YANGON PAN-PACIFIC INTERNATIONAL CO., LTD.

Environmental Management Plan

Manufacturing of Garment and Padding on (CMP basis)

Prepared by

Myanwei Environmental Solutions Company Limited

09-Aug-22

MYANWEI
ENVIRONMENTAL SOLUTIONS

No. 49 (B), Inya Yeik Thar Street, Mayangone Township, Yangon Region, The Republic of the Union of Myanmar.

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Commitment

Date: 8.8.2022

Attention: Dear Director

Environmental Conservation Department

Subject: Environmental Management Plan (EMP) Report in respect of the Manufacturing of Garment by Yangon Pan-Pacific International 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.

YANGON PAN-PACIFIC INTERNATIONAL CO., LTD.

PLOT NO. B-4, MYAY TAING BLOCK NO. 175, KYI SU INDUSTRIAL ZONE,
DAGON MYOTHIT (SEIKAN) TOWNSHIP, YANGON, MYANMAR.
PHONE: 09-408001281, 09-408001284

Date: 8.8.2022

Dear: Director

Environmental Conservation Department

Nay Pyi Taw

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

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.

Yangon Pan-Pacific International Company Limited will at all times comply fully with all commitment and obligations in the EMP report.

We acknowledge and understand that

MOON YOUNG SUNG
DIRECTOR
YANGON PAN-PACIFIC INT'L CO., LTD.

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အဆိုပြုထားသော စီမံကိန်း	အထည်ချုပ်လုပ်ငန်း
ရင်းနှီးမြှုပ်နှံမှုပုံစံ	၁၀၀ % နိုင်ငံခြားသားရင်းနှီးမြှုပ်နှံမှု
အစုရှယ်ယာပုံစံ	ပုံမှန်အစုရှယ်ယာ
မြေနေရာပုံစံ	စက်မှုဇုန်မြေ
စုစုပေါင်းမြေကွက်ဧရိယာ	၃.၉၉ ဧက
အဆောက်အအုံ အမျိုးအစား	အဆောက်အအုံတစ်လုံး (၁၄၀၄၀ စတုရန်းမီတာ)
မြေငှားကာလ	နှစ် ၃၀
တည်ဆောက်မှုကာလ	၁ နှစ်
အဆိုပြုရင်းနှီးမြှုပ်နှံမှုကာလ	နှစ် ၃၀
စီမံကိန်း တည်နေရာ	မြေကွက်အမှတ် ဘီ-၄၊ မြေတိုင်းရပ်ကွက်အမှတ် (၁၇၅)၊ ကျိုစုစက်မှုဇုန်၊ ဒဂုန်မြို့သစ်ဆိပ်ကမ်း၊ ရန်ကုန်တိုင်းဒေသကြီး။
ဆက်သွယ်ရန် ဖုန်းနံပါတ်	Mr. Moon Young Sung General Director 09978354116 moonys@panpacific.co.kr

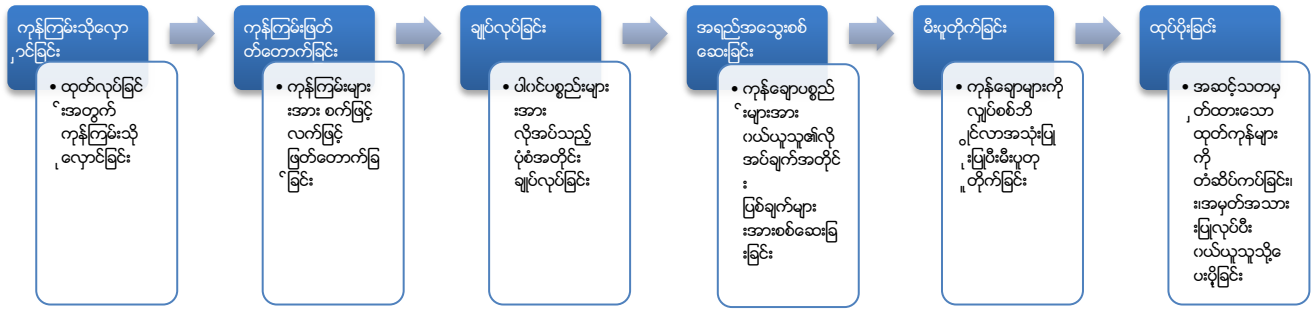
မြန်မာနိုင်ငံ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဥပဒေ (၂၀၁၂)အရ ၊ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (EMP) ပြုလုပ်ရန်လိုအပ်ကြောင်း ၂၀၂၀ ခုနှစ်၊ အောက်တိုဘာလ ၁၃ ရက်နေ့တွင် စာအမှတ်၊ ရက/အီးအိုင်အေ/၂(၅) (၃၂၇၀/၂၀၂၀) ဖြင့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန ရန်ကုန်တိုင်းဒေသကြီးမှ သဘောထားမှတ်ချက် ရရှိပြီးဖြစ်ပါသည်။ ထို့ကြောင့် EMP အစီအရင်ခံစာရေးဆွဲရန် တတိယအဖွဲ့အစည်းဖြစ်သော MYANWEI ENVIRONMENTAL SOLUTIONS CO.,LTD. မှ တာဝန်ယူရေးဆွဲခဲ့ပါသည်။

(Yangon Pan-Pacific International Co.,Ltd.) အထည်ချုပ်စက်ရုံသည် မြေကွက်အမှတ် ဘီ-၄၊ မြေတိုင်းရပ်ကွက် အမှတ် (၁၇၅)၊ ကျိုစုစက်မှုဇုန်၊ ဒဂုန်မြို့သစ်ဆိပ်ကမ်း၊ ရန်ကုန်တိုင်းဒေသကြီးတွင် တည်ရှိသည်။ အဆိုပြုစီမံကိန်းသည် မြောက်လတ္တီကျူ ၁၆° ၅၂' ၂၆.၃၇" နှင့် အရှေ့လောင်ဂျီကျူ ၉၆° ၁၆' ၃၅.၃၀" ကြားတွင်ရှိပါသည်။ အဆိုပါစက်ရုံသည် အဝတ်အထည်အမျိုးမျိုးကို CMP စနစ်ဖြင့်ချုပ်လုပ်၍

ပြည်ပသို့တင်ပို့ခြင်းလုပ်ငန်းဖြစ်ပါသည်။ စီမံကိန်းဧရိယာသည် ၃.၉၉ဧကော ကျယ်ဝန်း၍ ပင်မအဆောက်အအုံတစ်လုံး ပါဝင်ပါသည်။ စီမံကိန်းလည်ပတ်ခြင်းကို ဒီဇင်ဘာလ ၂၀၁၉ တွင် စတင်ခဲ့ပါသည်။ စီမံကိန်းဧရိယာအတွင်းတွင် ထုတ်လုပ်ခြင်းဆိုင်ရာ အဆောက်အအုံတစ်လုံး၊ ထရန်စဖော်မာခန်း၊ မီးစက်ခန်း၊ ဘွိုင်လာခန်း၊ မီးသတ်ခန်း၊ စားသောက်ခန်း နှင့် ကားရပ်နားရန် နေရာများပါဝင်ပါသည်။ အလုပ်သမားဦးရေ စုစုပေါင်း ၁၂၁၄ ဦးရှိပါသည်။ နှစ်စဉ် ခန့်မှန်းခြေ ကုန်ထုတ်လုပ်မှုနှုန်းမှာ ၁၆၂၀၀၀၀ ပန်းကျင်ရှိပါသည်။

စီမံကိန်းဆောင်ရွက်ရာတွင် MOREC၏ သတ်မှတ်ထားသော ပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေများအတိုင်းလိုက်နာဆောင်ရွက်လျက်ရှိပြီး လက်ရှိချမှတ်ထားသော ပြည်တွင်း၊ပြည်ပ ပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင်ဆိုင်ရာဥပဒေများကို လိုက်နာဆောင်ရွက်လျက်ရှိပါသည်။

Yangon Pan-Pacific International Co.,Ltd.သည် CMP စနစ်ဖြင့် အဝတ်အထည်များထုတ်လုပ်ပြီး ထုတ်လုပ်ရာတွင် သိုလှောင်ခြင်း၊ ဖြတ်တောက်ခြင်း၊ ချုပ်လုပ်ခြင်း၊ အရည်အသွေးစစ်ဆေးခြင်း၊ မီးပူတိုက်ခြင်း၊ ထုတ်ပိုးခြင်း အဆင့်များဖြင့် ထုတ်လုပ်လျက်ရှိပါသည်။



ထုတ်လုပ်ပုံအဆင့်ဆင့်

အနီးပတ်ဝန်းကျင်အခြေအနေဆိုင်ရာ ဖော်ပြချက်

လက်ရှိပတ်ဝန်းကျင်၏ ပတ်ဝန်းကျင်ဆိုင်ရာအချက်အလက်၊ ပတ်ဝန်းကျင်အရည်အသွေး တိုင်းတာခြင်းများနှင့် သက်ရောက်မှုများကို ၂၀၂၀ ခုနှစ်၊ ဩဂုတ်လ၊ ၂၆ ရက်နေ့တွင် ပြုလုပ်ခဲ့ပါသည်။ ထို့အပြင် စက်ရုံတည်နေရာနှင့် သက်ဆိုင်သည့် အချက်အလက်များဖြစ်သော လူမှုစီးပွားအခြေအနေ၊ ရုပပတ်ဝန်းကျင်ဆိုင်ရာ အချက်အလက်များ၊ ဇီဝပတ်ဝန်းကျင်ဆိုင်ရာ အချက်အလက်များ၊ ရာသီဥတုဆိုင်ရာ အချက်အလက်များ အစရှိသည့်များကို ရ နိုကုန်တိုင်းဒေသကြီး၊ ရွှေပြည်သာမြို့နယ်မှ တရားဝင်ပြဋ္ဌာန်းထားသော မြို့နယ်ဆိုင်ရာ အချက်အလက်များမှ ကိုးကားဖော်ပြထားပါသည်။

အဆိုပြုလုပ်ငန်း၏စစ်တမ်းကောက်ယူမှု

အမျိုးအစား	ရလဒ်
ရာသီဥတုအခြေအနေ	

အပူချိန်	၈၅ °C
စိုထိုင်းဆ	၇၂%
ဆူညံသံ	
ထုတ်လုပ်မှုဇရိယာအတွင်း	၆၉.၇၉ dBA
လေထုအရည်အသွေး	
PM 10	၁၇.၈၆μg/m^3
PM 2.5	၁၃.၅ μg/m^3
SO_2	၁၃၀.၉ μg/m^3
NO_2	၅၄.၃ μg/m^3
0_3	၃၇.၂ μg/m^3
CO	၀.၄၁၂ μg/m^3
အလင်းရောင်တိုင်းတာမှု	
ဖြတ်တောက်ခြင်း ဇရိယာ	၈၃၃ Lux
ကုန်ကြမ်းသိုလှောင်ထားရှိမှု ဇရိယာ	၁၁၅၃ Lux
အရည်အသွေး စစ်ဆေးခြင်း ဇရိယာ	၁၄၁၃.၅ Lux
ချုပ်လုပ်ခြင်း ဇရိယာ	၁၂၇၇ Lux
ကုန်ချော ထုတ်ပိုးခြင်း ဇရိယာ	၁၁၅၄ Lux
မီးပူတိုက်ခြင်း ဇရိယာ	၁၁၉၅ Lux

ပတ်ဝန်းကျင်ထိခိုက်မှု ဆန်းစစ်ခြင်းနှင့် လျော့ချရေးနည်းလမ်းများ

အဆိုပြု စီမံကိန်း၏ အဓိကဖြစ်ပေါ်စေနိုင်သော ပတ်ဝန်းကျင်ထိခိုက်မှုကို အခြေခံစစ်တမ်းများ ပေါ်မူတည်၍ ယေဘုယျ နည်းလမ်းများအတိုင်း လျော့ချမှုများ ပြုလုပ်သွားပါမည်။ ပတ်ဂန်းကျင် ထိခိုက်မှုကို လေ့လာဆန်းစစ်ရာတွင် စီမံကိန်းကာလအတွင်း ထိခိုက်မှု တစ်ခုချင်းစီ၏ ပမာဏ၊ ကြာမြင့်ချိန်၊ ကျယ်ပြန့်မှုနှင့် ဖြစ်နိုင်ချေတို့အား ဖော်ပြထားပါသည်။

အကဲဖြတ်ခြင်း	အတိုင်းအတာ				
	၁	၂	၃	၄	၅
ပမာဏ	မလုံလောက်သော	အနည်းငယ်နှင့် လုပ်ငန်းခွင်ပြောင်းလဲမှု ဖြစ်စေနိုင်သော	အသင့်အတင့် နှင့် အနည်းငယ် လုပ်ငန်းခွင်ပြောင်းလဲမှု ဖြစ်စေနိုင်သော	မြင့်မားနှင့် သိသာစွာလုပ်ငန်းခွင်ပြောင်းလဲမှု ဖြစ်စေနိုင်သော	အလွန်မြင့်မားနှင့် အမြဲတမ်းလုပ်ငန်းခွင် ပြောင်းလဲမှု ဖြစ်စေနိုင်သော

အကဲဖြတ်ခြင်း	အတိုင်းအတာ				
	၁	၂	၃	၄	၅
အချိန်	၀-၁ နှစ်	၂-၅ နှစ်	၆-၁၅ နှစ်	လုပ်ငန်း လည်ပတ်စဉ် ကာလ တစ်လျောက်	လုပ်ငန်းပိတ်သိမ်းခြင်းကာလအထိ
ကျယ်ပြန့်မှု	လုပ်ငန်းခွင်အတွင်း	ဒေသအတွင်း	မြို့နယ်အတွင်း	နိုင်ငံအတွင်း	နိုင်ငံတကာအတွင်း
ဖြစ်နိုင်ချေ	လုံး၀ မဖြစ်နိုင်သော	မဖြစ်နိုင်သော	ဖြစ်နိုင်သော	ဖြစ်နိုင်ချေမြင့် သော	အတိအကျ

သတ်မှတ်ချက် = (ပမာဏ+အချိန်+ကျယ်ပြန့်မှု)* ဖြစ်နိုင်ချေ

ပတ်၀န်းကျင်ထိခိုက်မှုကိုအောက်ပါအတိုင်း ခွဲခြားနိုင်သည်။

သတ်မှတ်ချက်	ထိခိုက်မှုအဆင့်
<၁၅	အလွန်နိမ့်
၁၅ - ၂၉	နိမ့်
၃၀ - ၄၄	အလယ်အလတ်
၄၅ - ၅၉	မြင့်
၆၀	အလွန်မြင့်

