low significance on environment, in all phases. Project activities that can produce solid waste and liquid waste are moderate significance. Moreover, project activities that emit dust and GHGs and accidental cases are moderately significant. Fire hazard potential of the proposed project and noise pollution are highly significant. But this can be prevented or mitigated by using the following mitigation measures. The following figure shows the impact significance of the proposed project.



**Environmental Management Plan****Figure 5-2 Impact significance of the proposed factory project****5.7. MITIGATION MEASURES OF IMPACT ON ENVIRONMENTAL RESOURCES****5.7.1. Recommended Air Impact Mitigation Measures**

During the operation phases, ventilation system of the factory is enough for the workers cause the proponent has installed Moist Fan around the factory building. To control air pollution, the vehicles, generators and machineries have to check and maintain regularly. Dust emission from the movements of vehicles, car, and emissions from biomass steam boiler cannot get significant effects on ambient air quality. The project proponent must install good exhaust system at the kitchen to reduce adverse impacts of indoor air quality. The factory installing the chimney for generator and biomass steam boiler through which the smokes are passed and spread to the breathing level of human in order to reduce the impact of stack emission on environment. Monitoring and check installed cyclones and ventilation system at the wall of the 65inimize. The factory has planted trees in its premises to reduce carbon emission and thus minimize air pollution. Ensuring vehicles, compressor and generator are well maintained.

During the decommissioning phases, the impact on air quality can be controllable and reduced to minimum level and minimized dust emissions from material handling sources. Sprinkling water on the top soil can reduce dust emission from the demolishing activities. In the proposed project area, vehicle movements should be limit and maintain and check the vehicles and machineries regularly. Burning the demolished materials and residual wastes must not be allowed.

**5.7.2. Mitigation Measure of Impact on Water**

During the operation phase, water discharge from the factory site will be treated by silts track tank before discharging. Water effluent levels should be within acceptable limit of the National Environmental Quality (Emissions) Guidelines values. The factory plan has kitchen, canteen and toilet facilities attached in various buildings of the factory. In the kitchen, separated drainage lines are provided to flow wastewater from the activities washing and cooking, etc. And around the compound area of the project area, drainages are also provided and maintain to flow storm water (rain water, snow and surface

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water). The compound area of the factory is paved with concrete and the drainages are covered and holes are there to flow the storm water. The existing drainage at the project area can be seen in Figure 5-3. Besides, the factory plans to use separate wastewater channels, septic type toilet system. Boiler feed water usually contains many dissolved and undissolved solids which is measured in Total Dissolved Solids (TDS) contents in the boiler that TDS may causes boiler tube failure or boiler explosion. There should have to be water treatment system in order to reduce the consumption rate caused by corrosion pitting inside the tube. Wastewater from the dining room, canteens and toilet facilities are collected in septic tanks which are attached with sewer treatment plant and the proponent will connect and cooperate with YCDC to be carried out for disposing of these septic tank wastes. To mitigate the impact on water, the drainages around the compound area of the factory have to maintain and clean regularly. Spillage and leakages of oil and grease should also be minimized.



**Figure 5-3 Drainage and Septic tank in project area**

During the decommissioning phases, appropriate sanitary facilities should be provided for demolishing workers. An accidental spill of fuel and oil should be avoided. Wastes generated from the demolishing activities should not be disposed directly into the drainage channels.

**Table 5-5 Toilet Facilities**

Categories	Area of location	Sex	Quantities
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Workers and staff	Production area and office	Male	4
		Female	24



Toilets For Men



Toilet For Women

**Figure 5-4 Toilet Facilities at Myanmar Bestex Garment Factory****5.7.3. Mitigation Measure of Impact on Soil Contaminate**

During the operation phase, the compound area of the factory area will be paved with concrete and hence, contamination due to the oil spillage at this area is insignificant. But refilling fuel must be done with great care for preventing spillage.

During the decommissioning phase, impact on soil can be mitigated by using modernized machineries, these machines would be maintained regularly and isolated maintenance area would be identified. Any accidental spills of fuel, oil or other hazardous waste must be avoided. Construction wastes and demolishing debris should be disposed properly.

**5.7.4. Mitigation Measure of Impact on Noise**

During the operation phase, the regular maintenance plans for vehicles, machines generators should be provided to mitigate impact on noise. Using modernized low noise machines should be used if possible. Noise impact to employees shall be minimized by providing earmuffs and ear plugs to those working near the noisy machines.

During the decommissioning phases, temporary noise pollution can be controlled by planning regular maintenance for decommissioning vehicles and machines. Moreover, construction and decommissioning activities should not be worked during night time.

**5.7.5. Mitigation Measure of Light**

Lighting that emits too much light or shines when and where it's not needed is wasteful. Wasting energy has huge economic and environmental consequences. Environmental responsibility requires energy efficiency and conservation. Installing quality outdoor lighting could cut energy use by 60–70 percent, save billions of dollars and cut carbon emissions.

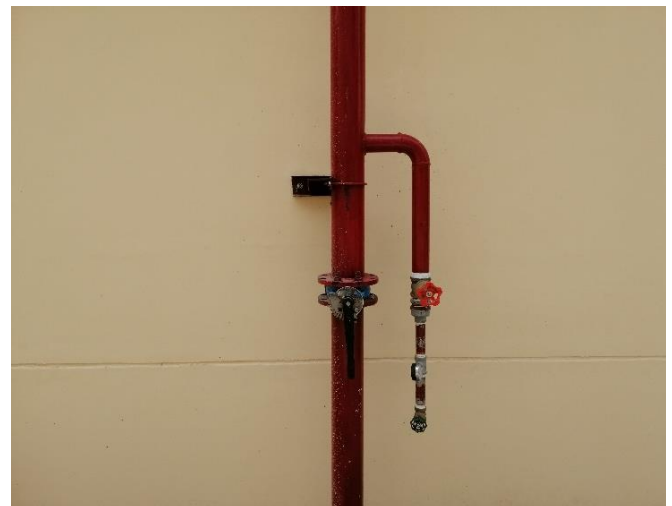
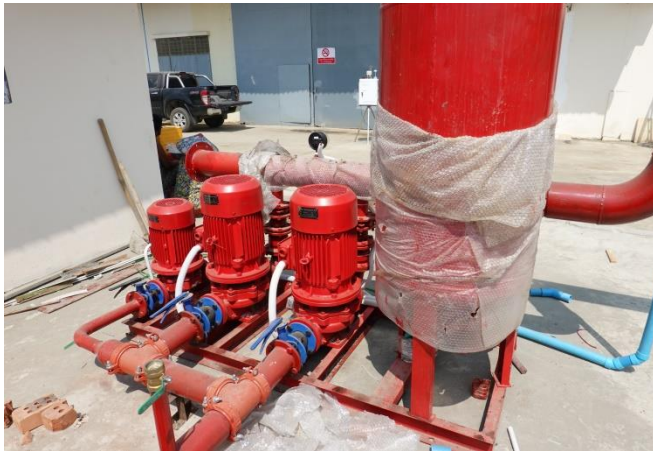


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During the operation period, the factory should have to switch off of unnecessary indoor lighting – particularly in empty buildings and areas and then at night – should be turned off. New lighting technologies can help conserve energy. LEDs and compact fluorescents (CFLs) can help reduce energy use and protect the environment, but only warm-white bulbs should be used within the factory. Dimmers, motion sensors and timers can help to reduce average illumination levels and save even more energy. And the quality lighting designs reduce energy use and therefore energy dependence. It also reduces carbon emissions, saves expenditure of the company.

**5.8. MITIGATION MEASURES OF IMPACT ON HUMAN****5.8.1. Mitigation Measures on Fire Hazard**

The project proponent has provided fire extinguishers, fire hose reels and fire hydrants on the walls of the factory for fire emergency cases. Regular inspection for existing firefighting equipment must be done. In case of fire emergency, water storage tank for fire frightening is also constructed with the capacity of 31,000 gallons at the proposed area. The emergency contact numbers of township and district fire services department must be printed and tagged at easily visible places for fire emergency cases. The emergency fire alarms are installed at the factory for alerting the workers in case of fire. The main entrances and route for emergency cases of the factory must not be blocked with materials or machines for fire emergency cases. In addition, the project proponent has plans to provide trainings on firefighting for the workers by a professional or otherwise by sending to training courses. The plan to install fire alarm system and fire-frightening system are mentioned in Figure 5-5.



**Figure 5-5 Firefighting Plan and Escape Plan**

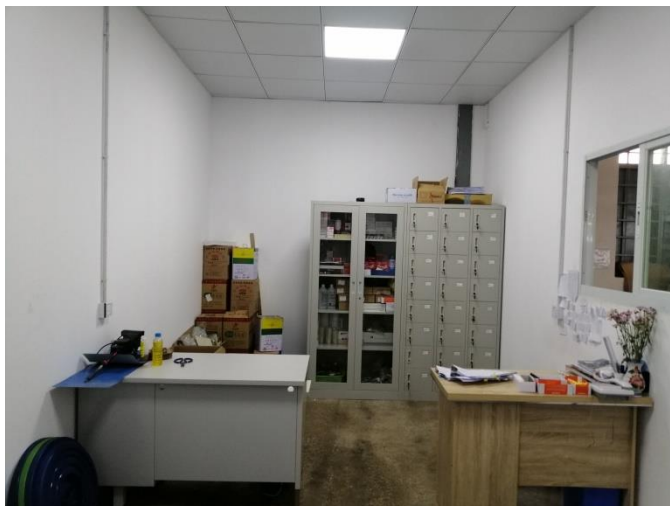
### 5.8.2. Mitigation Measure for Occupational Health and Safety

The proposed project has a clinic and a nurse. Medicines and first aid kits are provided in this clinic. Moreover, these medicines and first aid kits are provided for emergency cases of workers. First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for workers. According to the observed light intensity values, the proponent provides sufficient lighting for workers for safe working and reducing optical problems of the workers. Personal Protective Equipment (PPEs) like earmuffs, safety gloves, helmets and goggles are provided for each department. To prevent electric shock hazards, electrical maintenance staff (handyman) is to be assigned to do regular inspections and take preventive measures. The project proponent must manage the drainage systems of the factory to prevent health risk of the workers.

The Occupational Safety and Health Administration (OSHA) have recommended permissible noise exposure limit for industrial workers, which is based on 90 dB (A) for 8 hours exposure a day with 5dB trading rates. The limits are mentioned in Table 5-6. According to OSHA, the maximum allowable noise level for workers is 90 dB (A) for 8 hours exposure a day. Thus, adequate protective noise impact measures in the form of ear muffs/ear plugs to the workers working in high noise areas, need to provide if actual noise level monitoring results are more than 90 dB (A) at the work site for working time hours for 8 hours.

**Table 5-6 Permissible exposure of noise limits**

Total Time of Exposure Per Day in Hours	Noise Level dB(A)
8	90
6	92
4	95
3	97
5	100
1	105
½	110
¼	115



**Figure 5-6 First Aid & Health Care Photos**

### 5.8.3. Mitigation Measure of Waste Generation

During the operation phase, the project proponent provides separate garbage bins at each building. All of the solid wastes will be collected separately in garbage based on their types and stored in relevant separated waste houses: Non-hazardous Waste Production related house, Hazardous Waste Production related house, Non- Hazardous Waste Non-Production related house and Hazardous Waste Non-Production related house and final wastes will be disposed by using YCDC's service.



**Figure 5-7 Solid Waste Management Photo**

During the decommissioning phase, some of demolished solid wastes must be recycled and the other solid wastes should be stored in dedicated waste storage area in the project site and transferred to YCDC for final disposal.

### 5.8.4. Mitigation Measures for Emergency Response Cases

Environmental emergencies include cyclones (tropical storms), floods, wildfires, oil spills, chemical spills, acts of terrorism and other threaten the lives and health of people. During the operation phase, the factory should establish and implement the emergency risk reduction structures to minimize the impacts of event on the community and environment.

#### 5.8.4.1. Cyclone and Flood

Cyclones, storms and floods can result in contamination of water bodies, loss of harvest or livestock, increased susceptibility of livestock to disease, and destruction of irrigation systems and other agricultural infrastructure.

Landholders who are prepared for natural disasters are more likely to preserve life and property. They will also minimize recovery time and resume production faster.

DPIRD suggests that farmers take the following actions if they are in a flood or cyclone prone area:

- Prepare a current inventory of property, infrastructure, equipment and supplies.
- Check, and fix if necessary, that all buildings and infrastructure meet design guidelines for cyclones or storms in the area.



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- Map flood risk areas and build suitable flood diversion structures.
- Have alternative power, communication, water and food supplies in the case of being isolated.
- Have a plan for escape if needed.

**5.8.4.2. Explosions**

Combustible dusts and flammable gases, mists or vapors can all contribute to potentially explosive atmospheres in the workplace. For this reason, equipment and systems that are used within or in conjunction with these environments must conform to specific safety requirements. These requirements apply to all explosion-proof equipment and systems including safety, control and regulation devices, and protective components, equipment and systems.

**5.8.4.3. Equipment malfunctioning and structural failures**

As a machinery breakdown can severely hamper the productivity and operations of a business, it is in administrators best interest to ensure that equipment functions properly and fulfills the longest service lifetime possible.

A priority of any organization that relies on critical equipment is to prevent its failure. As a machinery breakdown can severely hamper the productivity and operations of a business, it is in administrators' best interests to ensure that equipment functions properly and fulfills the longest service lifetime possible. To prevent equipment failure and reduce maintenance costs, organizations can take a few steps to improve these efforts.

**6) Establish a maintenance schedule**

When repairs and upkeep take place on machines at regular intervals, these efforts can significantly improve the equipment reliability of these systems. Therefore, organizations should be sure to establish a consistent schedule to follow for preventive maintenance, The Dominion advised. As part of this process, administrators and key employees should first identify critical machines to be included in these plans. The schedule should also list the types of maintenance that should be performed on each individual system and at what intervals these fixes should be carried out. Administrators can count on the advice and knowledge of key workers dealing with this equipment on a regular basis, as well as the recommendations of manufacturers to help create this plan.

**2) Eliminate potential defects**

In addition to creating a plan for preventive maintenance, organizations should also seek to eliminate any potential machinery defects which could lead to failure, stated Lifetime Reliability. Plant managers and operators should do their research about the machines utilized in their facilities, and identify any equipment defects that could create downtime. By looking into past failures of the same machines experienced by other users as well as any notices from the manufacturer, individuals can prevent these defects from affecting their business.