ပတ်၀န်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
လေထုအရည်အသွေး	• သယ်ယူပို့ဆောင်ရေးသုံး ဒီဇယ်တော်ယာဉ်တို့ကြောင့် ဖုန်မှုန့်နှင့် ဖန်လုံအိမ်ဓါတ်ငွေ့ထွက်ခြင်း • လုပ်ငန်းခွင်အတွင်းဖုန်မှုန် ထွက်ခြင်းအရေးပေါ် သုံး မီးစက်မှာ စွန့်ထုတ်အခိုးအငွေ့ထွက်ခြင်း	• မီးစက် တို့တွင် မီးခိုးဓေါင်းတိုင် တပ်ဆင်ခြင်းဖြင့် အခိုးအ ငွေ့ကြောင့် ပတ်၀န်းကျင် ထိခိုက်မှုကို လျော့ချခြင်း၊ • စက်ရုံအတွင်းနှင့် အနီး အနားတွင် သစ်ပင်ပန်းမံ စိုက်ပျိုးခြင်းဖြင့် carbon ထွက်ရှိမှုကို လျော့ချပေးခြင်း၊ • စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။
မြေဆီလွှာညစ်ညမ်းမှု	• မတော်တစ စက်ပစ္စည်း၊ မော်တော်ယာဉ်မျ များမှ ဆီယိုဖိတ်ခြင်း	• ထိခိုက်မှုလျော့ချရန်မလိုပါ။
ရေအရည်အသွေး	• မီးဖိုချောင်သုံးမှထွက်ရှိခြင်း	• ထိခိုက်မှုလျော့ချရန်မလိုပါ။

ပတ်ဝန်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
ဆူညံသံ နှင့် တုန်ခါမှု	• မီးစက်၊ အထည်ချုပ်စက် နှင့် မော်တော် ယာဉ် အသုံးပြုမှုကြောင့် ပတ်ဝန်းကျင် ဆူညံမှု	• ဆူညံသံများသောစက်ရုံလုပ်ငန်းနေရာများတွင် တစ်ကိုယ်ရည်သုံး ကာကွယ်ရေးပစ္စည်းများ တပ်ဆင်အသုံးပြုစေခြင်း။ • အသံထုတ်လွှတ်မှုနည်းသော စက်ပစ္စည်းများ အသုံးပြုခြင်းနှင့် မီးစက်ခန်း၊ ကွန်ပရက်ဆာခန်းများ သီးသန့်ထားရှိစေခြင်း။
ကုန်းနေ အပင်နှင့် သတ္တဝါများ၊ ရေနေသ သတ္တဝါများ	• အဂတ်အထည်အမျိုးမျိုး ချုပ်လုပ်ခြင်း လုပ်ငန်း	• ထိခိုက်မှုလျော့ချရန်မလိုပါ။
မီးဘေးအန္တရာယ်	• ကုန်ကြမ်းသိုလှောင်မှု နှင့် လျပ်စစ်သုံးစွဲ ပေါ့လျော့မှု	• စက်ရုံ၏မီးဘေးအန္တရာယ်ကာကွယ်ရန်အတွက် မီးသတ်ပူး၊ မီးသတ်ပိုက်၊ မီးသတ်ခေါင်း များထားရှိခြင်း။ • မီးသတ်ဆိုင်ရာစက်ပစ္စည်းကိရိယာများကိုပုံမှန်စစ်ဆေးခြင်း၊အရေးပေါ် အခြေနေအတွက် မီးသတ်ရေကန်အဆင်သင့်ထားရှိခြင်း။ • စက်ရုံအတွင်းအရေးပေါ် အချက်ပေးစနစ်များထားရှိခြင်း။ • အရေးပေါ် ထွက်ပေါက်များတစ်လျှောက်တွင် ကုန်ပစ္စည်းများပိတ်ဆို့ခြင်းမရှိအောင်ရှင်းလင်းထားရှိခြင်း။
လုပ်ငန်းခွင် ဘေးအန္တရာယ်	• စက်ပစ္စည်းများလည်ပတ်ခြင်းကြောင့် မတော်တဆထိခိုက်မှုများ ဖြစ်စေပေါ်နိုင်ခြင်း။ • ပစ္စည်းတင်ချုပြုလုပ်ခြင်း၊ ဖြတ်တောက်ခြင်း၊ ရောနှောခြင်း၊ ဖိနှိပ်ခြင်း၊ ထုတ်ပိုးခြင်း။ • ရေနွေးငွေ့သုံးမီးပူများကြောင့် မတော်တဆထိခိုက်မှုများ ဖြစ်စေပေါ်နိုင်ခြင်း။	• အရေးပေါ် အခြေအနေများအတွက် စက်ပစ္စည်းကိုင်တွယ်မှုသင်တန်းပေးခြင်း၊ ကြက်ခြေနီသင်တန်းပေးခြင်း၊ မီးသတ်သင်တန်းပေးခြင်း။ • လုပ်ငန်းခွင်တွင်း အလုပ်သမားများ အလင်းရောင်ကောင်စွာရရှိစေရန်နှင့် အမြင်အာရုံမထိခိုက်စေရန် အလင်းရောင်များကို လုံလောက်စွာထားရှိခြင်း။ • အလုပ်သမားများအတွက်တစ်ကိုယ်ရေကာကွယ်ရေးသုံးပစ္စည်းများဖြစ်သည့် နားကြပ်၊ လက်အိတ်၊ ဦးထုပ်၊ မျက်မှန်များ အသုံးပြုစေခြင်း။ • လျှပ်စစ်အန္တရာယ်မဖြစ်စေရန် နှင့် ပြုပြင်ထိန်းသိမ်းမှုများ ပြုလုပ်ရန်အတွက် ဝန်ထမ်းထားရှိ၍ ပုံမှန်စစ်ဆေးခြင်း။
ကျန်းမာရေး	• အရေးပေါ် မီးစက်များမှ ဆူညံသံများထွက်ပေါ်လာခြင်း။	• လုပ်သားများအတွက်ကျန်းမာရေးမထိခိုက်စေရန် ရေမြောင်းများကိုစနစ်တကျထားရှိခြင်း။ • လုပ်သားများအတွက် ရှုစ်နာရီအတွင်းလက်ခံနိုင်သည့်အာမြင့်ဆုံး ဆူညံမှု နှုန်းမှာ 90dB(A) ဖြစ်သည်။ အသံဆူညံမှုအမြင့်ဆုံးနေရာများတွင် နားကြပ်များ တပ်ဆင်စေခြင်း။
စွန့်ပစ်အစိုင်အခဲ	• ထုတ်လုပ်ရာတွင် ကျန်ရှိသော ပိတ်စ အပိုင်းအစများ။ မီးဖိုချောင်နှင့်	• စက်ရုံအတွင်း အမှိုက်ပုံးများထားရှိခြင်း။ • သတ်မှတ်ထားသောနေရာတွင် အမှိုက်စို၊ အမှိုက်ခြောက်များခွဲခြားစွန့်ပစ်ခြင်း။

ပတ်ဝန်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
	ရုံးတွင်းစွန့်ပစ်ပစ္စည်းများ	• အမှိုက်များကို ရန်ကုန်စည်ပင်သာယာရေးကော်မတီနှင့် ချိတ်ဆက်၍စွန့်ပစ်ခြင်း။
စွန့်ပစ်အရည်	• နေအိမ်၊ စားသောက်ဆောင် တို့မှစွန့်ထုပ်ရေ၊ ဘွိုင်လာစွန့်ပစ ပစ်ရေ နှင့် မိလ္လာကန်စနစ်	• ဆီကန်၊ မိလ္လာကန်များ ကိုပုံမှန်စစ်ဆေးခြင်း၊ သန့်စင်ခြင်းများပြုလုပ်ခြင်းဖြင့် စွန့်ပစ်အရည်များ စိမ့်ဝင်မှုများကိုလျော့ကျစေနိုင်ခြင်း။
အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများ	• စက်များမှ ဆီယိုစိမ့်မှုများ၊ မော်တော်ယာဉ်များပြုပြင်ထိမ်းသိမ်းမှုက ထွက်ရှိသည့်အမှိုက်များ	• အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်းများသိုလှောင်မှု အားထိန်းသိမ်းခြင်း စစ်ဆေးခြင်း။ • အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများကို ရန်ကုန်မြို့တော်စည်ပင်သာယာရေး ကော်မတီ (သို့မဟုတ်) လိုင်စင်ရ အမှိုက်စွန့်ပစ်ရေးဆိုင်ရာအဖွဲ့အစည်းများ (ဥပမာ DOWA or YCDC) နှင့်ချိတ်ဆက်၍စွန့်ပစ်ခြင်း။
သဘာဝဘေးအန္တရာယ် (ငလျင်၊ ရေကြီးရေလျံ၊ မြေပြို၊ မုန်တိုင်း)		အရေးပေါ်အကြောင်းရင်းနှင့် အခြေအနေများအတွက် သက်ဆိုင်ရာမှတ်တမ်းများနှင့် ကရိယာများကို ထိန်းသိမ်းခြင်း

သိသာထင်ရှားသော သက်ရောက်မှုများကိုတွက်ချက်ရာတွင် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုနှင့် ဆန်းစစ်ခြင်းအဖွဲ့အစည်း(IEMA) မှ ချမှတ်ထားသော နည်းလမ်းကို အသုံးပြု၍ ဆန်းစစ်ထားပါသည်။ စီမံကိန်းလုပ်ဆောင်ချက်များပေါ် မူတည်၍ ရလဒ်များ နည်းသည်၊ အလွန်နည်းသည်ကို ဖော်ပြထားပါသည်။ အချို့ရလဒ်များမှာ အသင့်အတင့် ရှိပါသည်။ လူမှုစီးပွားဆိုင်ရာတိုးတက်မှုများအနေဖြင့် ကောင်းမွန်သောသက်ရောက်မှု ရှိသည်ကို တွေ့ရှိရပါသည်။

စီမံကိန်းဖော်ဆောင်သည့်အချိန်အတွင်း ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများ၊ လျော့ချရေးနည်းလမ်းများ၊ အစီအစဉ်များ၊ တိုင်းတာမှုများ စသည့် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်များကို လုပ်ဆောင်ရပါသည်။ Yangon Pan-Pacific International Co.,Ltd. မှ စက်ရုံတွင် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အတွက် အဖွဲ့အစည်းဖွဲ့စည်းခြင်း၊ ပုံမှန်ဆန်းစစ်လေ့လာခြင်းများ ပြုလုပ်သွားမည်ဖြစ်ပါသည်။ ပတ်ဝန်းကျင် လေထုအရည်အသွေး၊ ဆူညံသံ၊ မိလ္လာစနစ်၊ စွန့်ပစ်အစိုင်အခဲ စွန့်ပစ်မှုများကို စက်ရုံ၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် အဖွဲ့အစည်းမှ ဆန်းစစ်သွားမည်ဖြစ်ပါသည်။ အဆိုပြုစီမံကိန်းမှ လူထုအကျိုးပြုလုပ်ငန်းများ နှင့် အရေးပေါ်ဆောင်ရွက်ချက်များ၊ ဒေသဆိုင်ရာ အကျိုးပြုလုပ်ငန်းများကို လုပ်ဆောင်သွားမည်ဖြစ်ပါသည်။

လူထုတွေ့ဆုံပွဲများပြုလုပ်ရာတွင် ကိုဗစ်-၁၉ကပ်ရောဂါ ဒုတိယလှိုင်း ဖြစ်ပွားနေသောကြောင့် ကျန်းမာရေးဝန်ကြီးဌာန၏ ထုတ်ပြန်ချက်များအရ ရောဂါပြန့်ပွားမှုလျော့ကျစေရန် လူငါးဦးထက်ပိုမို စုဝေးခြင်းကိုတားမြစ်ထားသောကြောင့် Myanwei Environmental Solution Company Limited ၏ facebook စာမျက်နှာ(https://drive.google.com/file/d/1APxpeM1UpEnwWVbdmHUI4LnFIZom45_u/view?usp=drivesdk) မှတစ်ဆင့် နိုဝင်ဘာလ ၅ရက်နေ့ ၂၀၂၀ခုနှစ်တွင် အကြံပြုချက်များကိုတောင်းခံခဲ့ပါသည်။

Yangon Pan-Pacific International Company Limited ၏ လူထုအကျိုးပြုလုပ်ငန်းများဆောင်ရွက်မည့် အစီအစဉ်

စဉ်	အကြောင်းအရာ	လျှဒါန်းမှု ရာခိုင်နှုန်း
၁။	စာသင်ကျောင်းများ	၀.၅%
၂။	သင်တန်းကျောင်းများ	၁%
၃။	ဝန်ထမ်းများ၏ ကျန်းမာရေးစောင့်ရှောက်မှု	၀.၅%

စီမံကိန်းသည် ကျီစုစက်မှုဇုန်၊ ဒဂုန်မြို့သစ် (ဆိပ်ကမ်း) တွင်တည်ရှိသည်။ စီမံကိန်းကြောင့် ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများမရှိပါ။ စီမံကိန်းဆိုင်ရာ သတင်းအချက်အလက်များ၊ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်များကို အောက်ပါ ဝပ်ဆိုက်များမှတစ်ဆင့် လေ့လာနိုင်ပါသည်။

Myanwei website www.myanweiconsulting.com

https://www.facebook.com/Myanwei-Environmental-Solutions-Company-Limited.

EXECUTIVE SUMMARY

The project is new investment for manufacturing of garment on Cutting, Making and Packaging (CMP) basic company from Korea. The Myanmar Investment Commission (MIC) issues the project on 28 November 1997 with the Permit No. (296/97). MIC 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, Sewing and Packaging (CMP) basis. The estimated authorized capital investment is about US $ 11.238 million.

Table 1-1 Salient features of the project

Type of Proposed Business	Manufacturing of Garment
Type of investment	100% foreign investment
Type of Share	Ordinary Share
Type of land	Industrial Land
Total land area	3.99 acres
Total building area	One factory building (14040 sq-m)
Land lease year	30 years
Construction period	1 year
Operation starting date	30 years investment permit
Address	Plot No. B-4, Myay Taing Block No. (175), Kyi Su Industrial Zone, Dagon Myothit (Seikkan) Township, Yangon Region.
Contact person	Mr.Moon Young Sung General Director 09978354116 moonys@panpacific.co.kr

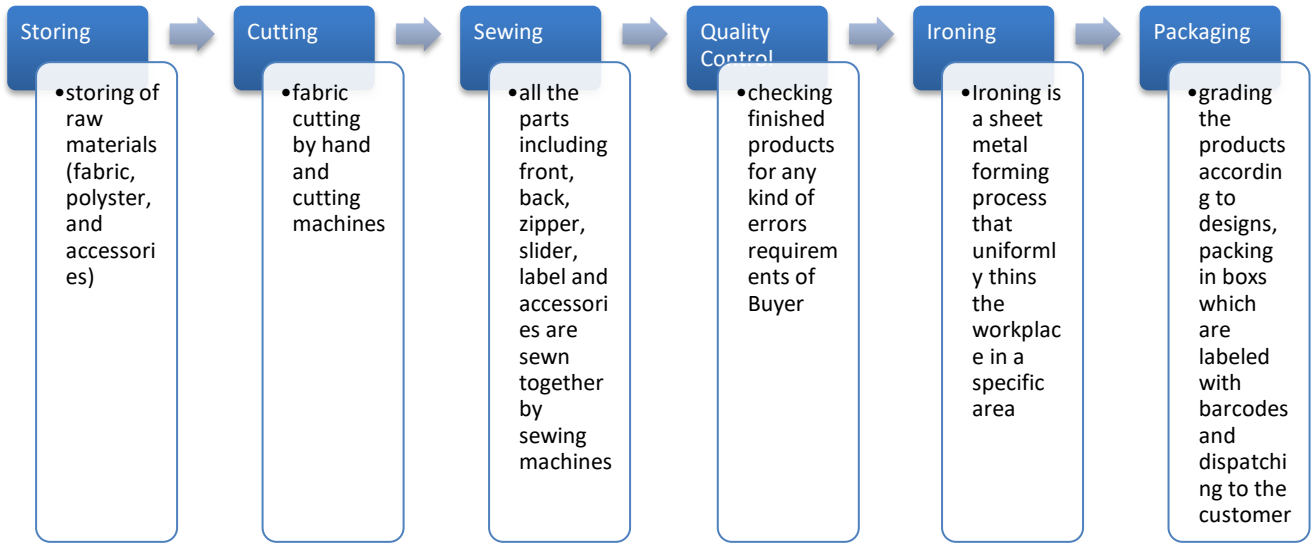
According to the Myanmar Environmental Conservation Law (2012), it requires that the proponents of every development project in the country submit either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) to Ministry of Natural Resources and Environmental Conservation (MONREC). As per the comments of Environmental Conservation Department (ECD), they said project requires an Environmental Management Plan (EMP) to meet the environmental assessment requirements of Notification No. YaKa/EIA/2(5) (3270/2020) on 13 October 2020. Therefore, Yangon Pan-Pacific International Co., Ltd commissioned Myanwei Environmental Solutions Co., Ltd. (Myanwei) for EMP report study.

Yangon Pan-Pacific International Co., Ltd's factory is located at Plot No. B-4, Myay Taing Block No. (175), Kyi Su Industrial Zone, Dagon Myothit (Seikkan) Township, Yangon Region. The location point of proposed project is between Latitude 16° 52' 26.37"N and Longitude 96° 16' 35.30"E. The project utilizes 3.99 acres of land and consists of main factory building. The operation period started in December 2019. The designed area includes production building (one story), utilities of transformer room, boiler room, guardhouse and general utility room, firefighting pump room and water tank, car parking shelter, offices and canteen facilities etc. Number of people 1214 employees working at Yangon Pan-Pacific International Co., Ltd's factory. Most are local people, who manage the

company by their dynamic, enthusiastic, experienced, and cooperative skills. The estimated production rate per year may be round about 1,620,000 pieces.

The project is processed according to the relevant environmental legislations established by the MONREC and overview of current local and international environmental and social policies including related international or regional convention.

Yangon Pan-Pacific International Co.,Ltd use Cutting-Making-Packaging (CMP) system in which raw material including fixtures and chemicals are imported and then processed into finished product, packaged and exported. The steps of production process of Yangon Pan-Pacific International Co.,Ltd. is storing, cutting, sewing, quality control, ironing and packaging in order.



Production Process

The baseline environmental quality at the Project Site and its immediate surroundings was established by groundwater, wastewater, ambient air quality samples, noise and indoor temperature and humidity measurements at immediate surrounding areas. To determine the existing baseline environmental quality within the project site August 2020.

Item	Parameter
Air quality	(1) Sulfur dioxide (SO2), (2) Nitrogen dioxide (NO2), (3) PM10 and PM2.5, (4) Ozone (O3), (5) Volatiles organic compound (VOC), (6) Air pressure, wind direction and wind speed, (7) Carbon monoxide (CO), (8) Carbon Dioxide (CO2), (9) TSP
Noise level	Indoor sound level (LAeq)
Light Level	Industry light condition (Lux)

The contents of CO, CO_2 and SO_2 concentration level are within the limit of NEQ (emission) guideline but particulate matter (PM_{10}, $PM_{2.5}$) and gases level of Nitrogen Dioxide (NO_2) are also within the National Environmental Quality (Emission) Guideline. Noise in the workshop area is acceptable when compared with National Environmental Quality (Emission) Guideline. The result of light measurement at operation area (inside the production sector) is good condition to the acceptable level of standard.

Moreover, secondary data collection of proposed project site area such as socio-economic condition, physical/ biological environment, weather data where be received from official township data was reference by Regional Data of Dagon Myothit (Seikkan) Township. The field observation for determining the environmental baseline of the proposed project area was undertaken during operation period. The survey team consists of the senior consultant and environmental quality team. The baseline data collected regarding the environmental condition of the project area was conducted in the following section. The proposed project site is primarily agricultural land, but now is initiated into the industrial zone area. In 2017, the population of Dagon Myothit (Seikkan) Township is about 187,891 people.

Brief Description of Surrounding Environment

For environmental baseline, data were collected by onsite measurements analysis during operation phase on 26 August 2020. On-site measurement was taken by indoor temperature, humidity, noise level and operation light condition at the factory. Moreover, secondary data collection of proposed project site area such as socio-economic condition, physical/ biological environment, weather data were collected from official township data was obtained from Regional Data of Dagon Myothit (Seikkan) Township.

Survey Result in Proposed Project

Type	Result
Weather Condition	
Indoor temperature	85°C
Humidity	(72%)
Noise level	
Operation area	60.13 dBA
Air Quality	
PM 10	17.86 µg/m^3
PM 2.5	13.5 µg/m^3
SO_2	130.9 µg/m^3
NO_2	54.3 µg/m^3
O3	37.2 µg/m^3
CO	0.412 µg/m^3
Light	
Cutting Area	833 Lux
Warehouse	1153 Lux
Quality Control	1413.5 Lux
Sewing Area	1277 Lux
Packaging	1154 Lux
Ironing	1195 Lux

Risk Assessment and Mitigation Measure Plan

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.

Impact Assessment Parameter and Its Skill

Assessment	Scale				
	1	**2**	**3**	**4**	**5**
Magnitude (M)	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
Duration (D)	0 - 1 year	2 - 5 year	6 - 15 year	Life of operation	Post Closure
Extent (E)	Limited to the site	Limited to the local area	Limited to the region	National	International
Probability (P)	Very improbable	Improbable	Probable	Highly probable	Definite

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

Significant Point (SP) = (Magnitude + Duration + Extent) × 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 Impact	Project Activities	Mitigation Measures
Operation Phase		
Air	Dust and GHGs emission from vehicles used for transporting raw materials and final products	To control air pollution, the vehicles, generators and machineries have to check and maintain regularly.

Environmental Impact	Project Activities	Mitigation Measures
	Emission of smoke from emergency diesel generator and vehicle movement	Ensuring vehicles, compressor and generator are well maintained. The factory has planted trees to reduce carbon emission and minimize air pollution
Soil	Engine oil leaks, spills at diesel storage and during fuel refueling	No mitigation measure
Water	Dormitory Cleaning and Kitchen	No mitigation measure
Noise and vibration	Generating noise from the production machinery	Should be built individual room like as generator room Low noise equipment should be used Should be provided the noise covering equipment or personal protective equipment (PPE)
Flora and fauna on terrestrial and aquatic life	Operation of the garment factory	No Mitigation Measure
Fire	Poor electrical installations Waste disposed area raw materials and chemical storage	To provide 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. 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.
Occupational Safety	Accidental cases cause by operating machines. Unloading, cutting, and packaging activities. Accidental cases of thermic fluid heater	First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for emergency cases of 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.
Health	Influx of people Noise from the generating of the emergency generators	Manage the drainage systems of the factory to prevent health risk of the workers. The maximum allowable noise level for workers is 90dB(A) for 8hours 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.

Environmental Impact	Project Activities	Mitigation Measures
Solid waste	Residual pieces of fabric scraps from the production lines Waste from packaging materials Waste from kitchen, dormitory and office.	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 storage area Final wastes should be disposed by using YCDC's service.
Liquid waste	Septic system and sewage. Domestic liquid waste disposal from office, kitchen and dormitory.	Regular inspection and cleaning, oil traps, septic tank and adequate covers for all storage and waste disposal areas can decrease these contaminations.
Hazardous waste	Used oil and lubricant discharged from the maintenance of vehicles and machines.	Proper inspection and maintenance in storage of hazardous waste. The hazardous wastes are transported by specially licensed carriers and disposed in a licensed faculty (e.g., DOWA and YCDC)
Natural Disaster (Earthquakes, Floods, landsides and cyclone)		Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency
Decommissioning Phase		
Air pollution	Decommissioning of buildings and related materials Transportation of demolished materials	Spray water twice a day Cover mesh trap around the decommission area Install shading net about 2 meters above temporary fence of decommission area Carry broken material with cover by canvas.
Water pollution	Sewage form decommissioning workers Demolition machinery equipment	Systematically demolish the septic tanks.
Soil Contamination	Decommissioning of buildings and related materials Transportation of demolished materials	Manage the spillage of oil and diesel and sewage.
Noise Pollution	Decommission activities Transportation of demolished materials	Carry out the activities during day time. Maintain the machines and vehicles to reduce noise pollution. Provide the ear plugs to the workers.
Waste disposal	Demolished debris such as bricks, concrete materials	Recyclable materials and dispose to the define areas.
Hazardous waste	Used lubricants from decommissioning vehicles and machines	Manage the disposal way of hazardous waste.
Occupational Health and Safety	Decommissioning activities Transportation of demolished	Provide protective fencing or demarcation with tape at the boundaries of dangerous / hazardous zone

Environmental Impact	Project Activities	Mitigation Measures
(Accidents, Injuries)	materials	and the appropriate warning signs, marking and safety signs and installation of the lost time injury notice board. Clean up excessive waste debris and liquid spills regularly. Use the third-party expert assisted by trained personnel to identify and remove hazardous materials.

Modified method of Institute of Environmental Management and Assessment (IEMA) from United Kingdom is applied in this report to assess the significance of the impacts. Results of analysis mention that most of the project activities are very low/low significant and some are moderate significant to be improved for environmental performance. Social and economic developments are positive impacts of the proposed project.

The Environmental Management Plan (EMP) formulated with the anticipated impacts, mitigation measures, management and monitoring plans during all phases are implemented. Yangon Pan-Pacific International Co., Ltd. has organized Environmental Management Team to accomplish these plans and to review EMP regularly for improvements and modifications. Ambient air quality, noise, water quality, sewage and solid waste disposal are monitored by Team Leaders of Committee. The project proponent has performed Corporate Social Responsibility (CSR) plan and Emergency Preparedness for the benefits of residents and local community.

As for the public consultation disclosure during the preparation of this report, the second wave of Covid-19 disease becomes serious in Yangon. The Ministry of Health and Support declared to avoid gathering more than 5 people to avoid close contact and to prevent spreading of disease. Thus, the project condition, the present environmental condition and the management plan are through the social media of Myanwei Environmental Solution Company Limited Facebook page (https://drive.google.com/file/d/1APxpeM1UpEnwWVbdmHUI4LnFIZom45_u/view?usp=drivesdk) declared in 5th November, 2020 due to current situation. The suggestion, complain and comments from the public, organization and stakeholder are warmly welcome and accept via mailing, comment, telephoning and messengers.

CSR plan of Yangon Pan-Pacific International Company Limited

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

The project is located in Kyi Su Industrial Zone, Dagon Myothit (Seikkan) Township and there are no local people affected by project. The project information and this EMP will be accessible to public and stakeholders via

Myanwei website www.myanweiconsulting.com

https://www.facebook.com/Myanwei-Environmental-Solutions-Company-Limited.

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 Yangon Pan-Pacific International Co.,Ltd. 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.

1.1. THIS EMP DOCUMENTS AIMS

- Provide environmental management plans that minimize the environmental impact of the works and identify those responsible for its implementation.
- Define the monitoring program which assesses the implementation

1.2. 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.

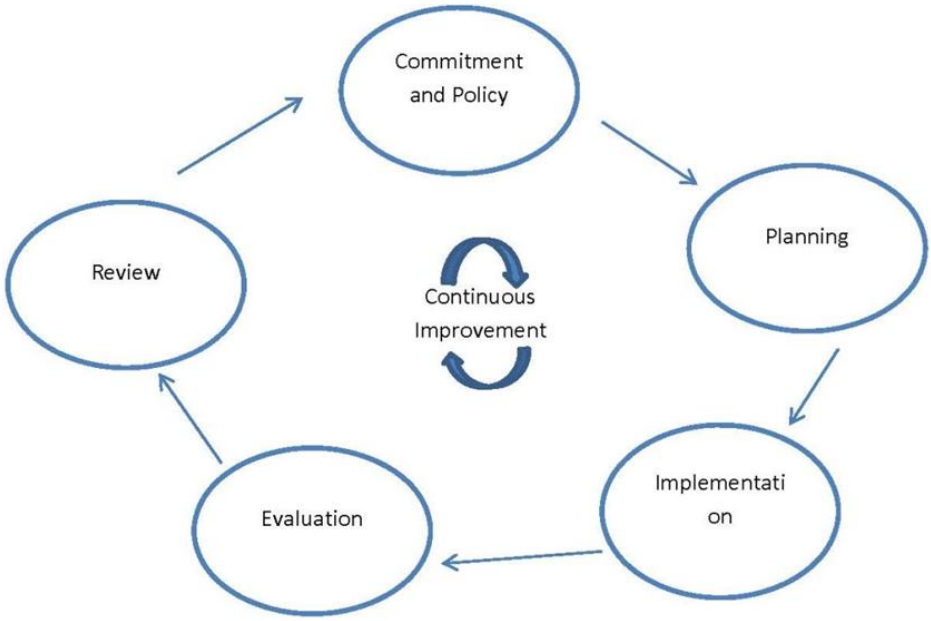


Figure 1-1 Continuous Improvement Circle

- **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.

1.2.1. Institutional Requirement

Yangon Pan-Pacific International Co., Ltd 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 (EMP) 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.

1.2.2. 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:

Yangon Pan-Pacific International Co., Ltd.: 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 Yangon Pan-Pacific International Co., Ltd. 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.

1.2.3. 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.