**3) Utilize equipment monitoring**

One of the best ways to prevent equipment failure is to deploy a condition monitoring system to gain insight into the health of key assets. This technology includes sensors to measure key components and provides opportunities to perform preventive maintenance before larger issues arise. This system can boost overall facility uptime as well as equipment reliability, making it a smart investment.

## 6. ENVIRONMENTAL MANAGEMENT PROGRAM

### 6.1. ENVIRONMENTAL IMPACT MITIGATION PLAN FOR THE OPERATION PHASE

According to the impact assessment occurred in during the operation phase mentioned in **Chapter 5** and environmental issues associated with the operational phase primarily include the following issues:

1. Impact of gases emission
2. Impact of noise from operation of machinery, air compressor and generator operation
3. Impact of electricity consumption
4. Impact of solid waste and wastewater discharge
5. Occupational health & safety for employees

Although the proposed Myanmar Bestex Garment Company Limited has a number of adverse impacts on the surrounding environment, all of impacts will be reduced to some extent by related proper mitigation measures. However, the unavoidable impacts would evolve from Occupational Health and Safety of workers in the aspect of physical hazards with long-term and short-term working. Therefore, mitigation plan of operation phase is mentioned in Table 6-1. These activities shall be carried out to show that the factory operations comply with the maximum allowable environmental norms and standards.

**Table 6-1 Environmental Impact Mitigation Plan**

Components	Recommended mitigation measures	Residual Impact	Time Frame	Responsible Person
Air & Dust Pollution	<ul style="list-style-type: none"> <li>Plant and grass plantation programs must be provided at project site</li> <li>Diesel consumption of generator must be managed and monitored to reduce the expanse and CO2 emission</li> <li>Installation of windscreens to breakup the wind flow</li> </ul>	Very Low	Throughout Operation Phase	HSE Coordinator
Noise Generation <ul style="list-style-type: none"> <li>Operation of machineries and equipment</li> <li>Emergency Use of Generator</li> </ul>	Ensure all the machineries are well maintained to reduce noise <ul style="list-style-type: none"> <li>Heavy duty muffler systems on heavy equipment</li> <li>Emergency use of diesel generator must be ensured by soundproof</li> <li>Noise level monitoring programs must be designed and conducted by trained specialists at production area</li> </ul>	Very Low	Throughout Operation Phase	HSE Coordinator
Water pollution and issues	Install water meter for internal control of water consumption <ul style="list-style-type: none"> <li>Channeling and retention of water to reduce erosion and situation</li> <li>Collection and treatment of sewage and organic waste</li> <li>Increased recycling and reuse of water</li> </ul>	Low	Throughout Operation Phase	HSE Coordinator

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<b>Components</b>	<b>Recommended mitigation measures</b>	<b>Residual Impact</b>	<b>Time Frame</b>	<b>Responsible Person</b>
	<ul style="list-style-type: none"> <li>Neutralization and sedimentation of wastewater</li> <li>Dewatering of sludge and appropriate disposal of solids</li> </ul>			
Effect of sewage effluents from the factory processing	<ul style="list-style-type: none"> <li>Properly designed and installed the sewage effluents treatments facilities to prevent any hazard to public health or contamination of land, nearest surface water and ground water</li> <li>Ensure that lines and sewage system of factory drainage and the nearest public drainage are watertight and sufficient capacity</li> <li>Regular monitoring the sewage treatment facilities and follow the NEQE guideline</li> <li>Clean the factory's drainage to avoid odor emission and to avoid the block of water flow</li> </ul>	Low	Throughout Operation Phase	HSE Coordinator
Chemical discharges and spills	<ul style="list-style-type: none"> <li>Develop spill prevention plants</li> <li>Develop traps and containment system and chemically treat discharges on site</li> </ul>	Low	Throughout Operation Phase	HSE Coordinator
Biological	<ul style="list-style-type: none"> <li>Installation of systems to discourage nesting or perching of birds in dangerous environments</li> <li>Increased employee awareness to sensitive areas</li> </ul>	Low	Throughout Operation Phase	HSE Coordinator
Waste Disposal	<ul style="list-style-type: none"> <li>Use of less excessive and more environmentally friendly packaging materials</li> <li>Regularly inspection must be carried out of all bulk containment on site prevent leakage and product loss</li> <li>Train both cleaners and employees for proper good housekeeping practice at production area</li> <li>Regular check the temporary storage site of generated solid waste from the whole factory</li> <li>All employee must be followed and practiced by the principle of waste reduction, recycling, recovery and reusing</li> <li>Solvents and Oil waste must be collected by designated jerry cans</li> <li>Provide appropriate control devices in storage of solvents, diesel to avoid possible leakages</li> <li>Dispose at permitted areas specially designed to receive the waste</li> </ul>	Low	Throughout Operation Phase	HSE Coordinator

**Environmental Management Plan**

<b>Components</b>	<b>Recommended mitigation measures</b>	<b>Residual Impact</b>	<b>Time Frame</b>	<b>Responsible Person</b>
	<ul style="list-style-type: none"> <li>Separate areas must prepare for rejected products, waste materials and chemicals.</li> <li>All waste must be disposed of any applicable environmental regulation</li> <li>Ensure that all inside and outside areas, buildings, facilities and equipment are kept clean and in good state to function as intended and to prevent contamination</li> </ul>			
<b>Occupational Health and Safety</b> <ul style="list-style-type: none"> <li>Accident and incidents leading to serious injuries</li> <li>Exposure of Noise</li> <li>Risk of increase in road accidents</li> <li>Electrical Hazards</li> <li>Risk of fire</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and strict of employee and workers to wear the uniform and full personal protective equipment (PPE) during working at operation area</li> <li>Arrange appropriate health check-up facilities</li> <li>Measure the PM 10 and PM2.5 concentrations in production area by quarterly and compare with NEQ (emission) guideline</li> <li>Plant must implement the safety and health program designed to identify, evaluate, monitor and control safety and health hazards</li> <li>All employee must not be exposed at noise level greater than 85 dB(A) for a duration of more than 8 hours per day without hearing protection.</li> <li>Use of hearing protection must be enforced actively when the equipment sound level over 8 hours reaches 85 dB (A)</li> <li>Ensure all rooms are well ventilated and Lighting</li> <li>Ensure factory laws are strictly followed</li> <li>Clearly display warning signs or symbols for dangerous areas at the factory</li> <li>Monitoring plan must be prepared by accredited professionals</li> <li>Regular maintenance of the road and Use of traffic signs</li> <li>The employee must review and assess known and suspected presence of biological agents at the work place and implement appropriate safety measures, monitoring, training, and training verification programs</li> </ul>	Low	Throughout Operation Phase	HSE Coordinator/ Operation Manger

**6.2. ENVIRONMENTAL MANAGEMENT PLAN DURING OPERATION PHASE**

The EMP for Myanmar Bestex Garment Company Limited has been prepared to address potential issues based upon discussion with factory management, workers, local community view, stakeholder consultation and from the site visit of experts. The EMP is additional to and compliments the

**MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED**

**Environmental Management Plan**

factory's safety management system. The following environmental issues that require environmental management plans based upon the potential impacts of activities by Myanmar Bestex Garment Company Limited are as follows:

**6.2.1. Air Pollution/Dust Management Plan**

Objective	<ul style="list-style-type: none"> <li>➤ To minimize the adverse impact to air quality caused by stack gas emission from generator and also dust management generated from vehicular movement.</li> <li>➤ To comply with relevant government rules</li> </ul>	
Relevant Government Law and Rule	<ul style="list-style-type: none"> <li>➤ National Environmental Quality (Emission) Guideline 2015,</li> <li>➤ Motor Vehicles Act (2015),</li> <li>➤ Boiler Law (2015)</li> </ul>	
Time Frame	<ul style="list-style-type: none"> <li>➤ Entire life spans of proposed project operation</li> </ul>	
Management Action	<ul style="list-style-type: none"> <li>➤ Must be plant around the proposed project to reduce carbon emission</li> <li>➤ Should be prohibited burning of waste material at the proposed project site</li> <li>➤ Must be control air pollution, the vehicles, generators and machineries have to check and maintain regularly.</li> <li>➤ Install the efficient chimney for generators and biomass steam boiler and regular check the generators and boiler for minimizing the emissions of smoke from these.</li> <li>➤ Must be ensuring vehicles, compressor and generator are well maintained.</li> <li>➤ The factory should install appropriate boiler stack height and regularly maintain the using industrial boiler in order to recover the emission of air pollutants from boiler.</li> </ul>	
Monitoring and Reporting	Frequency	Biannually
	Monitoring Point	Indoor and Outdoor of proposed project
	Parameters	PM <sub>2.5</sub> , PM <sub>10</sub> , SO <sub>2</sub> , NO <sub>2</sub> , O <sub>3</sub>
Estimated Cost	2000000 Kyats per year	
Responsible Person	Management of the proposed factory; <ul style="list-style-type: none"> <li>▪ Head of maintenance: Total implementation of above of air pollution management plan</li> <li>▪ Production manager: Air quality in the production area is good enough</li> </ul>	

**Environmental Management Plan**

	<ul style="list-style-type: none"> <li>▪ Manager: To hire organization/ independent third-party testing air quality</li> <li>▪ EHS officer: Monitor the hygiene of ambient air quality in surrounding of the factory</li> </ul>
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**6.2.2. Noise Management Plan**

Objectives:	<ul style="list-style-type: none"> <li>• To avoid nuisance noise to nearby residents generated from generator and other machineries.</li> <li>• To comply with noise standard of National Environmental Quality (Emission) Guideline</li> </ul>
Performance Indicator:	Nil complaints relating to noise nuisance
Management Plan	<ul style="list-style-type: none"> <li>• Building noise insulated generator room and ensure satisfactory maintenance of relevant equipment</li> <li>• Impose speed limit to track and vehicles at the transportation route.</li> <li>• Emergency use of diesel generator must be ensured by soundproof</li> <li>• Noise level monitoring programs must be designed and conducted by trained specialist at production area</li> </ul>
Estimated Cost	<ul style="list-style-type: none"> <li>• Approximately 300,000 Kyats per year</li> </ul>
Responsibility	<p>Manager</p> <ul style="list-style-type: none"> <li>• To hire organization/independent third party testing noise level</li> <li>• Ensure that all workers use PPE during operation</li> </ul>

**6.2.3. Solid Waste Management Plan**

Objectives:	<ul style="list-style-type: none"> <li>• To minimize waste generation by developing strategies for the management and disposal of all waste in a manner that is sustainable and sensitive to the environment</li> <li>• To comply government waste management policy</li> </ul>
Performance Indicator:	Nil complaints relating to noise nuisance
Management Plan	<ul style="list-style-type: none"> <li>• The factory does not dispose the any sort of solid wastes on the factory premises or not dump in the surface water like a local pond, canal or river, etc.</li> <li>• The solid wastes are stored properly and separately in a certain location in proper manner such as cloth scrap waste need to collect at one place and poly/carton waste should collect at another place. Metal/Hazardous material waste such as fudge electric bulbs and empty chemical container is stored another in separate place of storage area.</li> <li>• Recycle wastes like cloth scrap, carton box, plastic sheet, etc. are hand over to local buyer for reuse and waste-tracking record shall be kept every day.</li> <li>• The metal or glass waste of electric bulb is taken by the suppliers to recycle them.</li> <li>• The daily domestic waste of worker hand-over to YCDC waste collector to collect every day</li> </ul>



**Environmental Management Plan**

	<ul style="list-style-type: none"> <li>Daily wastes are stored clearly labeled containers and in such a manner that all related personnel are provided proper training about the relevant issues.</li> </ul>
Estimated cost	<ul style="list-style-type: none"> <li>Approximately 800,000 Kyats per year</li> </ul>
Responsibility	Manager (HR) <ul style="list-style-type: none"> <li>Responsible for overall site cleanliness and waste management</li> <li>Regular waste collection to minimize excessive waste storage</li> </ul>

**6.2.4. Wastewater Management Plan**

Objectives:	<ul style="list-style-type: none"> <li>Prevent pollution underlying groundwater sources</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>Implement an environmental friendly sewerage system</li> </ul>
Management Plan	<ul style="list-style-type: none"> <li>Ensure that drainage lines and sewage system of factory and the nearest public drainage are watertight and sufficient capacity</li> <li>Regular check and maintain sewerage facility.</li> <li>Clean the factory drainage to avoid odor emission and to avoid the block of water flow</li> <li>Regularly monitor and check the discharge temperature from boiler wastewater before directly discharge into factory's final drainage</li> </ul>
Estimated cost	<ul style="list-style-type: none"> <li>Approximately 300,000 Kyats per year</li> </ul>
Responsibility	<ul style="list-style-type: none"> <li>Manager -To hire organization/independent third party testing wastewater quality</li> <li>EHS officer-Monitor the condition of factory's drainage and sewerage system</li> </ul>

**6.2.5. Energy Management Plan**

Objectives:	<ul style="list-style-type: none"> <li>The energy management is aimed at minimizing electricity use results from site equipment and working lighting</li> <li>Comply with the standard of energy use</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>Annual energy savings for all department facilities</li> <li>Annual fuel saving for generator and vehicle</li> </ul>
Management Plan	<ul style="list-style-type: none"> <li>Installation of timers and thermostats to control heating and cooling</li> <li>Energy saving light installed in different area of the factory for saving energy</li> <li>Used of energy saving devices must be installed</li> <li>Ensure that good housekeeping measures such as turning off equipment and lights when not in use</li> </ul>
Estimated cost	<ul style="list-style-type: none"> <li>Approximately 400,000 Kyats per year</li> </ul>
Responsibility	Manager <ul style="list-style-type: none"> <li>To arrange energy, audit technical personnel</li> <li>To monitor and record electricity consumption, other related energy issues and take necessary actions if any problem arises</li> </ul>

**6.2.6. Water Consumption Management Plan**

Objectives:	<ul style="list-style-type: none"> <li>The water consumption management is aimed at minimizing ground water use</li> </ul>
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**Environmental Management Plan**

Performance Indicator:	<ul style="list-style-type: none"> <li>Prohibitions on accessing and using underground water without a license</li> <li>Water consumption saving of general water use from groundwater</li> </ul>
Management Plan	<ul style="list-style-type: none"> <li>Install water meter for internal control of water consumption</li> <li>All staff trains and makes aware conservation practices and proper methods of water use must be place in toilets and other areas of water consumption</li> <li>The contamination of water is avoided by suitable management of oil and fuel used in machineries and vehicles</li> <li>Trees plantation surrounding the factory</li> </ul>
Estimated cost	<ul style="list-style-type: none"> <li>Approximately 300,000 Kyats per year</li> </ul>
Responsibility	<p>Manager</p> <ul style="list-style-type: none"> <li>Arrange audit on water usage controls environmental officer</li> </ul>

**6.2.7. Emergency Response and Disaster Management Plan**

Objectives:	<ul style="list-style-type: none"> <li>➤ To reduce the harmful effects of all hazards, including disasters (Natural and man-made disasters). The World Health Organization defines an emergency as the state in which normal procedures are interrupted, and immediate measures (management) need to be taken to prevent it from becoming a disaster, which is even harder to recover from.</li> </ul>
Relevant government law and rule	<ul style="list-style-type: none"> <li>➤ The Employment and Skill Development Law (August 2013), ILO guide to Myanmar Labour Law (2017)</li> </ul>
Time Frame	<ul style="list-style-type: none"> <li>➤ Entire life spans of the factory operation</li> </ul>
Management Action	<ul style="list-style-type: none"> <li>➤ The factory management has taken proper measures to handle any emergency situations like fire, earthquakes, cyclones and floods</li> <li>➤ Provision and inspection of firefighting equipments and fire hydrant system in all the sections for the accidental cases of explosions and mechanical malfunctionings</li> <li>➤ Workers are informed about what to do in earthquake like stay in a safe place such as under table of desk, not to try move outside during earthquake, workers who will be outside during earthquake shall remain stay out of the building, trees, lump post, etc. Other relevant safety instruction of emergency situation it informed to workers by training</li> <li>➤ Periodic inspection of safety relief valve provided with pressure vessels and equipment, preventive maintenance; aware the workers about electric shock by necessary training.</li> <li>➤ A detail evaluation plan (fire exist, emergency exit door, etc.) is established and communicated with workers</li> <li>➤ Workers are aware of dangers from physical hazards such as obstacles covered by floodwater (storm debris, drainage opening, ground erosion) and from displaced reptiles (Snake) or other animals.</li> <li>➤ A medical team has been prepared for primary treatment (First Aid)</li> <li>➤ Prepare an emergency contact directory consisting contact numbers of nearest fire service, local police station, hospitals, etc. and display it in a place that everybody can see it easy.</li> </ul>

**Environmental Management Plan**

	<ul style="list-style-type: none"> <li>➤ Build a safety committee which from firefighting team, rescue team. The committee arrange a meeting every month to discuss about safety management</li> <li>➤ Ensure proper training of the employees about the disaster management, fire safety as well as occupational health and safety</li> </ul>
Monitoring & Reporting	<p>Weekly check fire extinguishers, cyclone shelters, earthquake shelters, and water hydrant in position</p> <p>Daily inspect that all fire exist are open</p> <p>Servicing fire extinguisher and records accidents,</p>
Estimated cost	Approximately 1500000 Kyats per year
Responsibility	<p>Manager and EHS officer</p> <ul style="list-style-type: none"> <li>➤ Arrange firefighting training after every 3 months</li> <li>➤ Responsible for fire control and response</li> <li>➤ Monitoring daily danger warning and bans</li> </ul>
Emergency contacts	<p>Hlaing Tharyar Township</p> <p>Fire Station (01-707550, 645017)</p> <p>Emergency Ambulance Service (09-21060999)</p> <p>Ayawaddy Foundation (01-225829, 225837)</p> <p>YGH (192)</p> <p>Pun Hlaing Hospital (+9513684323, 3684325, 3684336)</p> <p>Yangon Police Station (01-707550, 645017)</p>

**6.2.8. Crisis Situation Management Plan**

Objectives:	<ul style="list-style-type: none"> <li>➤ To reduce the harmful effects of all crisis situations. The World Health Organization defined an emergency as the state in which normal procedures are interrupted, and immediate measures (management) need to be taken to prevent it from becoming accidental or crisis issues, which are even harder to recover from.</li> </ul>
Relevant government law and rule	<ul style="list-style-type: none"> <li>➤ Prevention and Control of Communicable Disease Law 1995 (Amendment in 2011), Myanmar Fire Brigade Law (2015), Occupational Safety and Health Law (2019), Social Security Law (2012)</li> </ul>
Time Frame	<ul style="list-style-type: none"> <li>➤ Entire life spans of the factory</li> </ul>
Management Action	<ul style="list-style-type: none"> <li>➤ The factory management has taken appropriate escape ways to handle any emergency situations like crisis, political cases and other criminal cases.</li> <li>➤ Strictly Follow the prevention measures of COVID-19 during pandemic periods</li> <li>➤ Prepare the factory from losing of unexpected adverse offensive and move all easily flammable materials are in or not in free crisis area</li> <li>➤ Build a safety committee which from firefighting team, rescue team. The committee arrange a meeting every week to discuss about safety management of the factory within crisis periods.</li> <li>➤ Ensure proper training of the employees about the crisis management, fire safety as well as I health and safety.</li> </ul>

**Environmental Management Plan**

Monitoring & Reporting	Daily check fire fighting equipment and water hydrant in position Daily care the health of workers in order not to spread the infection Ready position in fire fighting equipment, COVID-19 preventive measures and records accidents,
Estimated cost	Approximately 1000000 Kyats per year
Responsibility	Manager, OHS team, and fire fighting officer.

**Environmental Management Plan****6.3. ENVIRONMENTAL MANAGEMENT PLAN FOR DECOMMISSIONING PHASE**

Categories	Mitigation plan	Type	Frequency	Responsible Person
Air	<ul style="list-style-type: none"> <li>Implement the replanting and Rehabilitation the factory compound</li> </ul>	Checking after project decommissioning	One time per month after project decommissioning	Land Owner
Noise and Vibration	<ul style="list-style-type: none"> <li>Operating the decommissioning processes within working hours</li> </ul>	Checking after project decommissioning	One time per month after project decommissioning	Land Owner
Occupational Safety	Supplying the Personal Protective Equipment (PPEs) like earmuffs, safety gloves, helmets, goggles and placing with sillied workers at the constructing site	Checking after project decommissioning	One time per month after project decommissioning	Land Owner
Solid Waste	<ul style="list-style-type: none"> <li>Provides separate garbage bins at each building.</li> <li>All of the solid wastes will be collected separately in garbage based on their types disposed by connecting with Mudon Township municipal.</li> </ul>	Checking after project decommissioning	One time per month after project decommissioning	Land Owner
Liquid Waste	<ul style="list-style-type: none"> <li>No mitigation measures</li> </ul>	Checking after project decommissioning	One time per month after project decommissioning	Land Owner
Hazardous Waste	<ul style="list-style-type: none"> <li>The empty chemical containers will hand over to suppliers for recycle or appropriate disposal</li> </ul>	Checking after project decommissioning	One time per month after project decommissioning	Land Owner

**Environmental Management Plan**

<b>Categories</b>	<b>Mitigation plan</b>	<b>Type</b>	<b>Frequency</b>	<b>Responsible Person</b>
	<ul style="list-style-type: none"> <li>The hazardous wastes are transported by specially licensed carriers and disposed by connecting with Mudon Township municipal.</li> </ul>			
Social Issues	<ul style="list-style-type: none"> <li>Implementing the potentials and preparedness management</li> </ul>	Surveying the social business and potential social problems relative with the decommissioning process	According to the condition	Land Owner



**Environmental Management Plan****6.4. ENVIRONMENTAL MONITORING SCHEDULE AND REPORTING**

The EMP cell members responsible may conduct daily, weekly or monthly general inspections of the project area and facilities. The objectives are to identify non-compliances to EMP. Table 6-2 is provided the environmental monitoring schedule for Myanmar Bestex Garment Company Limited. The factory submits monitoring report to the Ministry not less frequently than every six (6) months, as provided in a schedule in the EMP.

**Table 6-2 Environmental Monitoring Schedule for Myanmar Bestex Garment Company Limited**

Issues	Parameter	Frequency	Area to be monitored	Monitoring cost	Responsible Organization
<b>Operation Phase</b>					
Common	Monitoring of mitigation measures	Yearly (3 years after operation)	The project	3 million kyats	Environmental Management Team's Myanmar Bestex Garment Company Limited
Air quality	SO <sub>2</sub> , NO <sub>2</sub> , PM <sub>2.5</sub> , PM <sub>10</sub> , CO <sub>2</sub> and CO	Biannually monitoring and reporting to ECD (first 3 years after operation)	Within Factory Compound (16°51'46.6"N and 96°2'47.64"E)	2000000 Kyats per year	Environmental Management Team's Myanmar Bestex Garment Company Limited
Waste Generation	Solid waste, and Hazardous waste	weekly	Cutting and Sewing Section 16°51'46.89"N and 96°2'48.34"E)	1000000 Kyats	Environmental Management Team's Myanmar Bestex Garment Company Limited
Liquid Waste	Liquid waste and	Biannually monitoring and reporting to ECD (first 3 years after operation)	Canteen and Office liquid waste discharges area (16°51'46.51"N and 96°2'46.88"E)	150,000 Kyats	Environmental Management Team's Myanmar Bestex Garment Company Limited
Fire Hazardous	Visual inspection, firefighting equipment	Monthly	At the factory	500000 Kyats	Fire Safety Team and Environmental Management Team's Myanmar Bestex Garment Company Limited
Light intensity	Illuminance	Monthly	At the production line (especially cutting and QC) (16°51'48.7"N and 96°2'47.7"E)	50000 Kyats	Environmental Management Team's Myanmar Bestex Garment Company Limited
Emergency Cases	Injuries and property loss	Monthly	At the factory	100000 Kyats	Environmental Management Team's Myanmar

**Environmental Management Plan**

Issues	Parameter	Frequency	Area to be monitored	Monitoring cost	Responsible Organization
					Bestex Garment Company Limited
<b>Decommissioning Phase</b>					
Air quality	SO <sub>2</sub> , NO <sub>2</sub> , CO, CO <sub>2</sub> , PM <sub>2.5</sub> , PM <sub>10</sub>	One time during this phase	One point in the demolishing area	1000000 Kyats	Land Owner
Noise	Noise level in decibel (dBA)	One time during this phase	One points in demolishing area	500000 Kyats	Land Owner
Rehabilitation	Recovering and Revegetation	Until the project completed	All decommissioning area	500000 Kyats	Land Owner

**6.5. CORPORATE SOCIAL RESPONSIBILITY (CSR) PLAN**

The CSR activities have the objective to uplift quality of life and gain favorable relations from all communities in the operation area. The CSR program for Myanmar Bestex Garment Company Limited consists of three main sectors; Health, Education and Community Development Sector. CSR activities are conducted in compliance with MIC's guideline for implementation of CSR program.

Myanmar Bestex Garment Company Limited will contribute 2% of our Net Profit to social welfare activities that will help society and country of Myanmar. Our social welfare activities shall include training of our employees such as on job training to be more qualified, and providing necessary healthcare such as medical checkups and giving proper medical knowledge about diseases and its prevention. Part of our CSR activity such as donations will also contribute to public school around our factory (Table 6-3).

**Table 6-3 CSR Plan at Myanmar Bestex Garment Company Limited.**

No.	Particle	Contribution
1	Public school	0.5%
2	Non-profit training	1
3	Employees healthcare	0.5%

**6.5.1. Public School**

We will contribute 0.5% of our net profit to the public school near the factory to be a part of creating the better community. We will also work together with the school to understand more about the needs and we will also ensure that our contributions will be used in the most effective and efficient way for the society.

**6.5.2. Non-profit Training**

We will contribute 1% of our net profit for the trainings of our Employees. Our trainings include job-related trainings, language trainings and safety trainings. The main objective of our trainings are that we want our bags with their work but also improving their other skills such as language and promoting knowledge about safety measures and occupational health employees to be not only become more productive and more qualified.

**Environmental Management Plan****6.5.3. Healthcare**

One of our main concern is the well-being of our employees. We will contribute 0.5% of our net profit for the healthcare which includes medical checkup for the employees and providing health education to our workers.

**6.6. BUDGET PLAN FOR ENVIRONMENTAL MANAGEMENT AND MONITORING**

This section describes the budget plans for the environmental management and environmental monitoring by the project proponent. On the other hand, Myanmar Bestex Garment Company Limited will take necessary environmental mitigation measures and its expenses for the environmental management not only at the construction and operation phases but also at the closing phase in accordance with their responsibility for the studies of recommendation.