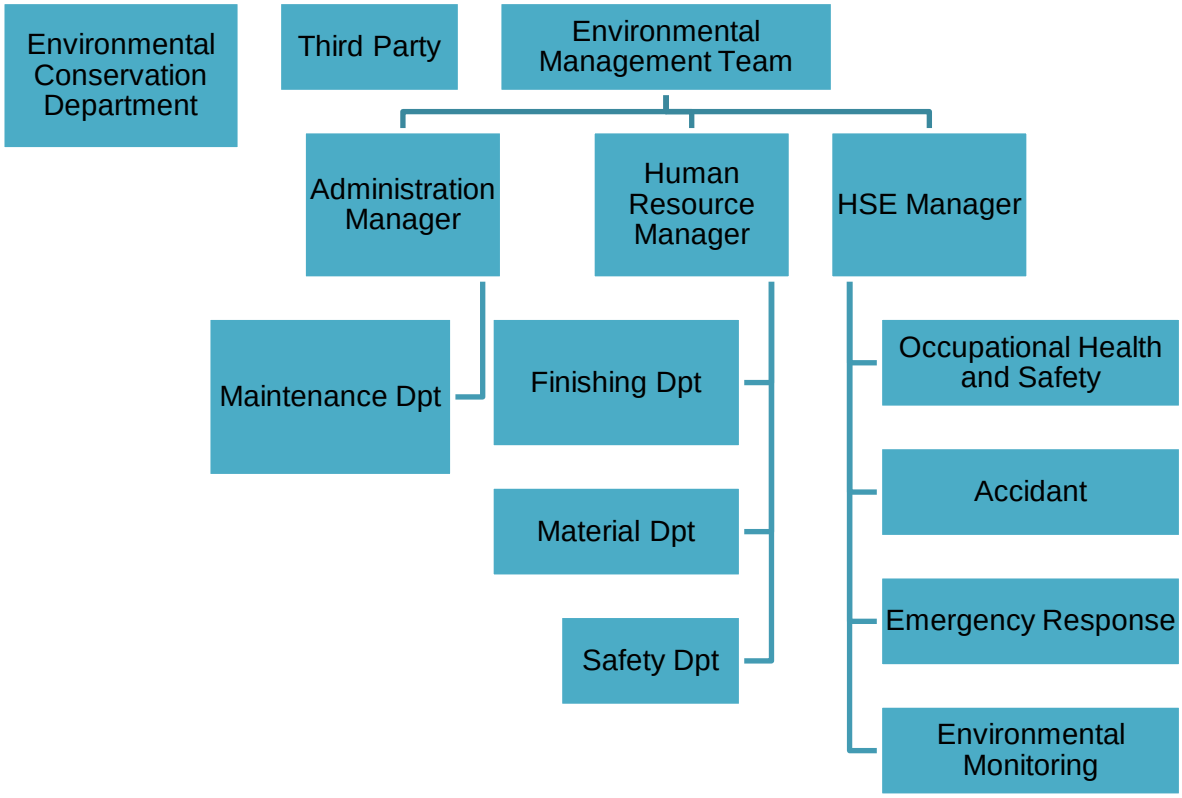


Figure 1-2 Organization Structure of Environmental Management Plan

Table 1-1 Responsibilities of HSE Members

Roles	Responsibilities
General Manager	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: • Establishing overall environmental direction and policy • Ensuring the implementation of the EMP • Ensuring investigation of all environmental incidents are reviewed and that reports are submitted on time • Ensuring an effective system of internal and external communication is in place • Providing advice regarding the environmental program
Operation Manager	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: • Adherence to the overall environmental direction and policy • Ensuring the implementation of the recommended actions in the investigation of all environmental incidents • Managing resources for operation wastes

Roles	Responsibilities
HR Manager	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: • Assisting the management in publicising and implementing corporate and local policies, objectives and programs • Maintaining key environmental-related documents and information • Communicating/ liaising with the local authorities on environmental issues
HSE Officer	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: • Coordinating the implementation of environmental programs, including monitoring of the project site environmental performance • Performing periodic internal environmental audits and inspections to ensure compliance with the legal environmental requirements • 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 Manager to undertake mitigation measures to avoid or minimize any adverse impacts on environment or report required changes to the EMP.

1.3. PROJECT BACKGROUND

The project is new investment for manufacturing of garment on Cutting, Making and Packaging (CMP) basic company from Korea. The Myanmar Investment Commission (MIC) issues the project on 28 November 1997 with the Permit No. (296/97). MIC 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, Sewing and Packaging (CMP) basis.

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), they said project requires an Environmental Management Plan (EMP) to meet the environmental assessment requirements of Notification No. YaKa/EIA/2(5) (3270/2020) on 13 October 2020. Therefore, Yangon Pan-Pacific International Co., Ltd commissioned Myanwei Environmental Solutions Co., Ltd. (Myanwei) for EMP report study.

This EMP report is prepared based on the impact identified in EIA procedure (2015). The EMP is prepared provide additional guidance on the means, methods and mechanisms by which such mitigation measures will be implemented. The EMP is one of the most important outputs of the environmental assessment process. The EMP is the synthesis of all proposed mitigate and monitoring actions, set to a timeline with specific responsibility assigned and follows up actions defined. The EMP

can be prepared at different times of the project life. Operation environmental management plan is developed to ensure that appropriate environmental practices are followed during a project's operation and decommissioning phases. As the factory is already built operation environmental management plan is designed for this factory.

1.4. PROJECT PROPONENT PROFILE

This is the information of the project proponent from the registration of MIC which is described in below Table 1-2. The estimated authorized capital investment is about US $ 11.238 million. Organization chart of Yangon Pan-Pacific International Co., Ltd is presented in Figure 1-3.

Table 1-2 Salient features of the project

Type of Proposed Business	Manufacturing of Garment
Type of investment	100% foreign investment
Type of Share	Ordinary Share
Type of land	Industrial Land
Total land area	3.99 acres
Total building area	One factory building (14040 sq-m)
Land lease year	30 years
Construction period	1 year
Operation starting date	30 years investment permit
Address	Plot No. B-4, Myay Taing Block No. (175), Kyi Su Industrial Zone, Dagon Myothit (Seikkan) Township, Yangon Region.
Contact person	Mr.Moon Young Sung General Director 09978354116 moonys@panpacific.co.kr

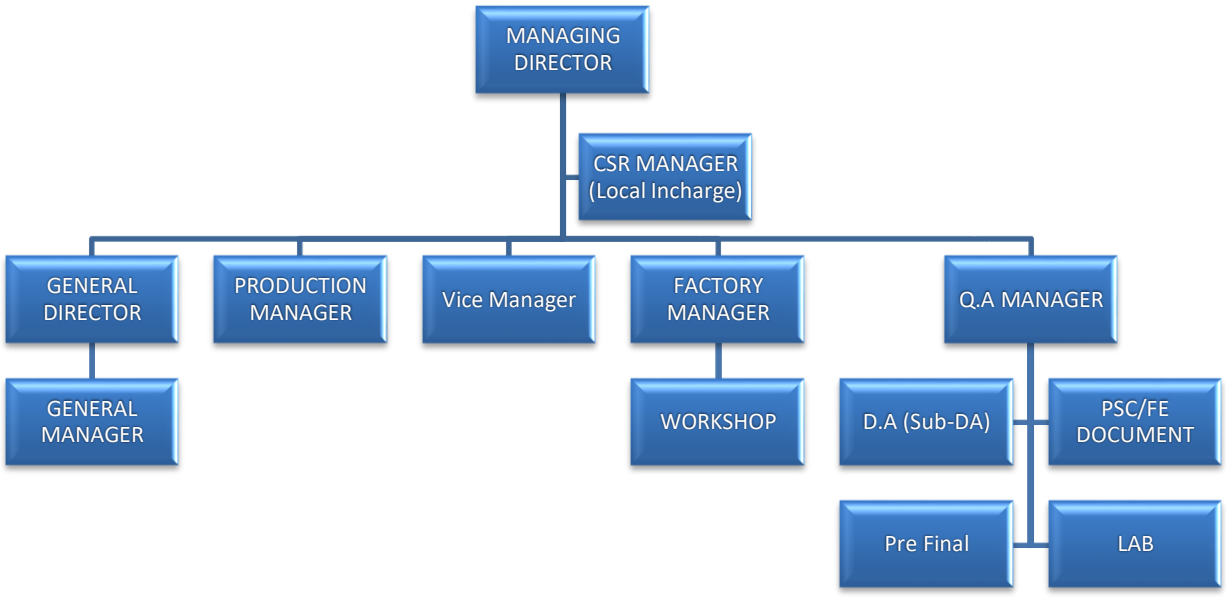


Figure 1-3 Organization Chart of Yangon Pan-Pacific International Co., Ltd

1.5. ENVIRONMENTAL CONSULTANT PROFILE

MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED prepares 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 also 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.

Myanwei Environmental Solutions Company Limited	No. 36-38, 9th floors (A), Grand Myay Nu Condo, Myay Nu Street, Sanchaung Township, and Yangon, Myanmar.	01-501221 env@myanweiconsulting.com www.myanwweiconsulting.com.

Table 1-3 Member of EMP Study Team

Name	Qualification	Responsibility
MYANWEI ENVIRONMENTAL SOLUTIONS Limited	**Transition Consultant Registration Certificate No. 0069**	**EIA Organisation**
Mr. Lin Htet Sein	MSc (Regional Geology) BSc (Hons) Geology Dip in Environmental Science Certificate in Environmental & Social Assessment **TCR No. 0048**	Project Director, Environmental consultant, project management
Dr. Hein Lynn Aung	M.B, B.S (Yangon), Business Management (International Collage of Management Sydney, Australia)	Project Director, Public health consultant, project management
Ms. Wah Wah Zaw	B.E Material and Metallurgy Engineering Diploma in Environmental Planning and Management M.Sc Environmental Planning and Management	Senior Environmental Consultant, Social and Environmental Research, Quality control, Environmental planning and Management
Ms. Khin Thu Zar Myint	B.E Materials and Metallurgy Engineering Diploma in Environmental Planning and Management	Senior Environmental Consultant, Social Research, Public consultation, social economic investigation
Ms. Su Myat Hlaing	B.E. Civil Engineering B. Tech Civil Engineering	Environmental Engineer
Mr. Kyaw Win Han	B.E. Chemical Engineering B. Tech Chemical Engineering	Junior Environmental Consultant, Team leader of baseline survey, monitoring measure

Name	Qualification	Responsibility
Mr. Aung Kyaw Moe	B.E. Chemical Engineering B. Tech Chemical Engineering	Junior Environmental Consultant, monitoring measure, document administration
Mr. Saw Yan Naung	B.E. Chemical Engineering B. Tech Chemical Engineering	Junior Environmental Consultant, monitoring measure, document administration
Mr. Myat Ko Ko	B.Sc (Hons) Geology M.Sc. Geology (Economic and Mining) Certificate of Environment Management	Junior Environmental Consultant, monitoring measure, document administration
Mr. Htoo Nanda Aung	B.Sc (Forestry)	Junior Environmental Consultant, monitoring measure, document administration
Mr. Si Yan Hein	B.Sc (Geology)	Junior Environmental Consultant, monitoring measure, document administration
Mr. Kaung Sett Lwin	B.Sc (Hons) Geology	Junior Environmental Consultant, monitoring measure, document administration

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 FRAMWORK

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 (MOECAF) 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

Law and Regulation	Description
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.
Constitution 2008	
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.
Environmental Conservation Law, 30 March 2012	
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 conservation.
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; (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	(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; (b) To prescribe categories of hazardous substances that may affect significantly at present or in the long run on the environment; (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; (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; (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; (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.
Chapter VI Environmental Quality Standards: Section10	The Ministry may, with the approval of the Union Government and the Committee, stipulate the following environmental quality standards: (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; (b) water quality standards for coastal and estuarine areas; (c) underground water quality standards; (d) atmospheric quality standards; (e) noise and vibration standards; (f) emissions standards; (g) effluent standards; (h) solid wastes standards; (i) other environmental quality standards stipulated by the Union Government.
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	A person or organization operating business in the industrial estate or business in the SEZ or category of business stipulated by the Ministry: (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; (b) shall contribute the stipulated users 'charge s or management fees for the environmental conservation according to the relevant industrial estate, SEZ and business organization; (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.
Environmental Conservation Rules, 2014	
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 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.
Environmental Impact Assessment Procedure (December 2015)	
Objectives	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. 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 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. The project proponent has to be liable and fully & effectively implement all requirements included in ECC, relevant laws and rules, this procedure and standards under rule 104. 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. 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 & rules and this procedure, under paragraph 106. 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. 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. The project proponent has to prepare the monitoring report in accord with the rule 109. 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. 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. 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. The project proponent has to allow inspector to inspect the contractor and sub-contractor who implement on behalf of project, under paragraph 117.
Screening: Section 23	a) The project proponent shall submit the Project Proposal to the Ministry for Screening. b) The Ministry will send the Project Proposal to the Environmental Conservation Department to determine the need for environmental assessment. 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: i) An EIA Type Project, or ii) An IEE Type Project, or iii) A Non IEE or EIA Type, and therefore not required to
National Environmental Quality (Emission) Guidelines (NEQG) (December 2015)	
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.
National Environmental Policy of Myanmar (2019)	
National Environmental Policy Vision & mission	Vision A clean environment, with healthy and functioning ecosystem, that ensures includes development and wellbeing for all people in Myanmar. Mission To establish national environmental policy principle for guiding environmental protection and sustainable development and for mainstreaming environmental consideration into all polices, laws, regulation, plans, strategic, programmes and projects in Myanmar.
Foreign Investment Law, 2012	
Section 8	(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. (b) Development of employment activities (l) Protection and conservation of the environment.

	(q) Appearing the required modern services for the Union and citizens.
Section 17	(a) To abide by the existing laws of the Republic of the Union of Myanmar. (b) To carry out the business by forming a company under the existing laws of Myanmar by the investor. (h) To carry out not to cause environmental pollution or damage in accord with existing laws in respect of investment business. (k) To carry out the systematic transfer of high technology relating to the business which are carried out by the investor to the relevant Basis, departments or organizations in accord with the contract.
Foreign Investment Rule, 2013	
Rule 54	The promoter or investor shall: (a) comply with Environmental Protection Law in dealing with environmental protection matters related to the business; (b) shall carry out socially responsible investment in the interest of the Union and its people; (c) shall co-operate with authorities for occasional or mandatory inspection; (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; (e) shall enforce Safety and Health
Myanmar Investment Rules, 2017	
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
Myanmar Insurance Law (1993)	
Section 15	If the project proponent uses the owned vehicles the project owner has to ensure the insurance for the injured person.
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.
Payment of Wages Law (2016)	
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
Yangon City Development Committee Law (2018)	

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
The Amended Law for Factories Act, 1951 (2016)	
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.
The Private Industrial Enterprise Law, 1990	
Basic Principles: Section 3	Private Industrial Basis shall be conducted in accordance with the following basic principles: - (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 Basis which are related to the industrial enterprise; (b) to acquire modern technical know-how for raising the efficiency of industrial Basis 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; (d) to cause narrowing down of the gap between rural development and urban development by causing the development and improvement of industrial Basis; (e) to cause opening up of more employment opportunities; (f) to cause avoidance of or reduction of the use of technical know-how which cause environmental pollution; (g) to cause the use of energy in the most economical manner.
The Export and Import Law (2012)	
Objectives	The objectives of this law are as follows: a) To enable to implement the economic principles of the State successfully. b) To enable to lay down the policies relating to export and import that supports the development of the State. 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. d) To cause to be streamlined and speedy in carrying out the matters relating to export and import.
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.
The Prevention of Hazard from Chemical and Related Substances Law, 2013	
This law was enacted with the objectives of:	

a. To protect from being damaged the natural environment resources and being hazardous any living beings by chemical and related substances;

b. To supervise systematically in performing the chemical and related substances business with permission for being safety;

c. To perform the system of obtaining information and to perform widely educative and research for using the chemical and related substance systematically;

d. To perform the sustainable development for the occupational safety, health and environmental conservation.

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.

Underground Water Act

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.

Myanmar Fire Brigade Law (2015)

The Pyidaungsu Hluttaw enacted this law by Law No.11/2015 on the date of 17th March, 2015 with the following objectives:

(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

(b) to organize fire brigade systemically and to train the fire brigade

(c) to prevent from fire and to conduct release work when fire disaster, natural disaster, epidemic disease or any kind of certain danger occurs

(d) to educate, organize and inside extensively so as to achieve public corporation

(e) to participate if in need for national security, peace for the citizens and law and order

Section-8 Fire Safety Procedures

Rule17	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: a. Constructing three-storied and above buildings market and condominium buildings, 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

The Electricity Law (2014)

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.	
Boiler Law (2015)	
Chapter (2) Objective	The objectives of this law are as follows: (a) To obtain boilers in compliance with Myanmar Standards or International Standards (b) To prevent the country and citizens from hazards caused by boiler accidents (c) To use boilers in compliance with Myanmar Standards or International Standards within the country (d) To develop boiler technology and to produce experts capable of manufacturing, handling, repair, and maintenance of boilers (e) To optimize the use of boilers through effective utilization of fuel energy (f) To reduce the environmental, social and health impacts through long-lasting use of boilers.
Chapter (3) 4. With the permission of the Ministry, the inspector general can:	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 Only the results obtained from the prescribed boiler standards and inspection methods will be approved.
Chapter (4). Boiler Registration	5. Anybody who would like to use a boiler in any kind of business should be registered. 6. Boiler should be manufactured according to Myanmar Standards or International Standards. 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 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. 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. 10. The Inspector General shall define boiler size according to heated surface area in accordance with adopted procedures.
Chapter (13) Prohibitions	59. According to Section 21, nobody must alter, change, deface, deform or make embossed registration unnoticeable illegitimately. 60. Nobody is allowed to repair a boiler without boiler repair certificate. 61. Nobody is allowed to maintain a boiler without boiler maintenance certificate. 62. Nobody must alter safety relief valve in order to exceed the allowable pressure due to his consent or direction given by the owner. 63. Nobody must manufacture boilers against Section 25, Subsection 25 (a) and (b) enacted.
Labor Dispute Settlement Law (28 Mar 2012 replacing 1929 version)	
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.	

The Social Security Law (2012)	
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;
Labor Dispute Settlement Law (28 Mar 2012 replacing 1929 version)	
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.
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 f 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.
The employment and skill development (2013)	
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.
The Worker's Compensation Act, 1923	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.
The Payment of Wages Act, 1936	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.
The Leave and Holidays Act (1951, partially revised in 2014)	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.
The Minimum Wage Law (2013)	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.
Public Health Law (1972)	**Chapter 2; Prevention of Public Health**
Objectives	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 The project owner has to cooperate with the authorized person or organization in line with the section 3 and 5 of said law. The project proponent has to abide by any instruction or stipulation for public health under the section 3 of said law. The project proponent has to allow any inspection, anytime, anywhere if it is needed under the section 5 of said law.
Prevention and Control of Communicable Disease Law 1995 (Amendment in 2011)	
Chapter 2 Prevention	4. When a Principal Epidemic Disease of a Notifiable Disease occurs; Immunization and other necessary measures shall be undertaken by the Department of Health, in order to control the spread there of; The public shall abide by measures undertaken by the Department of Health under sub-section (a).
Chapter 4 Environmental Sanitation	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; - Indoor, outdoor sanitation or inside the fence outside the fence sanitation; Well, ponds and drainage sanitation; Proper disposal refuse and destruction there of by fire; Construction and use of sanitary latrines; Other necessary environmental sanitation measures.
Occupational Safety and Health Law (2019)	
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.
The law on Standardization	
Objectives	The Objectives of this Law are as follows: to enable to determine Myanmar Standard to enable to support export promotion by enhancing quality of production organizations and their product, production processes and services to enable to protect the consumers and user by guaranteeing imports and products are not lower than prescribed standard, and safe from health hazards to enable to support protection of environment related to products, production process and services from impact, and conservation of natural resources 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 to support on establishing the ASEAN Free Trade Area and to enable to reduce technical barriers to trade 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.
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
လုပ္ငန္းခြင္ဆိုင္ရာေပါက္ကြဲေစတက္ေသာဥတၱဳစည္းမ်ားဆိုင္ရာဥပေဒ (၂၀၁၈)	
ရည္ရြယ္ခ်က္	လုပ္ငန္းခြင္ဆိုင္ရာေပါက္ကြဲေစတက္ေသာ ဥတၱဳစည္းမ်ားကို စနစ္တက်ျပဳလုပ္ျခင္း၊ တင္သြင္းျခင္း၊ သယ္ယူျခင္း၊ သိုေလွာင္ျခင္းႏွင့္ သံုးစြဲျခင္းတို႔ျပဳိင္ရန္၊ ယမ္းဘီလူးႏွင့္ ဆက္စပ္သံုးပစၥည္းမ်ား အသံုးျပဳသည့္ လုပ္ငန္းခြင္ေဘးအႏၱရာယ္ ကင္းရွင္းေစ၍ လံုျခံဳမႈရွိေစရန္၊ လုပ္ငန္းခြင္ဆိုင္ရာ ေပါက္ကြဲေစတက္ေသာ ဥတၱဳစည္းမ်ား ျပဳလုပ္သံုးစြဲမႈမ်ားကို စနစ္တက် ၾကီးၾကပ္ႏိုင္ရန္။
အခန္း ၇ တားျမစ္ခ်က္မ်ား	လိုင္စင္ရွိသူႏွင့္ ခြင့္ျပဳခ်က္ရွိသူ မည္သူမွ် စစ္ေဆးေရးအရာရွိခ်ဳပ္ သို႔မဟုတ္ စစ္ေဆးေရးအရာရွိ၏ စစ္ေဆးျခင္းကို ခံယူရန္ ျငင္းပယ္ျခင္းမျပဳရ။

အမွတ် ၁၈	
အမွတ် ၁၉ (ခ)	ပုဒ္မ ၈ အရ ကာကြယ်ရေးဌာနေကာင်စီ အမှုေဆာင်အဖွဲ့၏ အတည်ျပဳခ်က်မရရိွဘဲ လုပ္ငန်းခြင့် ေပါက်ကြဲေစတက်ေသာ ဝတ်ထုစသည်းမ်ားကို ဖ်က်ဆီးျခင်းမျပဳရ။
အမွတ် ၁၉ (ဂ)	ဤဥပေဒအရ ထုတ်ျပန်သည့် နည်းဥပေဒ၊ စည်းမ်ဥ်း၊ စည်းကမ်း၊ အမိန့်ေၾကာ်ျငာစာ၊ အမိန့်ႏွင့် ညႊန်ၾကားခ်က်မ်ားႏွင့်အညီ ေဆာင်ရြက်ရန် ပ်က်ကြ်ျခင်း မရိွေစရ။
The Motor Vehicles Law (2015)	
Objectives	When the constructions periods and if it is needed in operation and production period for all vehicles • 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.
The Conservation of Water Resources and Rivers Law (2006)	
Aims	The aims of this Law are as follows: to conserve and protect the water resources and rivers system for beneficial utilization by the public; to smooth and safety waterways navigation along rivers and creeks; to contribute to the development of State economy through improving water resources and river system; to protect environmental impact.
Chapter 5 Prohibitions No. 8	No person shall: (a) Carry out any act or channel shifting with the aim to ruin the water resources and rivers and creeks. (b) Cause the wastage of water resources wilfully.
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 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.
The Commercial Tax Law (1990) Amended 2014	
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 intimidation 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	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-

Return 12 (a)	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. INTERNATIONAL GUIDELINES

Organization's Guidelines, World Bank Safeguard Policies, IFC Performance Standards and National Environmental Quality (Emission) Guidelines (2015) are referred for EMP of the proposed factory project.

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

2.3.1. General Guidelines

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

2.3.1.1. 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 Guidelines1 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 Europe2 for air pollutants not included in the following Table 2-2.

Table 2-2 WHO's Air Quality Guideline

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

[a] Particulate matter 10 micrometers or less in diameter

[b] Particulate matter 2.5 micrometers or less in diameter

2.3.1.2. 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.

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)[1]

Parameter	Unit	Guideline Values
5-day Biochemical oxygen demand	mg/l	50

[1] 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.

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.[a]	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[b]
Total coliform bacteria	100 ml	400
Total phosphorus	mg/l	2
Total suspended solids	mg/l	50
Zinc	mg/l	2

a Standard Unit

b At the edge of a scientifically established mixing zone which takes into account ambient water quality, receiving water use, potential receptors and assimilative capacity; when the zone is not defined, use 100 meters from the point of discharge

2.3.1.3. 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)[a]

	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

[a] Equivalent continuous sound level in decibels

2.3.2. 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.

2.3.2.1. 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[a], 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[b]
pH	S.U. [c]	6-9
Phenol	mg/l	0.5
Sulfide	mg/l	1
Temperature increase	°C	<3 [d]
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

2.3.2.2. Air emission levels

Parameter	**Unit**	**Guideline Value**
Ammonia	mg/Nm^{3a}	30
Carbon disulfide	mg/Nm^3	150
Chlorine	mg/Nm^3	5
Formaldehyde	mg/Nm^3	20
Hydrogen sulfide	mg/Nm^3	5
Particulates	mg/Nm^3	50^b
Volatile organic compounds	mg/Nm^3	2/20/50/75/100/1 150 [c, d]

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^3 for volatile organic compounds classified as carcinogenic or mutagenic with mass flow greater than or equal to 10 g/hr; 20 mg/Nm^3 for discharges of halogenated volatile organic compounds with a mass flow equal or greater than 100 g/hr; 50 mg/ Nm^3 for waste gases from drying of large installations (solvent consumption > 15 tons/year); 75 mg/Nm^3 for coating application processes for large installations (solvent consumption > 15 tons/year); 100 mg/Nm^3 for small installations (solvent consumption < 15 tons/year); if solvent is recovered from emissions and reused, the guideline value is 150 mg/Nm^3

2.3.3. **IFC EHS Guidelines**

The EHS Guidelines[1] 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 2-5shows the contents of the section of Community Health and Safety.

Table 2-5 Community health and safety contents

Contents	**Brief Description**
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	Reduction of potential hazards is best accomplished during the design phase when the

Contents	Brief Description
of Project Infrastructure	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)

2.4. COMMITMENT OF YANGON PAN-PACIFIC INTERNATIONAL CO., LTD.

Yangon Pan-Pacific International Co.,Ltd 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. Yangon Pan-Pacific International Co.,Ltd 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 services

- To carry out fire safety assessment and ensure adequate and appropriate fire safety measures for employees

3. PROJECT DESCRIPTION

3.1. LOCATION

Yangon Pan-Pacific International Co., Ltd's factory is located at Plot No. B-4, Myay Taing Block No. (175), Kyi Su Industrial Zone, Dagon Myothit (Seikkan) Township, Yangon Region. The location point of proposed project is between Latitude 16° 52' 26.37"N and Longitude 96° 16' 35.30"E. Location map is shown in Figure 3-1.

3.1.1. Project implementation

The operation period started in December 2019. The designed area includes production building (one story), utilities of transformer room, boiler room, guardhouse and general utility room, firefighting pump room and water tank, car parking shelter, offices and canteen facilities etc. Number of people 1214 employees working at Yangon Pan-Pacific International Co., Ltd's factory. Most are local people, who manage the company by their dynamic, enthusiastic, experienced, and cooperative skills. The estimated production rate per year may be round about 1,620,000 pieces.

Decommissioning phase; the proposed project investment duration is 30 years and they will close and return to land owner.

3.1.2. Adjacent condition of project site

Yomayeiktha Street was situated at the north of the factory and Min Ye Kaung Pan Road was situated at the west of factory compound. Ming Fai Webbing (Myanmar) Company Limited is the one that adjacent factory of the project site and located at southeast of the factory. Kyi Zu Cemetery is also located at the east of the project site. The proposed project site is about 2.67 km far from Bago river. List and map of adjacent condition of project site is shown in Figure 3-2.

3.1.3. Site Description

The total area of the project site is 3.99 acres (14040 sq-m). The project has only one main building. The project layout plan can be seen in Figure 3-4. Main structure was designed into office, warehouse, canteen, cutting line, sewing line, packing area, final inspection room and clinic room. Other facilities were composed of nearby main building included generator room, air compressor room, fuel storage room, transformer room and garbage room.