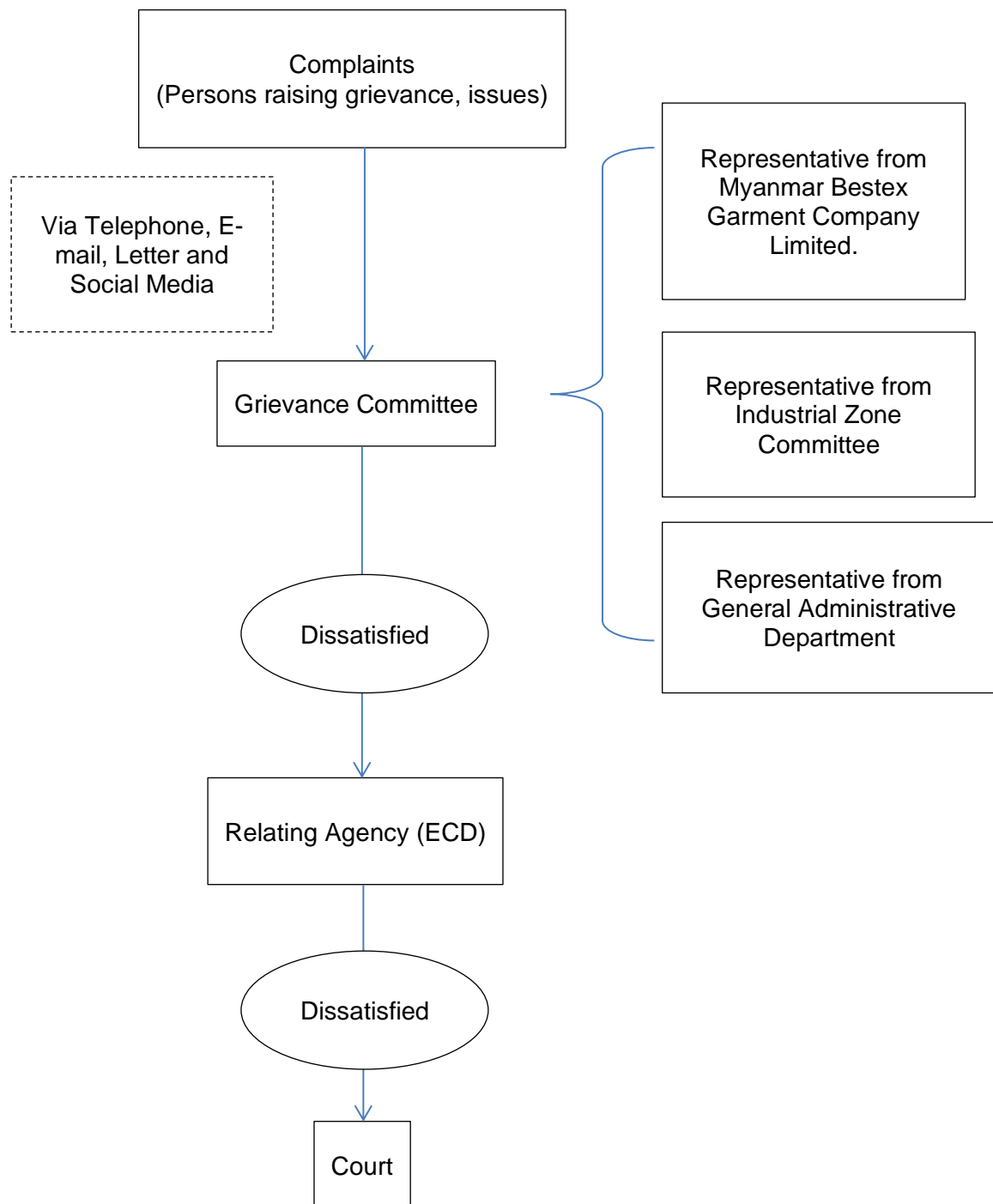
The following table shows the expenditures for the implementation of Environmental Management Plan for operation phase annually. Estimated cost for EMP implementation is presented in Table 6-4.

**Table 6-4 Cost estimation for EMP implementation**

No.	Item	Frequency/Times	Cost (USD)
Mitigation Plan			
1	Maintenance of air ventilation system	Once per year	200 per year
2	Tree plantations within the area of factory compound	Once per three month	1000 per plantation
3	Solid waste disposal	12	1000 per year
4	Purchase of Personal Protective Equipment (PPE)	Once per half a year	1000 per year
5	Medical Check-up and Health Insurances	Once per year	500 per year
Emergency Preparedness			
1	Fire extinguisher	Once per month	300 per month
2	Fire alarm system	Once per month	
3	First Aid Fits	Once per month	
Monitoring Plan			
1	Wastewater	2	300 per year
2	Noise level	2	300 per year
3	Environmental compliance auditing	1	1,000 lump sum

**6.7. GRIEVANCE REDRESS MECHANISM (GRM)**

People who live near the project affected area or stakeholders can complain about the problems and impacts that they suffer; they can complain through Grievance Committee, which includes the responsible persons of Myanmar Bestex Garment Company Limited representative from Shwe Than Lwin Industrial Zone and representative from General Administration Department (Hlaing Thar Yar Township). Small issues will be solved at the Grievance Committee stage and other unsolved problems will be submitted to higher responsible authorities and finally the responsible person decided by the court in legal terms. The following diagram (Figure 6-1) show steps of Grievance Redress Mechanism of Proposed Factory Project.

**Environmental Management Plan****Figure 6-1 Grievance Redress Mechanism Flow Diagram**

## 7. PUBLIC CONSULTATION

### 7.1. PUBLIC CONSULTATION PROCESS

This chapter presents results of public consultation and information disclosure conducted for the Myanmar Bestex garment factory. Public participation can be considered as the required element of the EMP process. In this study various stakeholder participation were made.

Public consultation during preparation of EMP report was conducted on 18, March 2020, following the EIA procedure.

The project's stakeholders in this category are key officials or representatives of the regional and local authorities who have direct responsibilities for the administration of the EMP process for environmental and social clearance and issuing operation permits for proposed development projects.

For this factory, relevant key offices at the national level are Environmental Conservation Department (ECD) and Industry Supervision and Inspection Department.

Relevant key office at the regional level is Yangon City Development Committee (YCDC), General Administrative Department, Fire Department, Factories and General Labor Law Inspection Department, Public Health Department, Industrial Supervision and Inspection Department.

Public consultation carried out after the presentation on the project, followed by questions, answers and discussion. Mr. Linn Htet Sein presented EMP study and findings from Myanmar, after the presentation following question and answer section. Summary of public consultation meeting is presented.







**Figure 7-1**  
shown the consultation meeting photo

**Table 7-1**      **Summary of Public Consultation Meeting**

Time and Date	Wednesday, March 18, 2020 10:30-12:30
Venue	Meeting Room of Shwe Than Lwin Industrial Zone, Hlaing Tharyar Township, Yangon.
Celebrated Times	One
Participants	16 persons
Agenda	Presentation on the Background Information of Project, Project Description, Impact Assessment, Environmental Mitigation Environmental Management Plan and Monitoring Plan Received and Answer from feedback of participants

## 7.2. RECOMMEND SUGGESTION AND COMMENT

After the presentation, the floor opened for questions and answers. There is no question and comment for presentation and EMP draft report, because the project is sample manufacturing of garment on CMP Basis.



**Environmental Management Plan**

Suggestion; U Htun Naing Win; Director (General Administration Office)

- To provide 2% of net profit for CSR program according to MIC's guideline for implementation of CSR program for education, health, society, and environment.

Suggestion; U Kyaw Kyaw; Assistant supervisor (Environmental Conservation and Cleaning Department-Industrial Section) YCDC

- To compliance with YCDC procedure for solid waste management and disposed process
- To implement the sufficient septic tank design for workers
- To provide the medicines for alimnt and must be enough the medicines for injuries





**Figure 7-1 Public Consultation Meeting**

## **8. CONCLUSION & RECOMMENDATION**

### **8.1. CONCLUSION**

Environmental Management Plan (EMP) has been prepared for Myanmar Bestex Garment factory is located at Plot No. (117), Myay Taing Block No.14, Shwe Than Lwin Industrial Zone, Hlaing Thar Yar Township, Yangon Region. The main objective of the study is focused specially on the required environmental management measures or creating environmentally friendly workplace. An EMP has been carried out for the factory according to the requirement of the proponent as it has been made for garment product manufacturing factory.

Thus, the factory management can take proper mitigation steps against adverse environmental impacts by following this EMP. The necessary measure to mitigate impact regarding different environmental parameter such as air, water, waste, noise has been proposed in this EMP.

However, all necessary implementation measures to mitigate adverse environmental, health and safety impacts have already been taken to meet National Environmental Quality (Emission) Guideline (2015). On the other, the factory has positive impacts in terms of environmental in the operation phase. Further, this will indirectly help in boosting up the national economic condition through foreign investment. An outline of EMP has been given in the present report to mitigate/enhance the impacts, which occurs during operation phase of the factory.

The effective implementation of the mitigation measures proposed will ensure towards good environmental management within the proposed project area. Furthermore, the environmental monitoring plan prepared as part of the EMP will provide adequate opportunities to address any residual impacts during the operation phase.

In conclusion, it has been figured out that, the proposed garment factory is going to generate local employment opportunities and enhance capabilities and working skills of employees. Consequently, their socio-economic standard is expected to be improved and undertaking corporate social responsibilities (CSR) as recommended. The study further concluded that positive impacts will be of immense benefit to the local community and national development as well.

### **8.2. RECOMMENDATION**

This is recommended that;

- All appropriate environmental management measures detailed in this report, together with any other environmental management commitments should be implemented throughout the entire life of the factory
- Solid wastes and liquid wastes need to dispose according to YCDC rules and regulation
- Workers should be provided proper training and it should be ensured that workers use PPE during factory operation area.
- Daily, monthly and annual action plan shall be formulated based on this EMP and practiced at operation level.
- Keep full records of environmental management activities and present to annual independent third party environment audit.

**Environmental Management Plan**

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- Abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

Finally, the proponent should follow the comments and suggestions made by ECD after reviewing this EMP report. Once concerned authorities approve EMP, effective implementation of EMP by the project proponent is essential. The proponent should abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

## **9. REFERENCE**

- [1] General Administrative Department (Hlaing Thar Yar Township), Hlaing Thar Yar Township Data (2017).
- [2] Hla Hla Aung, Potential Seismicity of Yangon Region (Geological Approach), “Yangon Surface Displacement As Detected by Insar Time Series Analysis” July 2011.
- [3] Ministry of Natural Resources and Environmental Conservation (MONREC), “Environmental Impact Assessment Procedure” December 2015.
- [4] Ministry of Natural Resources and Environmental Conservation (MONREC), “National Environmental Quality (Emission) Guidelines” December 2015.
- [5] Specifications for accident prevention signs and tags, regulations (standards 29-CFR), Occupational Safety and Health Administration.



**APPENDIX A**  
**Company Document's Myanmar Bestex Garment Company Limited**



ပုံစံ (၅-ခ)

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်  
ရန်ကုန်တိုင်းဒေသကြီးရင်းနှီးမြှုပ်နှံမှုကော်မတီ

အတည်ပြုမိန့်

အတည်ပြုမိန့်အမှတ် ရကတ-၃၂၃/၂၀၂၀ ၂၀၂၀ ပြည့်နှစ် ဇန်နဝါရီလ ၂၃ ရက်

ရန်ကုန်တိုင်းဒေသကြီး ရင်းနှီးမြှုပ်နှံမှု ကော်မတီသည် မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှု ဥပဒေ ပုဒ်မ-၂၅(ဃ) အရ ဤအတည်ပြုမိန့်ကိုထုတ်ပေးလိုက်သည် -

- (၁) ရင်းနှီးမြှုပ်နှံသူ/ကမကထပြုသူအမည် MR. WANG XIAOCHENG
- (၂) နိုင်ငံသား CHINESE
- (၃) နေရပ်လိပ်စာ NO. 5, LONGZHUANGGOU VILLAGE, FACHENG TOWN, HAIYANG CITY, SHANDONG PROVINCE, THE PEOPLE'S REPUBLIC OF CHINA
- (၄) ပင်မအဖွဲ့အစည်းအမည်နှင့်လိပ်စာ WEIHAI SHINY STAR CLOTHING CO., LTD., NO. 1011, NO. 96, QINGDAO MIDDLE ROAD, ECONOMIC AND TECHNOLOGICAL DEVELOPMENT ZONE, WEIHAI, SHANDONG, THE PEOPLE'S REPUBLIC OF CHINA
- (၅) ဖွဲ့စည်းရာအရပ် THE PEOPLE'S REPUBLIC OF CHINA
- (၆) ရင်းနှီးမြှုပ်နှံသည့်လုပ်ငန်းအမျိုးအစား CMP စနစ်ဖြင့် အဝတ်အထည် ချုပ်လုပ်ခြင်းလုပ်ငန်း
- (၇) ရင်းနှီးမြှုပ်နှံသည့်အရပ်ဒေသ(များ) မြေကွက်အမှတ် ၁၁၇၊ မြေတိုင်းရပ်ကွက် အမှတ် ၁၄၊ ရွှေသံလွင်စက်မှုဇုန်၊ လှိုင်သာယာ မြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး
- (၈) နိုင်ငံခြားမတည်ငွေရင်း ပမာဏ အမေရိကန်ဒေါ်လာ ၀.၉၂၀ သန်း
- (၉) နိုင်ငံခြားမတည်ငွေရင်းယူဆောင်လာရမည့်ကာလ အတည်ပြုမိန့် ရရှိသည့် နေ့မှ ၁ နှစ်အတွင်း
- (၁၀) စုစုပေါင်း မတည်ငွေရင်းပမာဏ(ကျပ်) အမေရိကန်ဒေါ်လာ ၀.၉၂၀ သန်း နှင့် ညီမျှသော
- (၁၁) တည်ဆောက်မှုကာလ ၁ နှစ်
- (၁၂) ရင်းနှီးမြှုပ်နှံမှုခွင့်ပြုသည့်သက်တမ်း ၃၅ နှစ်
- (၁၃) ရင်းနှီးမြှုပ်နှံမှုပုံစံ ရာခိုင်နှုန်းပြည့်နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု
- (၁၄) မြန်မာနိုင်ငံတွင်ဖွဲ့စည်းမည့်ကုမ္ပဏီအမည် MYANMAR BESTEX GARMENT COMPANY LIMITED



YRIC 3232020

(ဖြိုးမင်းသိန်း)  
ဥက္ကဋ္ဌ





Form (5-B)

# THE REPUBLIC OF THE UNION OF MYANMAR

Yangon Region Investment Committee

## ENDORSEMENT


Endorsement No. YGN -323/2020

Date 27 January 2020

This endorsement is issued by Yangon Region Investment Committee in accordance with Section 25(d) of the Myanmar Investment Law-

- (1) Name of Investor MR. WANG XIAOCHENG
- (2) Citizenship CHINESE
- (3) Residence Address NO. 5, LONGZHUANGGOU VILLAGE, FACHENG TOWN, HAIYANG CITY, SHANDONG PROVINCE, THE PEOPLE'S REPUBLIC OF CHINA
- (4) Name and Address of Principal Organization WEIHAI SHINY STAR CLOTHING CO., LTD., NO. 1011, NO. 96, QINGDAO MIDDLE ROAD, ECONOMIC AND TECHNOLOGICAL DEVELOPMENT ZONE, WEIHAI, SHANDONG, THE PEOPLE'S REPUBLIC OF CHINA
- (5) Place of Incorporation THE PEOPLE'S REPUBLIC OF CHINA
- (6) Type of business MANUFACTURING OF GARMENT ON CMP BASIS
- (7) Place(s) of investment Project PLOT NO.117, MYAY TAING BLOCK NO.14, SHWE THAN LWIN INDUSTRIAL ZONE, HLAING THAR YAR TOWNSHIP, YANGON REGION
- (8) Foreign Capital Amount US\$ 0.920 MILLION
- (9) Period for Foreign Capital to be brought in WITHIN 1 YEAR FROM THE DATE OF ISSUANCE OF ENDORSEMENT
- (10) Total Amount of Capital (Kyat) EQUIVALENT IN KYAT OF US\$ 0.920 MILLION
- (11) Construction/ Preparation Period 1 YEAR
- (12) Validity of Endorsement 35 YEARS
- (13) Form of Investment WHOLLY FOREIGN OWNED
- (14) Name of Company Incorporated in Myanmar MYANMAR BESTEX GARMENT COMPANY LIMITED



  
(Phyto Min Thein)  
Chairman 8





**Confidential**

THE REPUBLIC OF THE UNION OF MYANMAR  
YANGON REGION INVESTMENT COMMITTEE

Plot No. 49, Seinlae May Street,  
Kabar Aye Pagoda Road, Yankin Township, Yangon

Tel : 01- 658263

Our ref : YRIC -1 /E-323/2020( 1559 )

Fax: 01- 658264

Date : 27 January 2020

**Subject:** Decision of the Yangon Region Investment Committee regarding  
an Endorsement for manufacturing of garment on CMP basis under the  
name of Myanmar Bestex Garment Company Limited

**Reference:** Myanmar Bestex Garment Company Limited's letter dated  
10/1/2020

1. The Yangon Region Investment Committee, at its (1/2020) meeting held on 22/1/2020, approved the Endorsement for investment for manufacturing of garment on CMP basis under the name of Myanmar Bestex Garment Company Limited submitted by Weihai Shiny Star Clothing Co., Ltd. (100%) from the People's Republic of China as a wholly foreign owned investment in accordance with the Myanmar Investment Law and Rules.
2. The terms and conditions of the Endorsement are as follows:
  - (a) The term of an Endorsed project shall be thirty-five (35) years commencing from the date of the issuance of the Endorsement by the Yangon Region Investment Committee.
  - (b) The term of the land and buildings Lease Agreement shall be an initial fifteen (15) years commencing from the date of the agreement between U Thein Win (Lessor) and Myanmar Bestex Garment Company Limited (Lessee) and shall be extendable for a period of ten (10) years, and a further consecutive period of ten (10) years by mutual agreement between the Lessor and the Lessee subject to the approval of the Yangon Region Investment Committee.

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- (c) The monthly rent for land and buildings shall be Kyats 15,000,000 (Kyats fifteen million only) for the total area of the land measuring 1 acre out of 2.258 acres.
- (d) Myanmar Bestex Garment Company Limited may submit an application form for the right to use land under Chapter XII and exemptions and reliefs under Sections 75, 77 and 78 of the Chapter XVIII of Myanmar Investment Law.
- (e) Myanmar Bestex Garment Company Limited shall use its best efforts to achieve a timely realization of the work stated in the Endorsement application.
- (f) Myanmar Bestex Garment Company Limited shall obey and respect the responsibilities of investors under Section 65 of Myanmar Investment Law and Chapter XX of Myanmar Investment Rules.
- (g) Myanmar Bestex Garment Company Limited shall carry out of prevention, mitigation and monitoring of significant environmental impacts according to the type of investment activities in accordance with the relevant laws, rules, regulations and procedures.
- (h) Myanmar Bestex Garment Company Limited shall abide by the Fire Services Department's rules, regulations, directives and instructions. Moreover, Myanmar Bestex Garment Company Limited shall undertake fire prevention measure such as the appropriate placement of water storage tank, fire hooks, sand bags, and fire extinguishers , and training will be provided to all employees regarding the use of fire fighting equipment. Myanmar Bestex Garment Company Limited shall also appoint a specific individual who shall be called the Fire Safety Officer (FSO) who shall be designated responsible for on-site safety and coordination within the organization.

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- (i) Myanmar Bestex Garment Company Limited shall submit to the Myanmar Investment Commission any sublease, mortgage, transfer of shares or transfer of the business to any person during the investment period in accordance with Section 72 of Myanmar Investment Law and Rule 191 of Myanmar Investment Rules.
  - (j) Myanmar Bestex Garment Company Limited shall submit an annual report in the prescribed form to the Myanmar Investment Commission within three months of the end of the financial year in accordance with Rule 196 of Myanmar Investment Rules and shall disclose a summary of the report on its website or the Myanmar Investment Commission's website.
  - (k) Myanmar Bestex Garment Company Limited must, during the operation period under the Endorsement of the Yangon Region Investment Committee, submit its operating report quarterly in the prescribed form in accordance with Rule 197 of Myanmar Investment Rules.
3. Myanmar Bestex Garment Company Limited shall carry out in accordance with the laws, regulations and stipulations of relevant Union Ministries, governmental department and governmental organizations the obtaining of any licence, permit or registration as per Section 65(d) of Myanmar Investment Law.
4. Myanmar Bestex Garment Company Limited shall submit five (5) copies of all approvals, licences, permits and similar authorizations relevant to the initial implementation of the investment and Lease Agreement to the Yangon Region Investment Committee.

  
27/11/2020

(Phyto Min Thein)

Chairman 

**Myanmar Bestex Garment Company Limited**

- cc: 1. The Office of the Union Government
2. Ministry of Home Affairs

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3. Ministry of Office of the Union Government
4. Ministry of Natural Resources and Environmental Conservation
5. Ministry of Labour, Immigration and Population
6. Ministry of Planning, Finance and Industry
7. Ministry of Commerce
8. Ministry of Planning and Finance
9. Ministry of Investment and Foreign Economic Relations
10. Central Bank of Myanmar
11. Office of the Myanmar Investment Commission
12. Chairman, CMP Enterprises Supervision Committee
13. Director General, Department of Environmental Conservation
14. Director General, Directorate of Labour
15. Director General, Department of Immigration
16. Director General, Directorate of Industrial Supervision and Inspection
17. Director General, Department of Trade
18. Director General, National Archives Department
19. Director General, Customs Department
20. Director General, Internal Revenue Department
21. Director General, Directorate of Investment and Company Administration
22. Monitoring and Supervision Division, Directorate of Investment and Company Administration

**Confidential**

## APPENDIX B

### Transitional Consultancy Registration Certificate



REPUBLIC OF THE UNION OF MYANMAR  
Ministry of Natural Resources and Environmental Conservation  
CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION  
(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

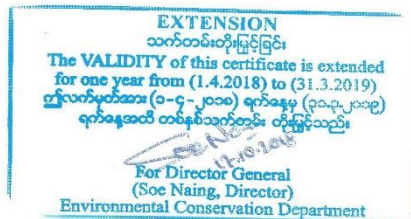


No. 10048 Date 31.3.2018

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၊ ၅၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)

- |   |   |
|---|---|
| (a) Name of Consultant<br>(အကြံပေးပုဂ္ဂိုလ်အမည်)                            | U Lin Htet Sein   |
| (b) Citizenship<br>(နိုင်ငံသား)   | Myanmar   |
| (c) Identity Card / Passport Number<br>(မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ် အမှတ်) | 7/ Tha Ka Na (N) 101377   |
| (d) Address<br>(ဆက်သွယ်ရန်လိပ်စာ)   | No.54, Room No.704, Waizayantar Tower,<br>Waizayantar Road, Thingangyun Township,<br>Yangon.<br><a href="mailto:lin.tbs@gmail.com">lin.tbs@gmail.com</a> , 09 421137569 |
| (e) Organization<br>(အဖွဲ့အစည်း)  | Total Business Solution Co., Ltd.   |
| (f) Type of Consultancy<br>(အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)                  | Person  |
| (g) Duration of validity<br>(သက်တမ်းကုန်ဆုံးရက်)                            | 31 March 2018   |



*Handwritten signature in blue ink.*

Director General

Environmental Conservation Department  
Ministry of Natural Resources and Environmental Conservation



**Areas of Expertise Permitted**  
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

**1. Geology and Soil**

**EXTENSION**  
သက်တမ်းတိုးမြှင့်ခြင်း  
The VALIDITY of this certificate is extended  
for six month from (1.1.2021) to (30.6.2021)  
ဤလက်မှတ်အား (၁-၁-၂၀၂၁) ရက်နေ့မှ (၃၀-၆-၂၀၂၁)  
ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။  
*Soe Naing*  
For Director General  
(Soe Naing, Director)  
Environmental Conservation Department

**EXTENSION**  
သက်တမ်းတိုးမြှင့်ခြင်း  
The VALIDITY of this certificate is extended  
for nine months from (1.4.2019) to (31.12.2019)  
ဤလက်မှတ်အား (၁-၄-၂၀၁၉) ရက်နေ့မှ (၃၁-၁၂-၂၀၁၉)  
ရက်နေ့အထိ (၉)လ သက်တမ်းတိုးမြှင့်သည်။  
*Soe Naing*  
For Director General  
(Soe Naing, Director)  
Environmental Conservation Department

**EXTENSION**  
သက်တမ်းတိုးမြှင့်ခြင်း  
The VALIDITY of this certificate is extended  
for one year from (1.1.2020) to (31.12.2020)  
ဤလက်မှတ်အား (၁-၁-၂၀၂၀) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၀)  
ရက်နေ့အထိ တစ်နှစ် သက်တမ်းတိုးမြှင့်သည်။  
*Soe Naing*  
For Director General  
(Soe Naing, Director)  
Environmental Conservation Department



THE REPUBLIC OF THE UNION OF MYANMAR  
Ministry of Natural Resources and Environmental Conservation  
Environmental Conservation Department



CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION  
(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

No. 10068 Date 24 MAY 2019

The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the organization under Environmental Impact Assessment Procedure, Notification No. 616/2015.

(ပတ်ဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို ထုတ်ပေးလိုက်သည်။)

- |  |  |
|--|--|
| (a) Name of Organization<br>(အဖွဲ့အစည်းအမည်)   | Myanwei Consulting Co., Ltd.   |
| (b) Name of the representative in the organization<br>(အဖွဲ့အစည်းကိုယ်စားလှယ်၏အမည်)  | U Nyan Lynn Aung   |
| (c) Citizenship of the representative in the organization<br>(အဖွဲ့အစည်းကိုယ်စားလှယ်၏နိုင်ငံသား)   | Myanmar  |
| (d) Identity Card /Passport Number of the representative person in the organization<br>(အဖွဲ့အစည်းကိုယ်စားလှယ်၏ မှတ်ပုံတင်/ နိုင်ငံကူးလက်မှတ် အမှတ်) | 12/Sakhana(N)056196  |
| (e) Address of organization<br>(ဆက်သွယ်ရန်လိပ်စာ)  | No. 28, Myay nu street, Sanchaung Township,<br>Yangon, Myanmar.<br>Mobile phone: 09440251888<br>E mail: <a href="mailto:ceo@myanweiconsulting.com">ceo@myanweiconsulting.com</a><br>Organization |
| (f) Type of Consultancy<br>(အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)   |  |
| (g) Duration of validity<br>(သက်တမ်းကုန်ဆုံးရက်)   | 31 December 2019   |

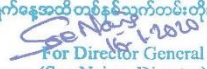



Director General  
Environmental Conservation Department  
Ministry of Natural Resources and Environmental Conservation

Areas of Expertise Permitted  
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Facilitation of meeting,
2. Land use,
3. Legal analysis,
4. Geology and soil,
5. Occupational Safety and Health,
6. Public Health



**EXTENSION**  
သက်တမ်းတိုးမြှင့်ခြင်း  
The VALIDITY of this certificate is extended  
for one year from (1.1.2020) to (31.12.2020)  
ဤလက်မှတ်အား (၁-၁-၂၀၂၀) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၀)  
ရက်နေ့အထိ တစ်နှစ်သက်တမ်းတိုးမြှင့်သည်။  
  
For Director General  
(Soe Naing, Director)  
Environmental Conservation Department

**EXTENSION**  
သက်တမ်းတိုးမြှင့်ခြင်း  
The VALIDITY of this certificate is extended  
for six month from (1.1.2021) to (30.6.2021)  
ဤလက်မှတ်အား (၁-၁-၂၀၂၁) ရက်နေ့မှ (၃၀-၆-၂၀၂၁)  
ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။  
  
For Director General  
(Soe Naing, Director)  
Environmental Conservation Department

## APPENDIX C

### Environmental Qualities Monitoring Results

#### Light Result



Plot No. (36,38), Room No.9A, 9<sup>th</sup> floor, Grand Myay Nu Condominium, Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.  
Office: (+95)9775405118, 9792529677, 9449251888; Website: www.myanweiconsulting.com

Project Name:	Myanmar Bestex Garment Co.,Ltd.
Project Location:	Plot No. (117), Myay Taing Block No.14, Shwe Than Lwin Industrial Zone, Hlaing Thar Yar Township, Yangon Region.
Sampling Date:	17 February, 2020
Sampling Time:	11:00 am to 3:00 pm
Sampling Condition:	-
Sampling By:	Myanwei Environmental Solution Company Limited.

Instrument	Type	Sampling Rate	Location
Uni-T (Luminometer)	UT380 Series	100 times/second	16°51'48.03"N 96°02'48.25"E

#### Light Quality Analysis Result

No	Location	Measure value (Lux)	Standard*
1	Sewing Area	1469	2000
2	Cutting Area	1352	2000
3	Ironing Area	1256	1000
4	QC Area	1292	1000
5	Packing Area	986	1000

#### IESNA Lighting Handbook

Area / Task / Process	Illuminance levels (lux)
Exterior calculating, walkways, stores, main entrances and exit roads, car parking, internal factory roads, etc.	20-50
Boiler house, transformer yards, furnace rooms, entrances, corridors, stairs, etc.	70-100
Calculation area in industry, stores, stock rooms and canteen.	100-150
Coarse Work	200-300
Medium work	300-500
Fine Work	500-1500
Very fine minute and precise work	1500-3000

Department	Type of Light	Wattage of Light	Lux Level
Fabric store	Fluorescent tube light	40 W	300

Sewing floor	LED tube light	20 W (T8)	400
Cutting floor	LED tube light	22 W (T8)	1000
Finishing	LED tube light	28 W (T8)	600
Inspection points	LED tube light	28 W (T8)	900 (except 1500 at audit tables)
Sampling	LED tube light	22 W (T8)	500
Office areas	Fluorescent tube light	36 W (T)	300



**LIN HTET SEIN**  
DIRECTOR  
MYANWEI ENVIRONMENTAL SOLUTIONS  
COMPANY LIMITED.



## Noise result



Plot No. (36/38), Room No.9A, 9<sup>th</sup> floor, Grand Myay Nu Condominium, Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar. Office: (+95)9775405118, 9792526577, 9449251888; Website: www.myanweiconsulting.com

Project Name:	Myanmar Bestex Garment Company Limited
Project Location:	Plot No. (117), Myay Taing Block No.14, Shwe Than Lwin Industrial Zone, Hlaing Thar Yar Township, Yangon Region.
Sampling Date:	17 February, 2020
Sampling Time:	11:00 am To 2:00 pm
Sampling Condition:	
Sampling By:	Myanwei Environmental Solutions Company Limited.