Figure 3-1 Location map of Yangon Pan-Pacific International Co., Ltd

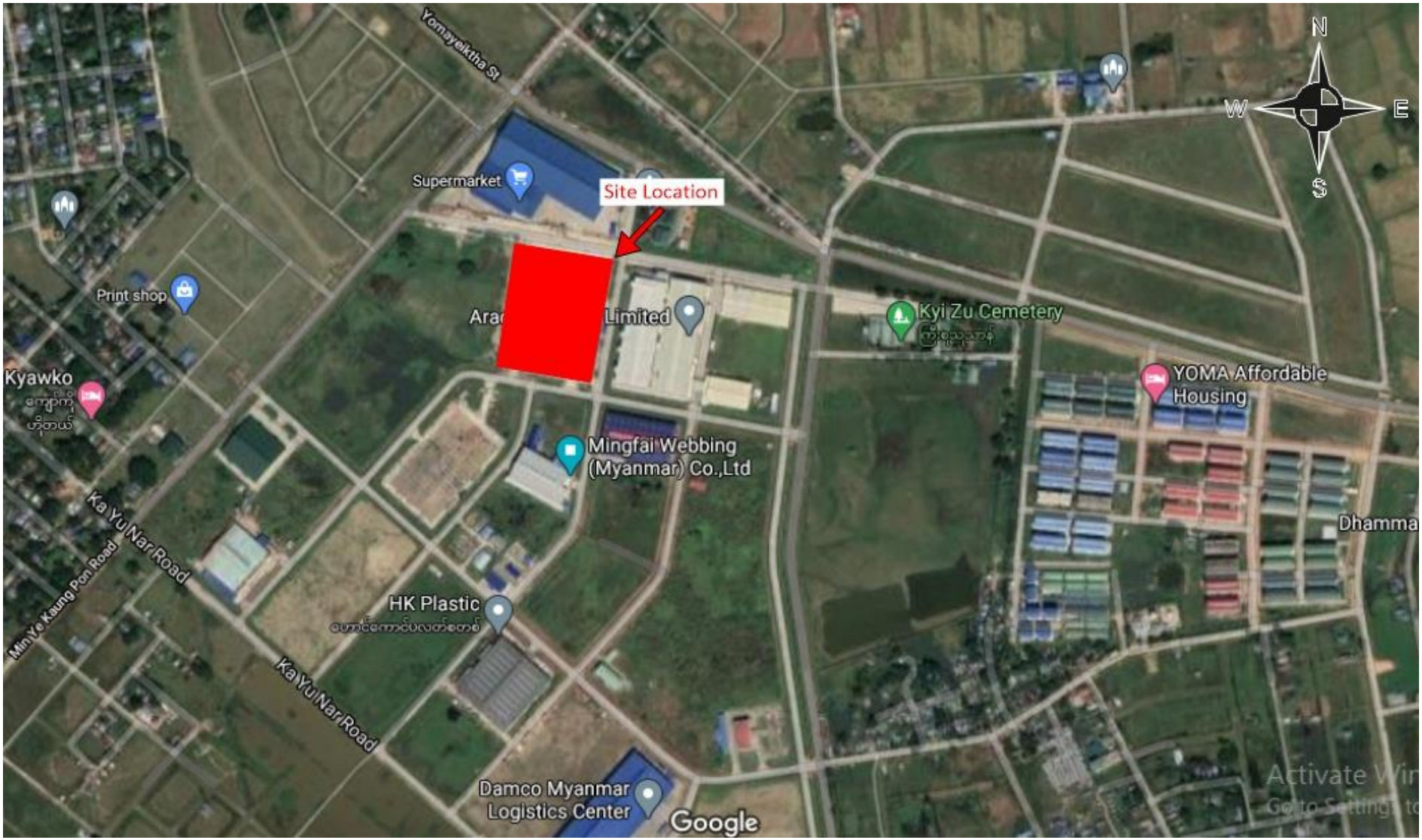


Figure 3-2 Adjacent condition map of Yangon Pan-Pacific International Co., Ltd

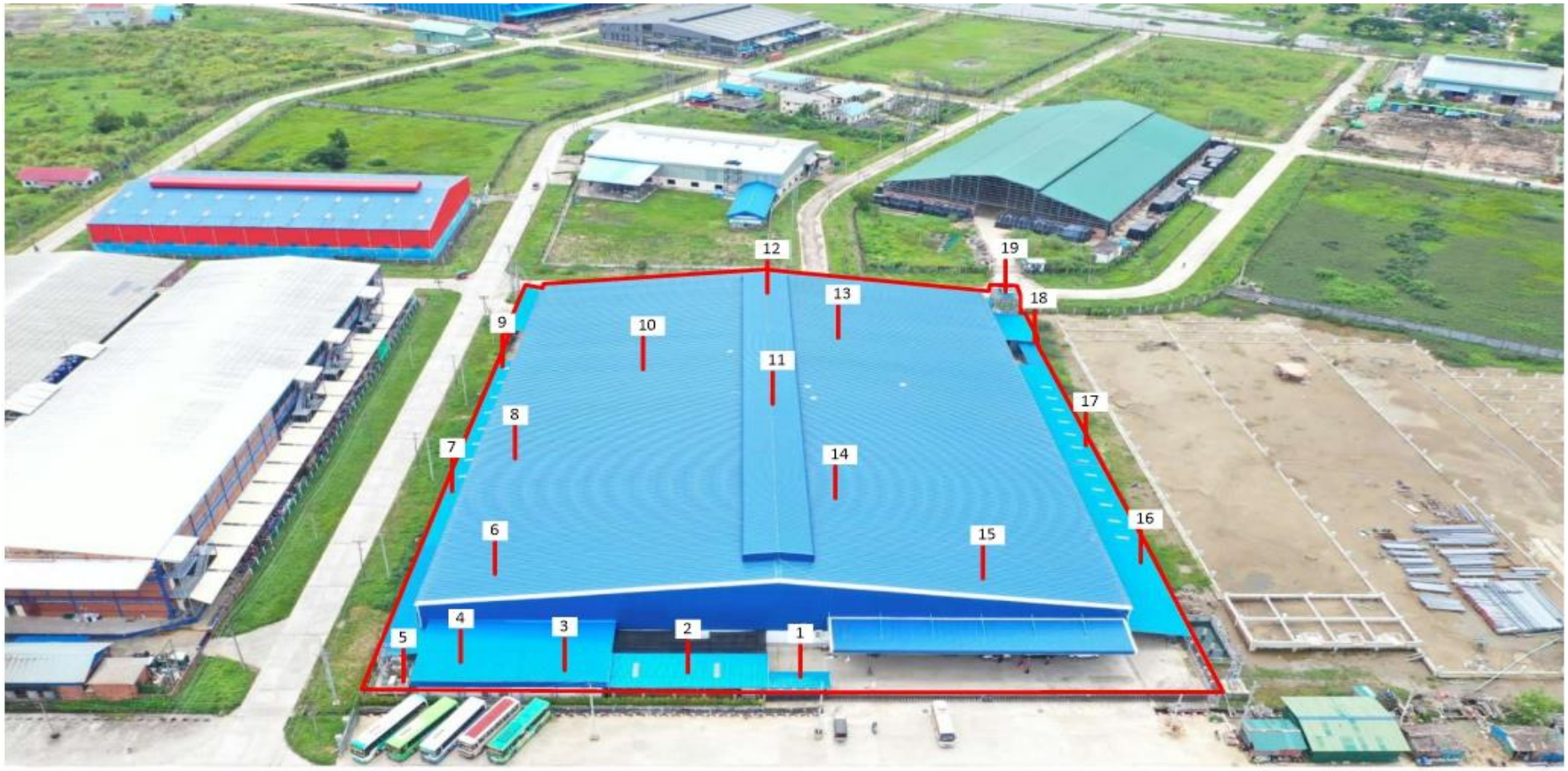


Figure 3-3 Factory Aerial Photo

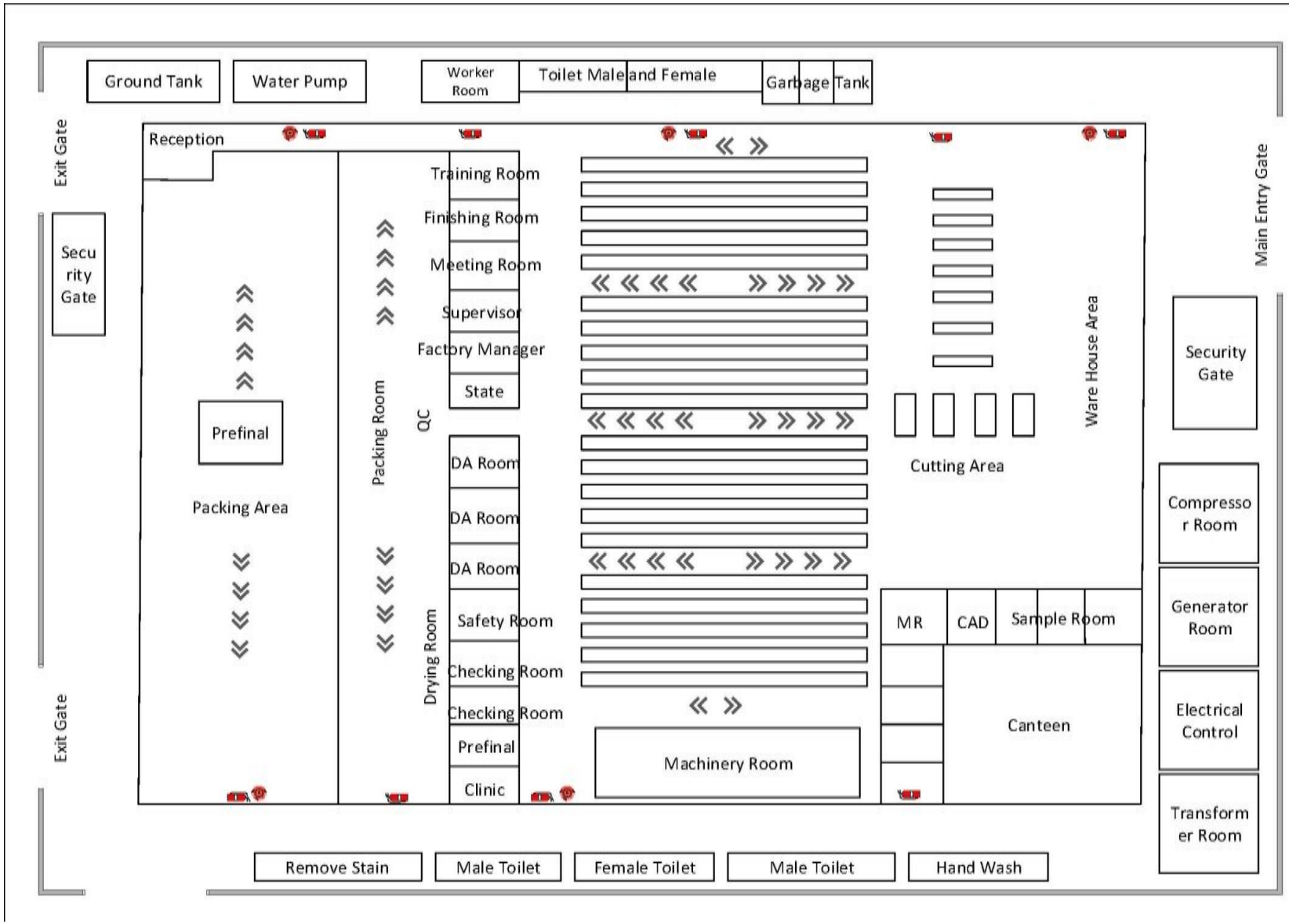


Figure 3-4 Factory Layout plan

3.2. PRODUCTION PROCESS

Cutting-Making-Packaging (CMP) is a production system in which raw materials including fixtures and chemicals are imported and then processed into finished product, packaged and exported. The CMP system is a form of production on consignment in which the main raw materials (fabrics, thread, zipper, 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 operation of garment factories with CMP system includes production costs covering wages, electricity and diesel, transportation, communication, factory and office rental, maintenance and repair of sewing machines, and administrative expenses. Steps of production process of proposed garment factory are described in below in Figure 3-5.

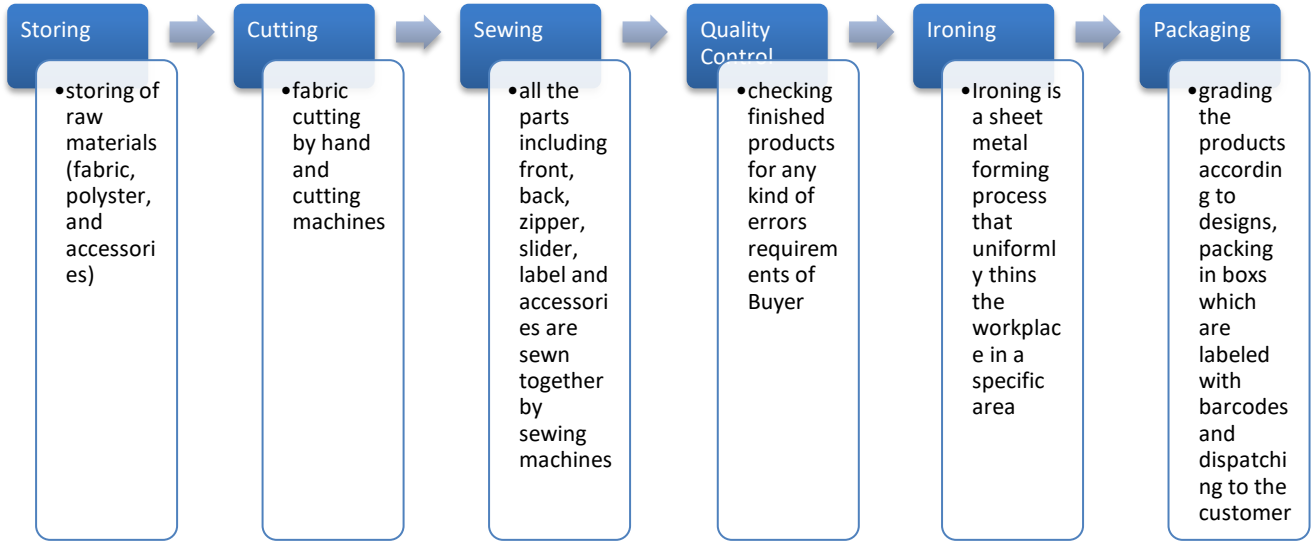


Figure 3-5 Process flow diagram

3.2.1. Description of Production Process

The first stage in the manufacturing of garment is the cutting and for that pattern, making is the base. Once the marker is made, pattern pieces must be cut out of the specified fabric.

The process of sewing involves fastening of fabrics, leather, button or similar other flexible materials with the help of needle and threads. Stitching is the process of passing threaded needle in and out of a material to make a specific design pattern.

Quality Control (QC) checks for any error. Quality control was done by manually.

After completion of QC Process, Ironing is a sheet metal forming process that uniformly thins the workplace in a specific area.

The QC passed units are sent to packing as a final production process. This step sends packed units for distribution to the customers. These packed units are sent to the countries per customer's specification. Packing process was done manually by manpower.

Warehouse

Cutting Section

Sewing Section

Quality Control Section

Ironing Section

Packaging Section

Figure 3-6 Production process photo

3.2.2. Products

The products of the factory are various kinds of jackets, pants and vest. Annual production rate is presented in Table 3-1.

Table 3-1 Annual production rate

No.	Particular	Unit	Year 1	Year 2	Year 3 and thereafter
I	**Production**	**(Pcs)**	**141,732**	**575,348**	**404,631**
1	Jackets	Pcs	22,266	73,063	66,074
2	Pants	Pcs	119,466	74,597	111,887
3	Vest	Pcs	-	427,688	453,340

Final Products

Figure 3-7 Final Product Storage

3.3. UTILITIES

3.3.1. Raw Material

Raw Materials, which include fabric, threads, zipper and buttons, are imported from Korea and carried to the Yangon Pan-Pacific International Co., Ltd by the containers. After quantity verification, these raw materials are stored properly in specified area as per their varieties i.e. fabric and thread are stored on the shelves; zipper, button and accessories are stored in open cabinets with labels. Annual raw material requires for production process are provided in Table 3-2.

Table 3-2 List of Raw Material Requirements

No.	Particular	Unit	Yard	Weight (Kg)
1	Fabric	PCS	1,586,864	366,030
2	E band/ E string	PCS	1,453,857	-
3	Duck down	PCS	-	2,425

No.	Particular	Unit	Yard	Weight (Kg)
4	Button	PCS	232,442	5,882
5	Hang Tag/Label	PCS	2,479,266	-
6	Interlining	PCS	53,982	2,543
7	Padding	PCS	-	15,213
8	Tape	PCS	108,980	-
9	Zipper	PCS	1,627,395	47,651
10	Thread	PCS	80,157	2,000

Figure 3-8 Raw Materials Photo

3.3.2. Machinery and equipment

Lists of machinery and equipment required for the Yangon Pan-Pacific International Co., Ltd's factory is listed in Table 3-3.

Table 3-3 List of machinery of Yangon Pan-Pacific International Co., Ltd's factory

Operation Stage	Description	Model	Unit	Quantity
Preparation Stage	Rotray Fuzing Press Dongyang DY-6000(S korea)	DY6000	set	1
	Air compressor	NH-10HO7.5	set	2
	Electronic Bartacking m/c Unicon USA H900(S/korea)	USAH900	set	4
	Snap Machine (15) set from Y&P	ZJ-DZ092	set	15
	Small Boiler Machine 1 set for Sample room	ZJEB-04-1D	set	1
Cutting Stage	Cutting Table		set	20
	Pattern Former (INDUSTRIAL SEWING MACHINE)	CS-1913P	set	1

Operation Stage	Description	Model	Unit	Quantity
	Thread cutter machine 2 pcs chg:	T22-1	set	2
	Thread cutter machine 10 pcs chg:	BELLA-T20-1	set	10
Sewing Stage	1 Needle Lockstich Automatic thread triming JUKI DD 8700-7 Japan	LS2H5150S	set	57
	1 Needle Lockstich LIFT FEED auto matic thread triming JUKI DDL 5490-7 JAPAN	DLU5490-6	set	3
	1 Needle Lockstich Needle feed m/c Unicon LS2H5 300UK S/korea	LS2-H5300	set	17
	1 Needle Lockstich Eage cutter m/c Unicon LS-H 5300UK S/Korea	LS2-H5200	set	16
	2 Needle Thread Chainstitch Safety M/C Unicon EL 73745(China)	EL7005T	set	16
	Cylinder ned 1 needle lock stitch	H580XHB	set	3
	1 Needle 3 Thread Chanin Overlock m/c Unicon EL 7514 (China)	EL70004D	set	13
	Flat bed 4 needle Chain Stitcher (ELEC: LOCK STITCH BUTTON SEWING)	UASH908	set	1
	Button Sewing M/C JUKI MB 1373(Japan)	MB373	set	4
	1 Needle Zigzag M/C Unicon 8560 A (S/Korea)	z8560A431	set	1
	2 Needl 5 thread stitchsewer	M852-528-2X4	set	4
	Direct Drive Twin Needle feed split needle bar lock stitch sewing machine with thread trimmer	Unicorn-LT2-H6250MD	set	15
	Single needle sews thread trimmer	DDL-8100B-7	set	29
	Direct-drive 1needle lockstitch machine with automatic thread trimmer	DDL8100BM-7WBK 200-240V	set	115
	2 Needl 5 thread stitchsewer	PEGASUS M-832-38-3*4	set	15
	single needle sewing thread trimmer	DDL-8100B-7	set	11
	single needle FEED LOCL STITCH WITH SIDE CUTTER	LS2H550	set	9

Operation Stage	Description	Model	Unit	Quantity
	Twin needle feed lockstitch thread trimmer	LT2-H-6200D/ LT2-H6250MD	set	35
	Electronic Lock Sitich Bartack tracker	LK1900BSS/MC-670K	set	7
	3NEEDLE 6THREAD sewing machine		set	15
Ironing Stage	Electric Iron Silver		set	30
	Iron Vacuum Table GAGAM (China)		set	20
	IRON		set	11
	Iron 11 pcs for Sample room	Masuta (2), Panasonic (5), Nakita (3), E2(1)	set	11
	Electric Steam Boiler	NH1-1619	set	36
			set	
Finishing and Inspection	SEAMSEALING MACHINE	HTM 5588	set	7
	Welding and cooling machine	HTM 2190L HAM 708	set	1
	Fabric Inspection Machine (1) pcs from Y&P	ZOJE-2017-9	set	1
	SAGA Label Machine 2 set for Finishing	SPA-80(SAGA)	set	2
	Dehumidifier (Dry Machine)	KD-480 -KASAMI	set	2
	Auto Tempalate machine	UAS-H-700D	set	10
	Fabric Inspection Machine 1set chg:	SL-1800SR (83")	set	1
	Sealing Machine Complete set 1set chg:	SL-1320	set	1
	Laser cutting Machine complete set 1 set chg:	HTM-360	set	1

3.3.3. Human Resource

The operation time is 8 AM- 5 PM and the run 225 days per year. Human resource required by foreign experts/technicians and local persons for administrative and production process are about 1214 persons which are also described in Table 3-4.