Instrument	Type	Sampling Rate	Location
Digital Sound Level Meter	GM 1356 USB	30 -130 dB	16°51'48.03"N 96° 2'48.25"E

### Noise Quality Measurement

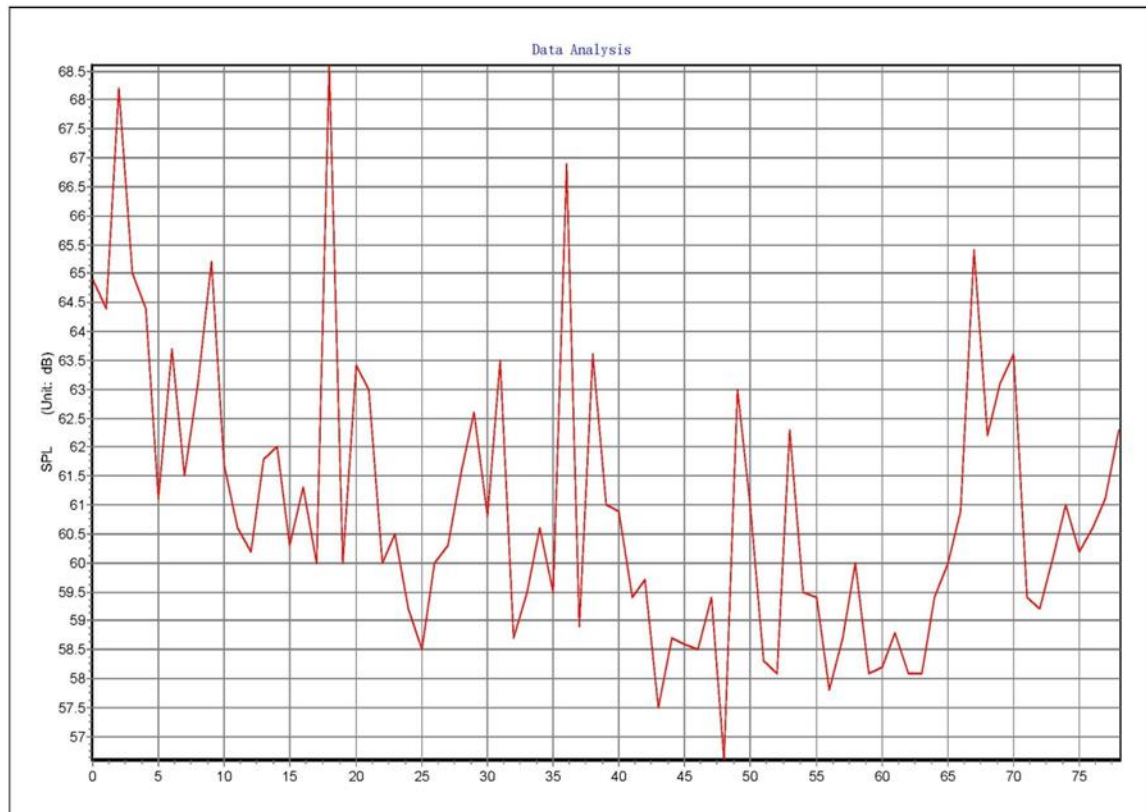
No	Place	Unit	Result	Standard	Remark
1	Operation Area	dBA	66.87	70 dBA	Normal

### National Environmental Quality (Emission) Guideline

Receptor	One Hour Laeq (dBA)	Guideline value
	Daytime	Nighttime
	7:00 – 22:00 (10:00 – 22:00 for Public holidays)	22:00 – 07:00 (22:00 – 10:00 for Public holidays)
Residential, Institutional, Educational	55	45
Industrial, Commercial	70	70

  
**LIN HTET SEIN**  
 DIRECTOR  
 MYANWEI ENVIRONMENTAL SOLUTIONS  
 COMPANY LIMITED.

## Monitoring Graph



## Air result



Plot No. (36.38), Room No.9A, 9<sup>th</sup> floor, Grand Myay Nu Condominium, Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.  
Office: (+95)9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting.com

Project Name:	MYANMAR JOURNEY BAGS COMPANY LIMITED.
Project Location:	Plot No. (117), Myay Taing Block No.14, Shwe Than Lwin Industrial Zone, Hlaing Thar Yar Township, Yangon Region.
Sampling Date:	17 February, 2022
Sampling Time:	9:00 am to 5:00 pm
Sampling Condition:	
Sampling By:	Myanwei Environmental Solutions Company Limited.

Instrument	Type	Sampling Rate	Location
OCEANUS-AQM-09	PM, NO <sub>2</sub> , SO <sub>2</sub> , CO Detector	0-999.9 (µg/M <sup>3</sup> )	Operation Area

### National Environmental Quality (Emission) Guideline

Parameter	Averaging period	Guideline value	Unit
PM 10 <sup>a</sup>	1-year	20	(µg/M <sup>3</sup> )
	24-hour	50	
PM 2.5 <sup>a</sup>	1-year	10	(µg/M <sup>3</sup> )
	24-hour	25	
NO <sub>2</sub> <sup>a</sup>	1-year	40	(µg/M <sup>3</sup> )
	1-hour	200	
SO <sub>2</sub> <sup>a</sup>	24-hour	20	(µg/M <sup>3</sup> )
	10-min	500	
CO <sup>b</sup>	15-min	100	(µg/M <sup>3</sup> )
	30-min	60	
	1-hour	30	
	8-hour	10	

a. Values from air quality guidelines-global update 2005; particulate matter, ozone, nitrogen dioxide and sulfur dioxide.

b. Values from air quality guidelines for Europe, 2<sup>nd</sup> edition.

### Monitoring Result

Parameters	Observed value	Guideline value	Unit	Organization	Period
<b>Indoor Air Quality</b>					
PM <sub>10</sub>	63.9	50	µg/m <sup>3</sup>	NEQG	24 hrs
PM <sub>2.5</sub>	53.99	25	µg/m <sup>3</sup>	NEQG	24 hrs
<b>Outdoor Air Quality</b>					
PM <sub>10</sub>	64.65	50	µg/m <sup>3</sup>	NEQG	24 hrs
PM <sub>2.5</sub>	52.79	25	µg/m <sup>3</sup>	NEQG	24 hrs
SO <sub>2</sub>	17.68	500	µg/m <sup>3</sup>	NEQG	10 minutes

NO <sub>2</sub>	99.54	200	µg/m <sup>3</sup>	NEQG	1 hour
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**LIN HTET SEIN**  
**DIRECTOR**  
**MYANWEI ENVIRONMENTAL SOLUTIONS**  
**COMPANY LIMITED.**

# APPENDIX D Fire Safety Certificate and Other Licences

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်

ပြည်ထောင်စုဝန်ကြီးဌာန

မီးသတ်ဦးစီးဌာန

မီးဘေးလုံခြုံရေးစစ်ဆေးထောက်ခံချက်

အမှတ်စဉ်(၂၅၁၇)

ရက် စွဲ၊ ၂၀၂၀ပြည့်နှစ်၊ မတ်လ ၆ ရက်

၁။ ရန်ကုန်-တိုင်းဒေသကြီး/ပြည်နယ်-လွိုင်သာယာ-မြို့နယ်၊ မြေတိုင်းရပ်ကွက်အမှတ်( ၁၄ )၊ရွှေသံလွင်တက်မှုရန်  
ရုပ်ကွက်/ကျေးရွာ၊ ဒီပဲယင်းဝန်ထောက်ဦးစီးဌာန-လမ်းအမှတ် ( ၁၁၇ )-ရှိပိုင်ရှင်ဦး/ဒေါ်-ဦးသိန်းဝင်း-၏  
Steel Structure( ၂ )ထပ်( အထည်ချုပ်စက်ရုံ )-အဆောက်အဦအတွက် ဤဌာနမှသတ်မှတ်ပေးထားသော  
မီးဘေးလုံခြုံရေးဆိုင်ရာပြဌာန်းချက်များအား( ၁-၃-၂၀၂၀ )ရက်နေ့တွင် ကွင်းဆင်းစစ်ဆေးသည့်အခါ  
ပြည့်စုံစွာဆောင်ရွက်ထားကြောင်းစစ်ဆေး တွေ့ရှိရသည်။

၂။ ဤထောက်ခံချက်သည် စစ်ဆေးသည့်နေ့မှစ၍ (၃)နှစ်အထိသာ အကျိုးဝင်သည်။

၃။ ထို့ပြင် မီးသတ်ဦးစီးဌာနမှ အခါအားလျော်စွာ ထပ်မံစစ်ဆေးချိန်တွင် မီးဘေးလုံခြုံရေးဆိုင်ရာ  
ပြဌာန်းချက်များကို လိုက်နာဆောင်ရွက်ခြင်းမရှိပါက ဤထောက်ခံချက်ကို ပြန်လည်ရုတ်သိမ်းသွားမည်ဖြစ်ပြီး  
အဆောက်အဦအားအသုံးပြုသူ(သို့မဟုတ်)ပိုင်ရှင်သည် မြန်မာနိုင်ငံမီးသတ်တပ်ဖွဲ့ ဥပဒေအရ အရေးယူခြင်းခံရမည်။

မှတ်ချက်။ ဤထောက်ခံချက်အား လွှဲပြောင်းသုံးစွဲခြင်းမပြုရ။ အဆောက်အဦအား မူလရည်ရွယ်ချက်မှ  
ပြောင်းလဲအသုံးပြုပါက ထောက်ခံချက်အသစ် ထပ်မံလျှောက်ထားရမည်။

ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)  
(သိန်းထွန်းဦး၊ညွှန်ကြားရေးမှူး။)  
Nue ၈၇၆





ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်

ပြည်ထဲရေးဝန်ကြီးဌာန

မီးသတ်ဦးစီးဌာန

စာအမှတ်၊ ၁၃၅၁ / ၁၀၀ / ၅၅ / ဦး ၁

ရက်စွဲ၊ ၂၀၂၀ ပြည့်နှစ်၊ မတ်လ ၆ ရက်

ဦးသိန်းဝင်း

အမှတ်(၁၁၇)၊ ဒီပဲယင်းဝန်ထောက်ဦးမြလမ်း

မြေတိုင်းရပ်ကွက်အမှတ်(၁၄)၊ ရွှေသံလွင်စက်မှုဇုန်

လှိုင်သာယာမြို့နယ်

အကြောင်းအရာ။ ဆောက်လုပ်ပြီးသော အဆောက်အအုံအတွက် မီးဘေးလုံခြုံရေးစစ်ဆေး ထောက်ခံချက် (Fire Safety Certificate) ထုတ်ပေးခြင်း

ရည်ညွှန်းချက်။ သက်ဆိုင်သူ၏ (၂၇.၁.၂၀၂၀)ရက်စွဲပါ လျှောက်လွှာ

ရန်ကုန်တိုင်းဒေသကြီး၊ လှိုင်သာယာမြို့နယ်၊ ရွှေသံလွင်စက်မှုဇုန်မြေတိုင်းရပ်ကွက်အမှတ်(၁၄)၊ ဒီပဲယင်းဝန်ထောက်ဦးမြလမ်းအမှတ်(၁၁၇)တွင် ဦးသိန်းဝင်းအမည်ဖြင့် Steel Structure(၂)ထပ်(အထည်ချုပ်စက်ရုံ)အဆောက်အအုံ မီးဘေးလုံခြုံရေး ဆောင်ရွက်ထားရှိမှုနှင့်စပ်လျဉ်း၍ ဤဌာန၏ မီးဘေးလုံခြုံရေးဆိုင်ရာ ပြဌာန်းချက်များကို လိုက်နာဆောင်ရွက်မှုရှိကြောင်း စစ်ဆေးတွေ့ရှိသည့်အတွက် မီးဘေးလုံခြုံရေးစစ်ဆေး ထောက်ခံချက် (Fire Safety Certificate) ကိုထုတ်ပေးလိုက်ပါသည်။

ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)  
(သိန်းထွန်းဦး၊ ညွှန်ကြားရေးမှူး)  
New ၈၇၆

မိတ္တူကို

ရန်ကုန်တိုင်းဒေသကြီးမီးသတ်ဦးစီးမှူးရုံး၊

မြောက်ပိုင်းခရိုင်မီးသတ်ဦးစီးမှူးရုံး၊ အင်းစိန်မြို့နယ်၊

မြို့နယ်မီးသတ်ဦးစီးမှူးရုံး၊ လှိုင်သာယာမြို့နယ်၊

မျှောစာတွဲလက်ခံစာတွဲ။

# El Licence and Boiler Inspection Certificate

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်	
စီမံကိန်း၊ ဘဏ္ဍာရေး နှင့် စက်မှုဝန်ကြီးဌာန	
စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန	
လျှပ်စစ်စစ်ဆေးရေး	
လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်	
ခွင့်ပြုမိန့် အမှတ်စဉ် - YD-G (N) ၂၈၁၂ / ၂၀၁၉	
၁။	၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေပုဒ်မ ၃၂ (င) နှင့် တည်ဆဲလျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံး လုပ်နည်းများ အရ Myanmar Bestex Garment Co.,Ltd ၏ အထည်ချုပ်လုပ်ငန်း အတွက် တပ်ဆင်ပြီးဖြစ်သော ဒီဇယ်အင်ဂျင် လျှပ်ထုတ်စက် အား အောက်ဖော်ပြပါ နယ်မြေဒေသ အတွင်း မှတ်ပုံတင်လက်မှတ် တွင် ပါရှိသော စည်းကမ်းချက်များနှင့်အညီ ၂၀၂၀ ခုနှစ် ဖေဖော်ဝါရီ လ (၁၁) ရက်နေ့ မှစတင်၍ လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်ကို ထုတ်ပေးလိုက်သည်-
(က)	ခွင့်ပြုသည့်နယ်မြေဒေသ - အမှတ်(၁၁၇)မင်းဧရာလမ်း၊ရွှေသံလွင်စက်မှုဇုန်၊ မြို့နယ် - လွိုင်သာယာမြို့နယ် တိုင်း - ရန်ကုန်တိုင်းဒေသကြီး
(ခ)	အများဆုံးထုတ်လုပ်သည့် - 100 kVA ဓာတ်အားပမာဏ
(ဂ)	သတ်မှတ်ဗို့အား - 400 V
(ဃ)	လျှပ်ထုတ်စက်အမျိုးအစား - LTG274CA(Leateck)
(င)	လျှပ်ထုတ်စက်နံပါတ် - F19K053
(စ)	အင်ဂျင်အမျိုးအစား - 6BT5.9-G2(Cummins)
(ဆ)	အင်ဂျင်မြင်းကောင်ရေ - 86 kW
(ဇ)	အင်ဂျင်နံပါတ် - 78953431
၂။	ဓာတ်အားထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းတို့အတွက် အသုံးပြုသော လျှပ်စစ်ပစ္စည်း ကိရိယာ တည်ဆောက်မှုဆိုင်ရာ နည်းစနစ်များသည် လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများပါ ပြဌာန်းချက်များ အရမည့်အပြင် စစ်ဆေးရေးမှူး ၏ စစ်ဆေးစမ်းသပ်ခြင်းကို ခံယူရပါမည်။
၃။	လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းပါ ပြဌာန်းချက်များကို တိကျစွာ လိုက်နာဆောင်ရွက်ရမည်။
၄။	လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများနှင့် ဤလက်မှတ်တွင်ပါရှိသော အကြောင်းအရာများ ကို လိုက်နာခြင်း မရှိပါက ထုတ်ပေးထားသော လက်မှတ်ကို ပြန်လည် ရုတ်သိမ်းမည်။
၅။	ဤမှတ်ပုံတင်လက်မှတ် သက်တမ်းသည် ခွင့်ပြုသည့်နေ့မှစ၍ (၄) နှစ် အချိန်ကာလအတွင်းသာ အကျိုးသက်ရောက် စေရမည်။
	စတင်ခွင့်ပြုသည့်နေ့ - ၁၁ . ၂ . ၂၀၂၀
	ကုန်ဆုံးသည့်နေ့ - ၁၀ . ၂ . ၂၀၂၄
လျှပ်စစ်စစ်ဆေးရေးမှူးချုပ် (ရုပ်နှင်း)	
ရန်ကုန်တိုင်းဒေသကြီး လျှပ်စစ်စစ်ဆေးရေးမှူး	

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်  
စီမံကိန်း၊ ဘဏ္ဍာရေး နှင့် စက်မှုဝန်ကြီးဌာန  
စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန

လျှပ်စစ်စစ်ဆေးရေး

လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်

ခွင့်ပြုမိန့် အမှတ်စဉ် - YD-G (N) ၁၈၂ /၂၀၁၉

၁။ ၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေပုဒ်မ ၃၂ (င) နှင့် တည်ဆဲလျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံး လုပ်နည်းများ အရ Myanmar Bestex Garment Co.,Ltd ၏ အထည်ချုပ်လုပ်ငန်း အတွက် တပ်ဆင်ပြီးဖြစ်သော ဒီဇယ်အင်ဂျင် လျှပ်ထုတ်စက် အား အောက်ဖော်ပြပါ နယ်မြေဒေသ အတွင်း မှတ်ပုံတင်လက်မှတ် တွင် ပါရှိသော စည်းကမ်းချက်များနှင့်အညီ ၂၀၂၀ ခုနှစ် ဖေဖော်ဝါရီ လ (၁၁) ရက်နေ့ မှစတင်၍ လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်ကို ထုတ်ပေးလိုက်သည်။

- (က) ခွင့်ပြုသည့်နယ်မြေဒေသ - အမှတ်(၁၁၇)၊မင်းဧရာလမ်း၊ရွှေသံလွင်စက်မှုဇုန်၊  
မြို့နယ် - လှိုင်သာယာမြို့နယ်  
တိုင်း - ရန်ကုန်တိုင်းဒေသကြီး
- (ခ) အများဆုံးထုတ်လုပ်သည့် - 563 kVA  
ဓာတ်အားပမာဏ
- (ဂ) သတ်မှတ်ဗို့အား - 240/416 V
- (ဃ) လျှပ်ထုတ်စက်အမျိုးအစား - 450DFEC(Cummins)
- (င) လျှပ်ထုတ်စက်နံပါတ် - F940544696
- (စ) အင်ဂျင်အမျိုးအစား - KTA19-G3(Cummins)
- (ဆ) အင်ဂျင်မြင်းကောင်ရေ - 685 HP
- (ဇ) အင်ဂျင်နံပါတ် - 37152587

၂။ ဓာတ်အားထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းတို့အတွက် အသုံးပြုသော လျှပ်စစ်ပစ္စည်း ကိရိယာ တည်ဆောက်မှုဆိုင်ရာ နည်းစနစ်များသည် လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများပါ ပြဋ္ဌာန်းချက်များ အရမည့်အပြင် စစ်ဆေးရေးမှူး ၏ စစ်ဆေးစမ်းသပ်ခြင်းကို ခံယူရပါမည်။

၃။ လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းပါ ပြဋ္ဌာန်းချက်များကို တိကျစွာ လိုက်နာ ဆောင်ရွက်ရမည်။

၄။ လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများနှင့် ဤလက်မှတ်တွင်ပါရှိသော အကြောင်းအရာများ ကို လိုက်နာခြင်း မရှိပါက ထုတ်ပေးထားသော လက်မှတ်ကို ပြန်လည် ရုတ်သိမ်းမည်။

၅။ ဤမှတ်ပုံတင်လက်မှတ် သက်တမ်းသည် ခွင့်ပြုသည့်နေ့မှစ၍ (၄) နှစ် အချိန်ကာလ အတွင်းသာ အကျိုးသက်ရောက် စေရမည်။

စတင်ခွင့်ပြုသည့်နေ့ - ၁၁ .၂.၂၀၂၀  
ကုန်ဆုံးသည့်နေ့ - ၁၀ .၂.၂၀၂၄

လျှပ်စစ်စစ်ဆေးရေးမှူးချုပ် (ရုပ်ပုံ)  
ရန်ကုန်တိုင်းဒေသကြီး လျှပ်စစ်စစ်ဆေးရေးမှူး





ဘွိုင်လာစစ်ဆေးခြင်းမှတ်တမ်း

၁။ စစ်ဆေးသည့်စက်ရုံ

၂။ စစ်ဆေးသည့်ဘွိုင်လာ

၃။ စစ်ဆေးသည့်နေ့

၄။ စစ်ဆေးသည့်အဖွဲ့

Mr. Wang Xiaocheng, Myanmar Better Garment Co., Ltd. ကုမ္ပဏီ

LHS-03-07-M (1901031)

10.3.2020

ဒေါ်သက်စွန်းစိုး

ဒေါ်စွန်းစွန်းစိုး

၅။ စစ်ဆေးတွေ့ရှိချက်

ဘွိုင်လာအား မှတ်ပုံတင်စစ်ဆေးခြင်းဖြစ်သည့်အတွက် စက်ရုံအတွင်းရှိ စက်ကိရိယာများကို စစ်ဆေးရာတွင် စစ်ဆေးသည့် အဖွဲ့သည် မကောင်းမွန်သော စက်ကိရိယာများကို တွေ့ရှိရသည်။

၆။ ဆောင်ရွက်ရန်

ဆုံးဖြတ်ချက်များအား ကျန်ရှိပါသည်။

၇။ အကြံပြုချက်

စစ်ဆေးမှုကို အောင်မြင်စွာ ပြုလုပ်ရန်

အသုံးပြုမှုကို အသိပေးရန်

စက်ရုံအတွင်းရှိ စက်ကိရိယာများ  
(ဘွိုင်လာ၊ စက်ကိရိယာများ)  
အသုံးပြုမှုကို အသိပေးရန်

ဘွိုင်လာစစ်ဆေးခြင်းမှတ်တမ်းအား လက်ခံရရှိပါသည်။

လက်မှတ်

အမည်

## Indoor Air Quality Measurement Excel Sheet

Y-M-D	H:M:S	PM2.5 (µg/m3)	PM10 (µg/m3)
2/17/2020	15:18:01	51	65
2/17/2020	15:25:01	55	55
2/17/2020	15:32:01	50	63
2/17/2020	15:39:01	54	62
2/17/2020	15:46:01	43	61
2/17/2020	15:53:01	55	64
2/17/2020	16:00:01	51	62
2/17/2020	16:07:01	54	66
2/17/2020	16:14:01	50	61
2/17/2020	16:21:01	45	54
2/17/2020	16:28:01	67	54
2/17/2020	16:35:01	55	65
2/17/2020	16:42:01	50	62
2/17/2020	16:49:01	51	65
2/17/2020	16:56:01	51	62
2/17/2020	17:03:01	51	62
2/17/2020	17:10:01	51	62
2/17/2020	17:17:01	50	61
2/17/2020	17:24:01	50	61
2/17/2020	17:31:01	50	61
2/17/2020	17:38:01	50	61
2/17/2020	17:45:01	56	60
2/17/2020	17:52:01	49	56
2/17/2020	17:59:01	50	61
2/17/2020	18:06:01	45	61
2/17/2020	18:13:01	51	62
2/17/2020	18:20:01	51	62
2/17/2020	18:27:01	52	60
2/17/2020	18:34:01	51	62
2/17/2020	18:41:01	51	61
2/17/2020	18:48:01	50	61
2/17/2020	18:55:01	50	60
2/17/2020	19:02:01	50	60
2/17/2020	19:09:01	50	61
2/17/2020	19:16:01	55	60
2/17/2020	19:23:01	50	61
2/17/2020	19:30:01	50	61
2/17/2020	19:37:01	51	63
2/17/2020	19:44:01	51	61
2/17/2020	19:51:01	51	62
2/17/2020	19:58:01	53	67
2/17/2020	20:05:01	52	65
2/17/2020	20:12:01	51	62
2/17/2020	20:19:01	50	61
2/17/2020	20:26:01	53	64
2/17/2020	20:33:01	51	63



2/17/2020	20:40:01	52	64
2/17/2020	20:47:01	52	64
2/17/2020	20:54:01	51	62
2/17/2020	21:01:01	51	62
2/17/2020	21:08:01	52	63
2/17/2020	21:15:01	53	64
2/17/2020	21:22:01	52	64
2/17/2020	21:29:01	51	64
2/17/2020	21:36:01	52	63
2/17/2020	21:43:01	51	62
2/17/2020	21:50:01	54	67
2/17/2020	21:57:01	53	65
2/17/2020	22:04:01	52	64
2/17/2020	22:11:01	51	62
2/17/2020	22:18:01	51	62
2/17/2020	22:25:01	50	62
2/17/2020	22:32:01	52	63
2/17/2020	22:39:01	52	63
2/17/2020	22:46:01	55	67
2/17/2020	22:53:01	55	67
2/17/2020	23:00:01	57	70
2/17/2020	23:07:01	59	72
2/17/2020	23:14:01	59	73
2/17/2020	23:21:01	58	71
2/17/2020	23:28:01	59	72
2/17/2020	23:35:01	58	72
2/17/2020	23:42:01	59	73
2/17/2020	23:49:01	60	73
2/17/2020	23:56:01	61	74
2/18/2020	0:03:01	61	75
2/18/2020	0:10:01	68	83
2/18/2020	0:17:01	68	83
2/18/2020	0:24:01	71	89
2/18/2020	0:31:01	71	89
2/18/2020	0:38:01	53	61
2/18/2020	0:45:01	52	60
2/18/2020	0:52:01	51	61
2/18/2020	0:59:01	52	61
2/18/2020	1:06:01	51	63
2/18/2020	1:13:01	54	61
2/18/2020	1:20:01	53	62
2/18/2020	1:27:01	67	67
2/18/2020	1:34:01	51	65
2/18/2020	1:41:01	51	62
2/18/2020	1:48:01	55	61
2/18/2020	1:55:01	52	64
2/18/2020	2:02:01	52	63

2/18/2020	2:09:01	55	64
2/18/2020	2:16:01	55	64
2/18/2020	2:23:01	57	62
2/18/2020	2:30:01	59	62
2/18/2020	2:37:01	59	63
2/18/2020	2:44:01	58	64
2/18/2020	2:51:01	59	64
2/18/2020	2:58:01	50	64
2/18/2020	3:05:01	50	63
2/18/2020	3:12:01	50	62
2/18/2020	3:19:01	51	67
2/18/2020	3:26:01	51	65
2/18/2020	3:33:01	50	54
2/18/2020	3:40:01	50	62
2/18/2020	3:47:01	54	61
2/18/2020	3:54:01	55	60
2/18/2020	4:01:01	74	61
2/18/2020	4:08:01	67	61
2/18/2020	4:15:01	57	63
2/18/2020	4:22:01	52	61
2/18/2020	4:29:01	57	62
2/18/2020	4:36:01	55	67
2/18/2020	4:43:01	47	65
2/18/2020	4:50:01	43	62
2/18/2020	4:57:01	53	61
2/18/2020	5:04:01	50	64
2/18/2020	5:11:01	49	63
2/18/2020	5:18:01	50	64
2/18/2020	5:25:01	50	64
2/18/2020	5:32:01	50	62
2/18/2020	5:39:01	51	62
2/18/2020	5:46:01	51	63
2/18/2020	5:53:01	50	64
2/18/2020	6:00:01	54	64
2/18/2020	6:07:01	49	64
2/18/2020	6:14:01	54	63
2/18/2020	6:21:01	55	62
2/18/2020	6:28:01	74	67
2/18/2020	6:35:01	67	65
2/18/2020	6:42:01	57	55
2/18/2020	6:49:01	52	65
2/18/2020	6:56:01	57	62
2/18/2020	7:03:01	55	61
2/18/2020	7:10:01	47	64
2/18/2020	7:17:01	43	63
2/18/2020	7:24:01	53	64
2/18/2020	7:31:01	50	64