Table 3-4 Annual human resource requirement

No	Position	Local Person	Foreign Technicians
1	Chief Supervisor	4	
2	Sewing Manager	2	
3	Sewing Operator	790	
4	Finishing Worker	80	
5	Cutting Worker	78	
6	Quality Control	152	

No	Position	Local Person	Foreign Technicians
7	Miniline Trainer	33	
8	Material Group	14	
9	Mechanic Group	34	
10	LOB Group	5	
11	Production office	4	
12	Clinic	1	
13	Cleaner	9	
14	Security	3	
15	Managing Director		1
16	General Director		1
17	Production Director		1
18	Factory Manager		1
19	Mechanic Manager		1
	Total	**1209**	**5**

3.3.4. **Water requirement**

Dagon Myothit (Seikkan) 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 groundwater tank and overhead tank for the factory 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. Main source of water supply will be provided by tube well water (ground water 480ft deep) in which tube well water is pumped by 2 inches PVC pipe and treated by oxidation tower, chlorine dosing system, de-iron filter (FRP), carbon filter, and cartridge filter. The water will be reserved in an underground tank (48,870 gallons) for toilet and firefighting and an overhead tank (1,500 gallons) with filters. Daily drinking water requirement of propose project is about 3,400 per day. Annual water consumption for the whole factory is about 180,000 gallons per year. The tube well water is treated by sedimentation tank, filers in overhead tank and lastly water treatment system including sand filter, carbon filter, water softener and reverse osmosis (RO) system before distribution through the pipe lines.

Figure 3-9 Water supplying system

3.3.5. Electricity and fuel requirement

The proposed project is intended to get required electricity supply form Yangon City Electricity Supply Board (YESB) and distributed by two of 400 kVA Yangon Transformers. Another source of energy two 500 kVA generators (ENGGA) will also be kept as the emergency generator if normal electricity supply could not provide for the proposed project. Estimate electricity usage is 533 units per day (MW.hr/day) (six working days per week). Fuel requirement for proposed Yangon Pan-Pacific International Co., Ltd's Factory is 8,880 liters per month and annual electricity consumption is about 194,545 units.

Figure 3-10 Electricity Facilities

3.3.6. **Electric Steam Boiler**

The factory has automatic electric steam boiler with the capacity:7kw/h is used in ironing process for manufacturing process. Specification of boiler is presented in Table 3-5 and installed photo is shown in Figure 3-11.

Table 3-5 Specification of Boiler

Model No	NHI-1619
Power Supply	3 phase 50Hz
Type	Electric Power (7 kW)
Drum Placement	Vertical Boiler
Voltage	380V
Pressure	5kg/cm2


Figure 3-11 Electric Steam Boiler Photo

3.4. FACILITIES

3.4.1. Fire hazards protect facility

Fire extinguishers, fire hose reels and fire hydrants are installed in 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 48,870 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 3-12.

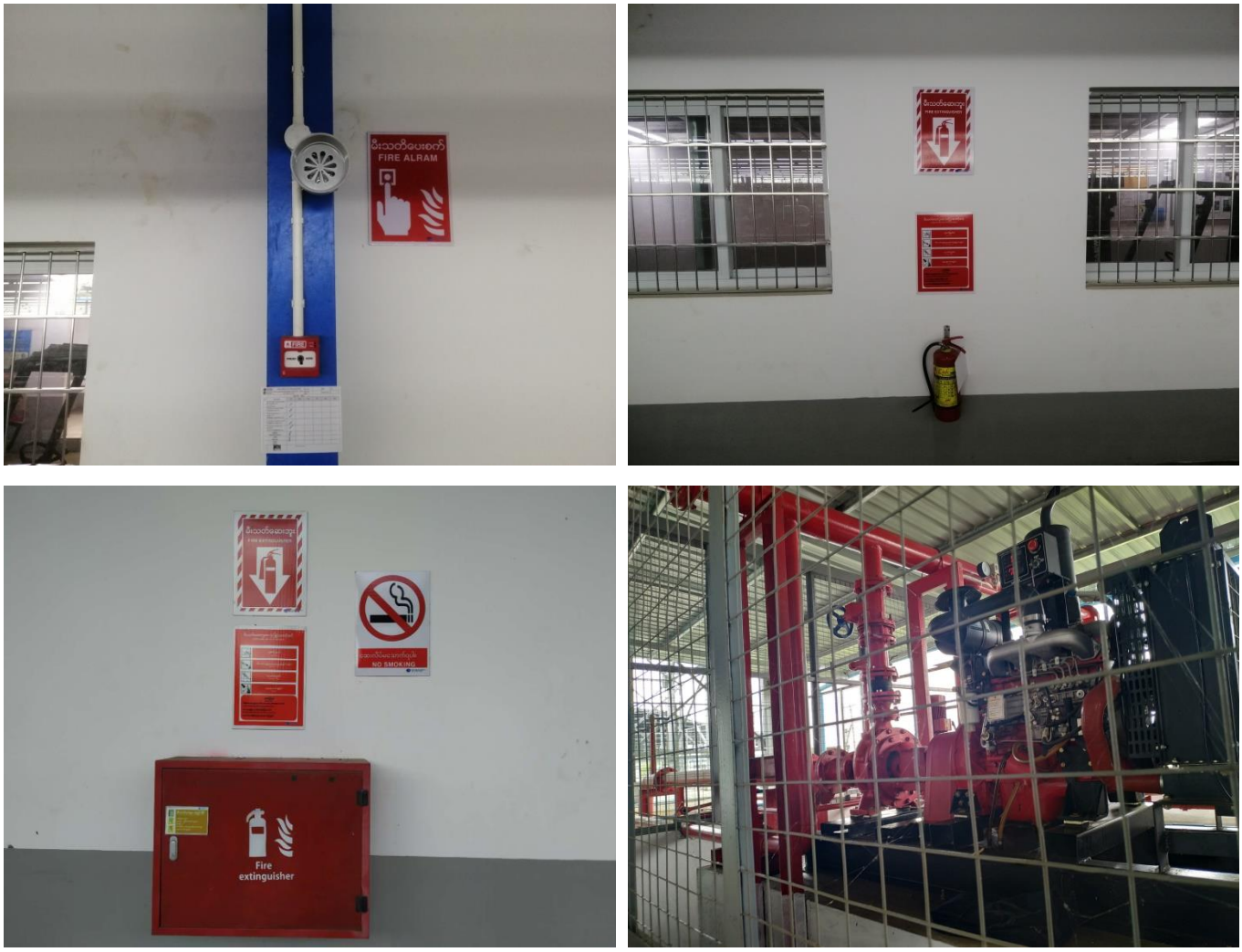


Figure 3-12 Firefighting system

3.4.2. Ventilation System

The factory ventilation systems consist of natural ventilation system and mechanical ventilation system. The mechanical ventilation system is provided in office room, production area, canteen and warehouse area.

Figure 3-13 Ventilation System Photo

3.4.3. Liquid waste control facility

Water discharge from the factory site will be treated by silts track tank before discharging. 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 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 3-14. Besides, the factory plans to use separate wastewater channels, septic type toilet system. Liquid waste 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. This factory has arranged 75 (Male-9 and Female-66) total number of toilets. Spillage and leakages of oil and grease should also be minimized.

Figure 3-14 Drainage and Toilet facility

3.4.4. Solid waste management facility

The factory 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 bin: non-hazardous waste, hazardous waste, re-usable waste and final wastes will be disposed by using YCDC's service. The amount of disposed industrial waste is about 6 tons per month.

Figure 3-15 Waste storage photo

3.4.5. Medical and Health facility for employments

The factory has a clinic, first aid kit boxes and full-time nurse-aid has been employed to treat employees for minor injuries, sickness and emergency medical care. 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 relevant department. To prevent electric shock hazards, electrical maintenance staff (handyman) is to be assigned to do regular inspections and take preventive measures.

Figure 3-16 First Aid Kits and Clinic room Photo

3.5. WASTE GENERATION

The project will be generated solid waste, liquid waste and hazardous waste from the operation of the Yangon Pan-Pacific International Co., Ltd's factory. Detail description of waste generation and waste amount are shown in Table 3-6.

Table 3-6 Waste generation and estimate waste amount

Waste		Type of wastes	Estimated waste amount	Source of generation
Solid waste	Re-usable	Residual pieces of fabric scraps	10% a roll of fabric (kg)	Production line and cutting line
		Raw material cutting wastes	1000 kg / month	
		Disposed packaging materials, paper or plastic wrapping	100 kg / month	Materials store and supply packaging
	Non re-usable	Food residues, domestic waste	473.46 kg / day*	Canteen, Kitchens, dormitory
Liquid waste		Sanitary discharge water	121.4 m^3 /day*	Toilet facility, kitchen and

			canteen
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)

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 are methodologies used for the Environmental Management Plan (EMP) report preparation;

- Onsite Measurements and Analysis – Baseline parameters such as air quality and noise 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 Dagon Myothit (Seikkan) Township, Yangon Region.

4.2. ENVIRONMENTAL BASELINE STUDY

The field observation for determining the environmental baseline of the proposed project area was undertaken during operation period. The survey team consists of the senior consultant and environmental quality team. The baseline data collected regarding the environmental condition of the project area was conducted in the following section.

4.2.1. Site survey and Environmental Monitoring

The baseline environmental quality at the Project Site and its immediate surroundings was established by groundwater, wastewater, ambient air quality samples, noise and indoor temperature and humidity measurements at immediate surrounding areas. To determine the existing baseline environmental quality within the project site August 2020.

The overall conditions of air quality, water quality, soil quality, and noise levels are quoted from the project. The summary of the field survey for overall conditions is shown in Table 4-1.

Table 4-1 Summary of Environmental Survey

Item	Parameter
Air quality	(1) Sulfur dioxide (SO2), (2) Nitrogen dioxide (NO2), (3) PM10 and PM2.5, (4) Ozone (O3), (5) Volatiles organic compound (VOC), (6) Air pressure, wind direction and wind speed, (7) Carbon monoxide (CO), (8) Carbon Dioxide (CO2), (9) TSP
Noise level	Indoor sound level (LAeq)
Light Level	Industry light condition (Lux)

4.2.2. Air Quality

To determine the existing baseline ambient air quality status within the project site on 26 August 2020, 24-hours of working period air pollutants level, which include dust (PM_{10} and $PM_{2.5}$) and gases (CO, CO_2, SO_2, NO_2) were measured at the selected site using the AQM – 95 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) Guideline. The measurement location point is situated at Latitude 16° 52'26.37"N and Longitude 96° 16'35.30"E.

Table 4-2 Observed air quality results

Parameters	Observed Value	Guideline Value	Unit	Organization	Period
Outdoor Air Quality					
PM_{10}	17.86	50	$\mu g/m^3$	NEQG	24 hrs
$PM_{2.5}$	13.5	25	$\mu g/m^3$	NEQG	24 hrs
SO_2	130.9	500	$\mu g/m^3$	NEQG	10 minutes
NO_2	54.3	200	$\mu g/m^3$	NEQG	1 hour
O_3	37.2	100	$\mu g/m^3$	NEQG	8 hours

NEQ = National Environmental Quality (Emission) Guideline

Figure 4-1 Outdoor air quality measurement of the project

4.2.2.1. Summary of air quality result

It was observed that the air quality of SO_2 concentration level is within the limit of NEQ (emission) guideline but particulate matter (PM_{10}, $PM_{2.5}$) and gases level of Nitrogen Dioxide (NO_2) are also within the National Environmental Quality (Emission) Guideline. **Appendix C**.

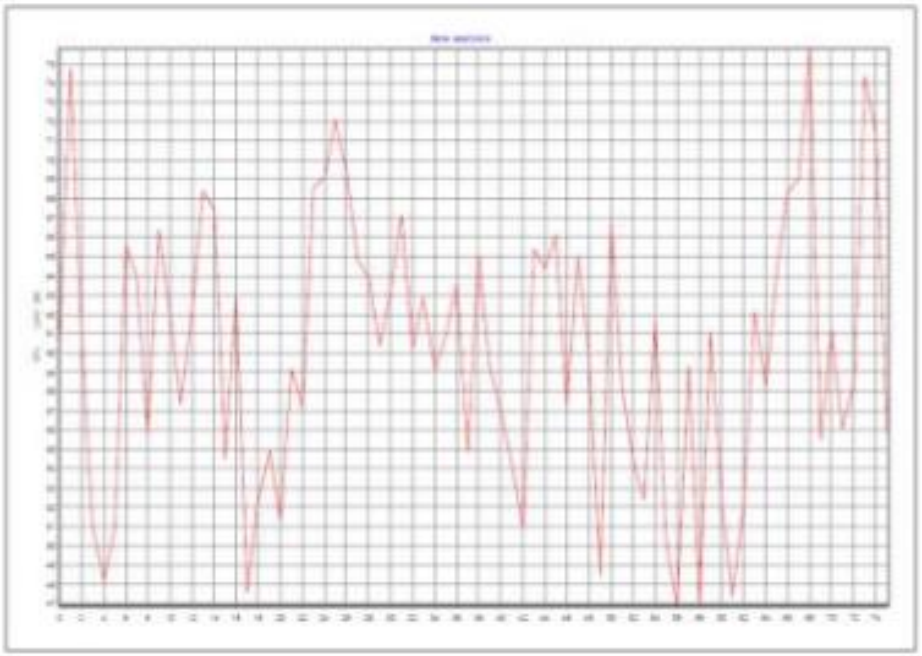
4.2.3. Noise

The Noise level was measured by using Digital Sound Level Meter for working hours on 26 August 2020. The average noise level in the project site area is 60.13 dBA (Table 4-3). Receptor (nearby production area at project site) noise level of measurement are within the acceptable level of National Environmental Quality (Emission) Guideline.