2/18/2020	7:38:01	49	62
2/18/2020	7:45:01	50	62
2/18/2020	7:52:01	50	63
2/18/2020	7:59:01	50	64
2/18/2020	8:06:01	51	66
2/18/2020	8:13:01	51	61
2/18/2020	8:20:01	50	62
2/18/2020	8:27:01	50	62
2/18/2020	8:34:01	50	61
2/18/2020	8:41:01	50	61
2/18/2020	8:48:01	50	60
2/18/2020	8:55:01	50	61
2/18/2020	9:02:01	50	64
2/18/2020	9:09:01	51	62
2/18/2020	9:16:01	51	66
2/18/2020	9:23:01	50	61
2/18/2020	9:30:01	54	54
2/18/2020	9:37:01	49	54
2/18/2020	9:44:01	54	65
2/18/2020	9:51:01	55	62
2/18/2020	9:58:01	74	65
2/18/2020	10:05:01	67	62
2/18/2020	10:12:01	57	62
2/18/2020	10:19:01	52	62
2/18/2020	10:26:01	51	61
2/18/2020	10:33:01	51	61
2/18/2020	10:40:01	52	61
2/18/2020	10:47:01	53	61
2/18/2020	10:54:01	52	60
2/18/2020	11:01:01	55	67
2/18/2020	11:08:01	52	61
2/18/2020	11:15:01	51	63
2/18/2020	11:22:01	54	62
2/18/2020	11:29:01	53	74
2/18/2020	11:36:01	52	65
2/18/2020	11:43:01	51	66
2/18/2020	11:50:01	51	58
2/18/2020	11:57:01	50	65
2/18/2020	12:04:01	52	66
2/18/2020	12:11:01	52	71
2/18/2020	12:18:01	55	62
2/18/2020	12:25:01	55	73
2/18/2020	12:32:01	57	63
2/18/2020	12:39:01	59	64
2/18/2020	12:46:01	59	64
2/18/2020	12:53:01	58	64
2/18/2020	13:00:01	59	69

2/18/2020	13:07:01	58	62
2/18/2020	13:14:01	59	67
2/18/2020	13:21:01	60	65
2/18/2020	13:28:01	61	56
2/18/2020	13:35:01	61	65
2/18/2020	13:42:01	68	52
2/18/2020	13:49:01	68	70
2/18/2020	13:56:01	71	71
2/18/2020	14:03:01	71	64
2/18/2020	14:10:01	53	68
2/18/2020	14:17:01	52	70
2/18/2020	14:24:01	55	72
2/18/2020	14:31:01	53	71
2/18/2020	14:38:01	62	74
2/18/2020	14:45:01	65	68
2/18/2020	14:52:01	43	66
2/18/2020	14:59:01	54	68
2/18/2020	15:06:01	55	73

## Outdoor Air Quality Measurement Results

Y-M-D	H:M:S	SO2 (PPB)	NO2 (ppb)	PM2.5 (µg/	PM10 (µg/m3)
2/17/2020	15:18:01	976	1270	51	63
2/17/2020	15:25:01	976	1270	50	61
2/17/2020	15:32:01	976	1270	50	61
2/17/2020	15:39:01	977	1270	50	60
2/17/2020	15:46:01	977	1270	50	61
2/17/2020	15:53:01	977	1270	51	62
2/17/2020	16:00:01	977	1270	51	62
2/17/2020	16:07:01	977	1270	50	61
2/17/2020	16:14:01	977	1270	50	61
2/17/2020	16:21:01	977	1270	49	60
2/17/2020	16:28:01	977	1270	49	60
2/17/2020	16:35:01	977	1270	50	62
2/17/2020	16:42:01	976	1270	50	62
2/17/2020	16:49:01	976	1270	51	62
2/17/2020	16:56:01	976	1270	51	62
2/17/2020	17:03:01	976	1270	51	62
2/17/2020	17:10:01	976	1270	51	62
2/17/2020	17:17:01	976	1270	50	61
2/17/2020	17:24:01	976	1270	50	61
2/17/2020	17:31:01	976	1270	50	61
2/17/2020	17:38:01	976	1270	50	61
2/17/2020	17:45:01	976	1270	49	60
2/17/2020	17:52:01	976	1270	49	60
2/17/2020	17:59:01	975	1270	50	61
2/17/2020	18:06:01	975	1270	50	61
2/17/2020	18:13:01	975	1270	51	62
2/17/2020	18:20:01	975	1270	51	62
2/17/2020	18:27:01	975	1270	49	60
2/17/2020	18:34:01	975	1270	51	62
2/17/2020	18:41:01	975	1270	51	61
2/17/2020	18:48:01	975	1270	50	61
2/17/2020	18:55:01	975	1270	50	60
2/17/2020	19:02:01	974	1270	50	60
2/17/2020	19:09:01	974	1270	50	61
2/17/2020	19:16:01	974	1270	50	60
2/17/2020	19:23:01	974	1270	50	61
2/17/2020	19:30:01	974	1270	50	61
2/17/2020	19:37:01	974	1270	51	63
2/17/2020	19:44:01	974	1270	51	61
2/17/2020	19:51:01	974	1270	51	62
2/17/2020	19:58:01	974	1270	53	67
2/17/2020	20:05:01	974	1270	52	65
2/17/2020	20:12:01	974	1270	51	62
2/17/2020	20:19:01	974	1270	50	61
2/17/2020	20:26:01	974	1270	53	64
2/17/2020	20:33:01	973	1270	51	63



2/17/2020	20:40:01	973	1270	52	64
2/17/2020	20:47:01	973	1270	52	64
2/17/2020	20:54:01	973	1270	51	62
2/17/2020	21:01:01	973	1270	51	62
2/17/2020	21:08:01	973	1270	52	63
2/17/2020	21:15:01	973	1270	53	64
2/17/2020	21:22:01	973	1270	52	64
2/17/2020	21:29:01	973	1270	51	64
2/17/2020	21:36:01	973	1270	52	63
2/17/2020	21:43:01	973	1270	51	62
2/17/2020	21:50:01	973	1270	54	67
2/17/2020	21:57:01	972	1270	53	65
2/17/2020	22:04:01	972	1270	52	64
2/17/2020	22:11:01	972	1270	51	62
2/17/2020	22:18:01	972	1270	51	62
2/17/2020	22:25:01	972	1270	50	62
2/17/2020	22:32:01	972	1270	52	63
2/17/2020	22:39:01	972	1270	52	63
2/17/2020	22:46:01	972	1270	55	67
2/17/2020	22:53:01	972	1270	55	67
2/17/2020	23:00:01	972	1270	57	70
2/17/2020	23:07:01	972	1270	59	72
2/17/2020	23:14:01	972	1270	59	73
2/17/2020	23:21:01	971	1270	58	71
2/17/2020	23:28:01	971	1270	59	72
2/17/2020	23:35:01	968	1270	58	72
2/17/2020	23:42:01	971	1270	59	73
2/17/2020	23:49:01	972	1270	60	73
2/17/2020	23:56:01	972	1270	61	74
2/18/2020	0:03:01	972	1270	61	75
2/18/2020	0:10:01	972	1270	68	83
2/18/2020	0:17:01	972	1270	68	83
2/18/2020	0:24:01	972	1270	71	89
2/18/2020	0:31:01	972	1270	71	89
2/18/2020	0:38:01	972	1270	53	61
2/18/2020	0:45:01	972	1270	52	60
2/18/2020	0:52:01	972	1270	51	61
2/18/2020	0:59:01	974	1270	52	61
2/18/2020	1:06:01	972	1270	51	63
2/18/2020	1:13:01	972	1270	54	61
2/18/2020	1:20:01	972	1270	53	62
2/18/2020	1:27:01	972	1270	52	67
2/18/2020	1:34:01	972	1270	51	65
2/18/2020	1:41:01	972	1270	51	62
2/18/2020	1:48:01	972	1270	50	61
2/18/2020	1:55:01	972	1270	52	64
2/18/2020	2:02:01	972	1270	52	63

2/18/2020	2:09:01	972	1270	55	64
2/18/2020	2:16:01	972	1270	55	64
2/18/2020	2:23:01	971	1270	57	62
2/18/2020	2:30:01	971	1270	59	62
2/18/2020	2:37:01	968	1270	59	63
2/18/2020	2:44:01	971	1270	58	64
2/18/2020	2:51:01	972	1270	59	64
2/18/2020	2:58:01	972	1270	50	64
2/18/2020	3:05:01	972	1270	50	63
2/18/2020	3:12:01	972	1270	50	62
2/18/2020	3:19:01	972	1270	51	67
2/18/2020	3:26:01	972	1270	51	65
2/18/2020	3:33:01	972	1270	50	54
2/18/2020	3:40:01	972	1270	50	62
2/18/2020	3:47:01	972	1270	54	61
2/18/2020	3:54:01	972	1270	55	60
2/18/2020	4:01:01	972	1270	50	61
2/18/2020	4:08:01	971	1270	50	61
2/18/2020	4:15:01	971	1270	51	63
2/18/2020	4:22:01	968	1270	51	61
2/18/2020	4:29:01	971	1270	51	62
2/18/2020	4:36:01	972	1270	51	67
2/18/2020	4:43:01	972	1270	50	65
2/18/2020	4:50:01	972	1270	50	62
2/18/2020	4:57:01	972	1270	50	61
2/18/2020	5:04:01	972	1270	50	64
2/18/2020	5:11:01	972	1270	49	63
2/18/2020	5:18:01	972	1270	50	64
2/18/2020	5:25:01	972	1270	50	64
2/18/2020	5:32:01	972	1270	50	62
2/18/2020	5:39:01	972	1270	51	62
2/18/2020	5:46:01	972	1270	51	63
2/18/2020	5:53:01	971	1270	50	64
2/18/2020	6:00:01	971	1270	50	64
2/18/2020	6:07:01	968	1270	49	64
2/18/2020	6:14:01	972	1270	49	63
2/18/2020	6:21:01	972	1270	50	62
2/18/2020	6:28:01	972	1270	50	67
2/18/2020	6:35:01	972	1270	51	65
2/18/2020	6:42:01	972	1270	51	55
2/18/2020	6:49:01	972	1270	51	65
2/18/2020	6:56:01	972	1270	51	62
2/18/2020	7:03:01	972	1270	50	61
2/18/2020	7:10:01	971	1270	50	64
2/18/2020	7:17:01	971	1270	50	63
2/18/2020	7:24:01	968	1270	50	64
2/18/2020	7:31:01	971	1270	49	64

2/18/2020	7:38:01	972	1270	50	62
2/18/2020	7:45:01	972	1270	51	62
2/18/2020	7:52:01	972	1270	51	63
2/18/2020	7:59:01	972	1270	49	64
2/18/2020	8:06:01	972	1270	51	66
2/18/2020	8:13:01	972	1270	51	61
2/18/2020	8:20:01	972	1270	50	62
2/18/2020	8:27:01	972	1270	50	62
2/18/2020	8:34:01	972	1270	50	61
2/18/2020	8:41:01	972	1270	50	61
2/18/2020	8:48:01	972	1270	50	60
2/18/2020	8:55:01	971	1270	50	62
2/18/2020	9:02:01	971	1270	50	62
2/18/2020	9:09:01	972	1270	51	62
2/18/2020	9:16:01	972	1270	51	62
2/18/2020	9:23:01	972	1270	51	51
2/18/2020	9:30:01	972	1270	53	57
2/18/2020	9:37:01	971	1270	52	65
2/18/2020	9:44:01	971	1270	51	66
2/18/2020	9:51:01	968	1270	50	71
2/18/2020	9:58:01	971	1270	53	62
2/18/2020	10:05:01	972	1270	51	75
2/18/2020	10:12:01	972	1270	52	63
2/18/2020	10:19:01	972	1270	52	64
2/18/2020	10:26:01	972	1270	51	64
2/18/2020	10:33:01	972	1270	51	64
2/18/2020	10:40:01	972	1270	52	63
2/18/2020	10:47:01	972	1270	53	62
2/18/2020	10:54:01	972	1270	52	68
2/18/2020	11:01:01	972	1270	55	64
2/18/2020	11:08:01	972	1270	52	64
2/18/2020	11:15:01	972	1270	51	63
2/18/2020	11:22:01	971	1270	54	62
2/18/2020	11:29:01	971	1270	53	67
2/18/2020	11:36:01	968	1270	52	65
2/18/2020	11:43:01	971	1270	51	66
2/18/2020	11:50:01	972	1270	51	58
2/18/2020	11:57:01	972	1270	50	65
2/18/2020	12:04:01	972	1270	52	66
2/18/2020	12:11:01	972	1270	52	71
2/18/2020	12:18:01	972	1270	55	62
2/18/2020	12:25:01	971	1270	55	73
2/18/2020	12:32:01	971	1270	57	63
2/18/2020	12:39:01	968	1270	59	64
2/18/2020	12:46:01	971	1270	59	64
2/18/2020	12:53:01	972	1270	58	64
2/18/2020	13:00:01	972	1270	59	69

2/18/2020	13:07:01	972	1270	58	62
2/18/2020	13:14:01	972	1270	59	67
2/18/2020	13:21:01	972	1270	60	65
2/18/2020	13:28:01	972	1270	61	56
2/18/2020	13:35:01	972	1270	61	65
2/18/2020	13:42:01	972	1270	68	52
2/18/2020	13:49:01	972	1270	68	70
2/18/2020	13:56:01	972	1270	71	71
2/18/2020	14:03:01	972	1270	71	64
2/18/2020	14:10:01	971	1270	53	70
2/18/2020	14:17:01	971	1270	52	72
2/18/2020	14:24:01	968	1270	51	72
2/18/2020	14:31:01	971	1270	51	71
2/18/2020	14:38:01	972	1270	52	72
2/18/2020	14:45:01	972	1270	53	72
2/18/2020	14:52:01	971	1270	52	73
2/18/2020	14:59:01	971	1270	51	72
2/18/2020	15:06:01	968	1270	52	72