Figure 4-2 Indoor Noise Measurement of the project

Table 4-3 Noise level measurement in the factory

Date and Time	Location	GPS value	Result value	NEQ Guideline
26.8.2020 (1:00 pm to 4:00 pm)	Operation Area	16°52'26.37"N 96°16'35.30"E	60.13 dBA	70 dBA



4.2.3.1. Summary of Noise Result

However, found to be the Noise source monitoring at the operation area (inside the production sector), overall level of noise in the workshop area is acceptable when compared with National Environmental Quality (Emission) Guideline. Therefore, no obvious influence can be caused occupational health and safety of employees during operation. Moreover, Personal Protective Equipment (PPE) to decrease adverse impact of noise will be provided for employees when necessary. Noise measurement result and graph are presented in **Appendix D**.

4.2.4. 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 is presented in Figure 4-4. The illustrates the recommended illumination and limiting glare index applicable to typical works (fairly severe to very severe tasks) in garment factory is provided in Table 4-4.

Table 4-4 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 4-4 Light quality measurement in Yangon Pan-Pacific International Co.,Ltd. factory

Table 4-5 Light Measurement in garment factory

No.	Location	Measure value (Lux)	Standard*
1	Warehouse Area	1153	300
2	Cutting Area	833	1000
3	Sewing Area	1277	400
4	Ironing Area	1195	600
5	Quality Inspection Area	1413.5	900
6	Packing Area	1154	600

* 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).

4.2.4.1. Summary of Light result

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 to the quality of the production. The tasks involved in these areas require high levels of worker focus and accurate lighting ensures 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 good condition to the acceptable level of standard. Light measurement result is presented in **Appendix E**.

4.2.5. **Drinking Water Quality Test**

Drinking water quality has been tested at the Iso Tech Laboratory with respect to WHO Guidelines for Drinking Water Standard. According to the drinking water analysis results see in Table 4-6, all of the lists of parameters are within the limit of WHO drinking water guideline.

Table 4-6 Drinking Water quality laboratory results

No.	Parameter	Unit	Water result	WHO's Guideline
1.	pH		7.6	6.5 – 8.5
2.	Color (True)	TCU	Nil	15 TCU
3.	Turbidity	NTU	Nil	5 NTU
4.	Conductivity	Micro S/cm	Nil	
5.	Total Hardness	mg/l as $CaCO_3$	4	500 mg/l as $CaCO_3$
6.	Calcium Hardness	mg/l as $CaCO_3$	Nil	
7.	Magnesium Hardness	mg/l as $CaCO_3$	Nil	
8.	Total Alkalinity	mg/l as $CaCO_3$	14	
9.	Phenolphthalein Alkalinity	mg/l as $CaCO_3$	Nil	
10.	Carbonate ($CaCO_3$)	mg/l as $CaCO_3$	Nil	
11.	Bicarbonate (HCO_3)	mg/l as $CaCO_3$	Nil	
12.	Iron	mg/l	0.07	0.3 mg/l
13.	Chloride (as CL)	mg/l	Nil	250 mg/l
14.	Sodium chloride (as NaCL)	mg/l	25	
15.	Sulphate (as SO_4)	mg/l	Nil	500 mg/l
16.	Total Solid	mg/l	20	1500 mg/l
17.	Total Suspended Solids	mg/l	Nil	
18.	Total Dissolved Solids	mg/l	19	1000 mg/l
19.	Manganese	mg/l	Nil	0.05 mg/l
20.	Phosphate	mg/l	Nil	
21.	Phenolphthalein Acidity	mg/l	Nil	
22.	Methyl Orange Acidity	mg/l	Nil	

No.	Parameter	Unit	Water result	WHO's Guideline
23.	Salinity	ppt	Nil	

4.3. PHYSICAL COMPONENT

4.3.1. Topography

Yangon area is the largest; most populated and urbanized area in Myanmar. There are thirty-three townships in Yangon City where located at the convergenceon the Yangon and Bago River region about 34km away from the Gulf of Martaban. The proposed project area is situated at Dagon Myothit (Seikkan) Township, and its topographic condition is flat. The proposed project site is primarily agricultural land, but now is initiated into the industrial zone area.

4.3.2. Geology

In Yangon area mainly composed of Pegu Group, Irrawaddy Formation and Alluvium. Alluvial deposits (Pliestocene to Recent), the non-marine fluvialtile sediments of Irrawady formation (Pliocene), and hard, massive sandstone of Pegu series (early-late Miocene) underlie the Yangon area. 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 4-5.

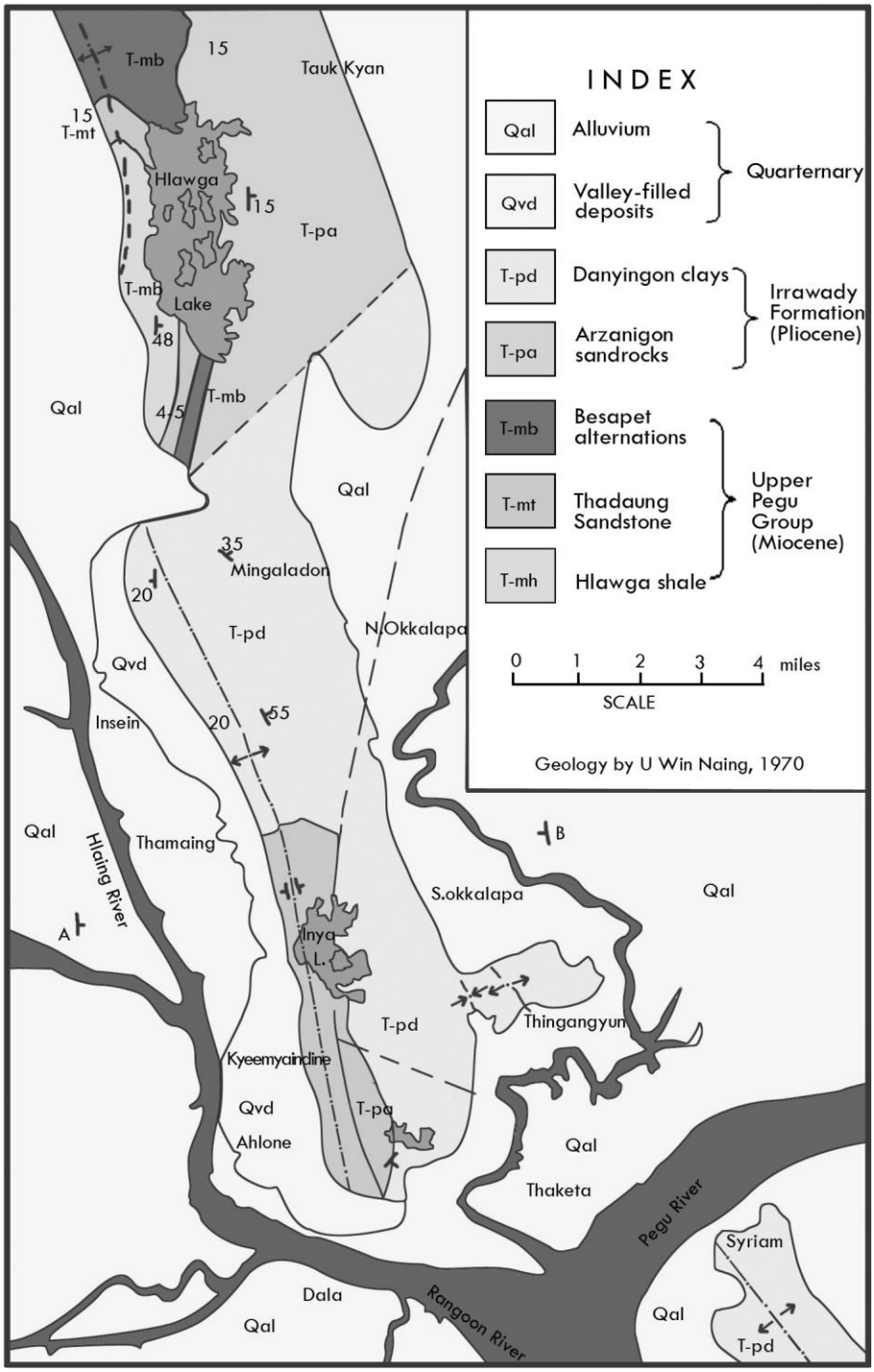


Figure 4-5 Geological Map of Yangon Region

4.3.3. 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).

4.3.4. 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 salty 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 could accommodate the construction of the Project.

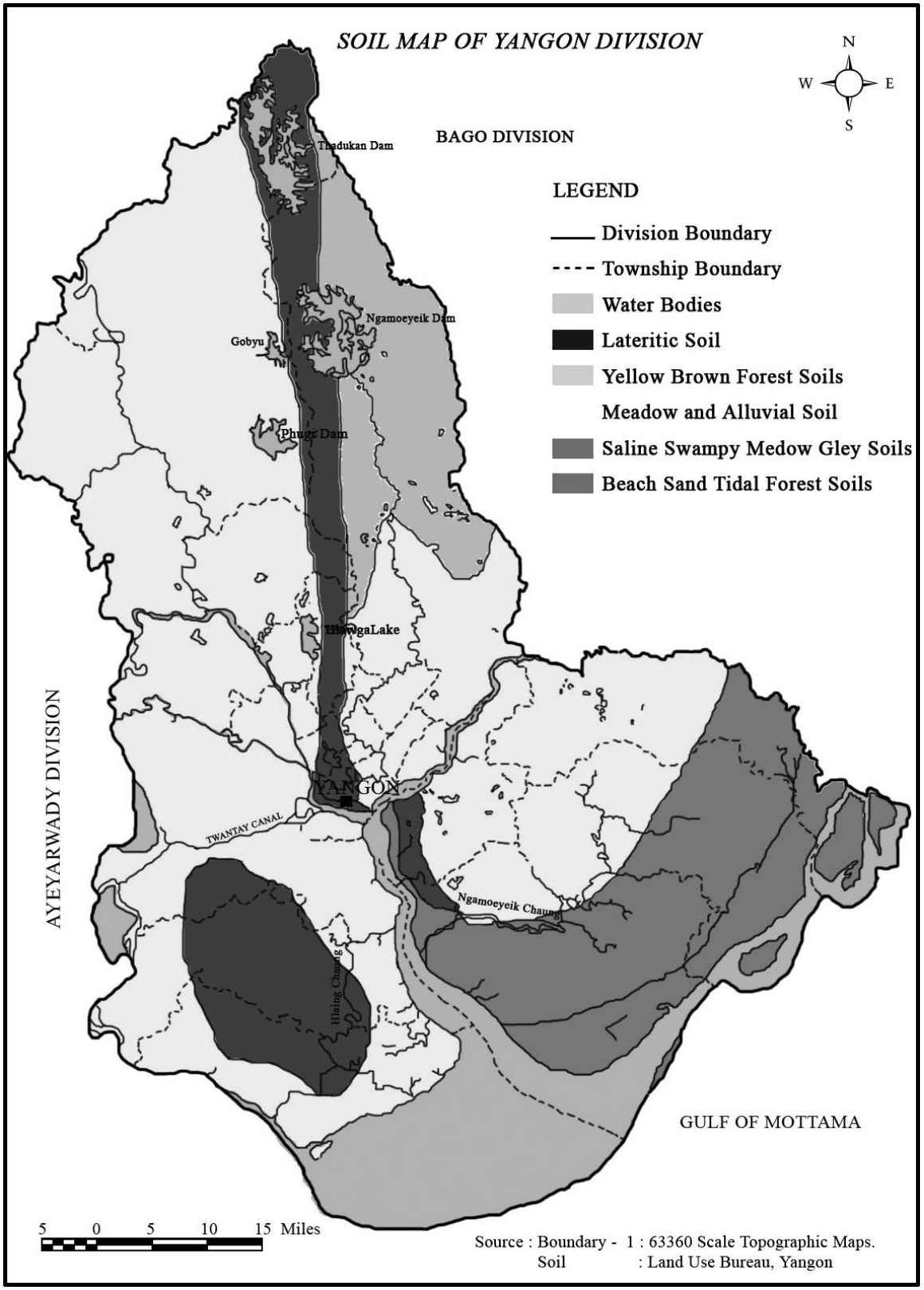


Figure 4-6 Soil Map of Yangon (Source: Land use of Bureau of Yangon)

4.3.5. **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 MSL4.

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 Hlaing River which flows north to south. 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.

4.3.6. **Climate and Meteorology**

4.3.6.1. Average Weather in Yangon

In Yangon, the wet season is oppressive and overcast, the dry season is muggy and partly cloudy, and it is hot year-round. Over the course of the year, the temperature typically varies from 67 °F to 97 °F and is rarely below 62 °F or above 101 °F. [6]

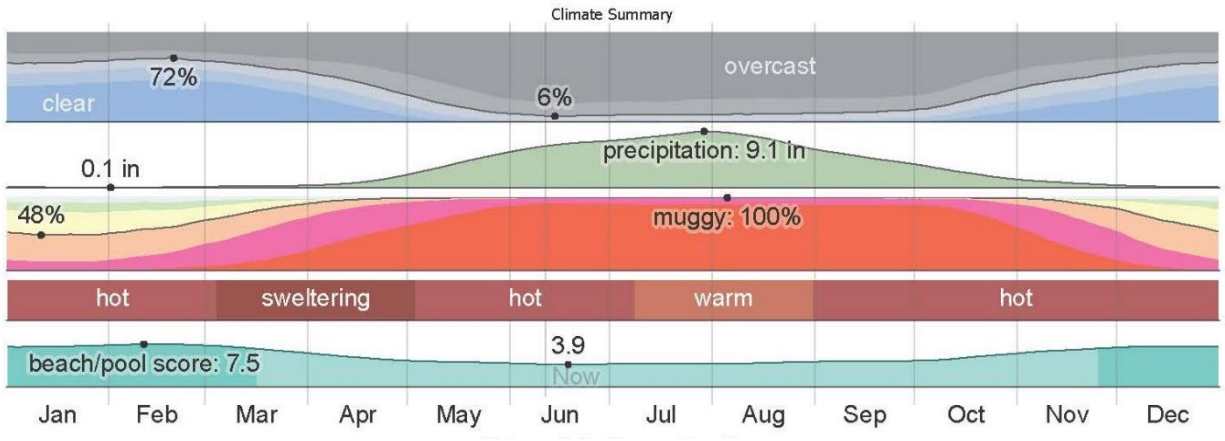


Figure 4-7 Climate Summary of Yangon Region

4.3.6.2. Temperature

The hot season lasts for 2.0 months, from March 2 to May 3, with an average daily high temperature above 95 °F. The hottest day of the year is April 11, with an average high of 97 °F and low of 78 °F.

The cool season lasts for 3.9 months, from June 2 to September 29, with an average daily high temperature below 87 °F. The coldest day of the year is January 10, with an average low of 67 °F and high of 88 °F.

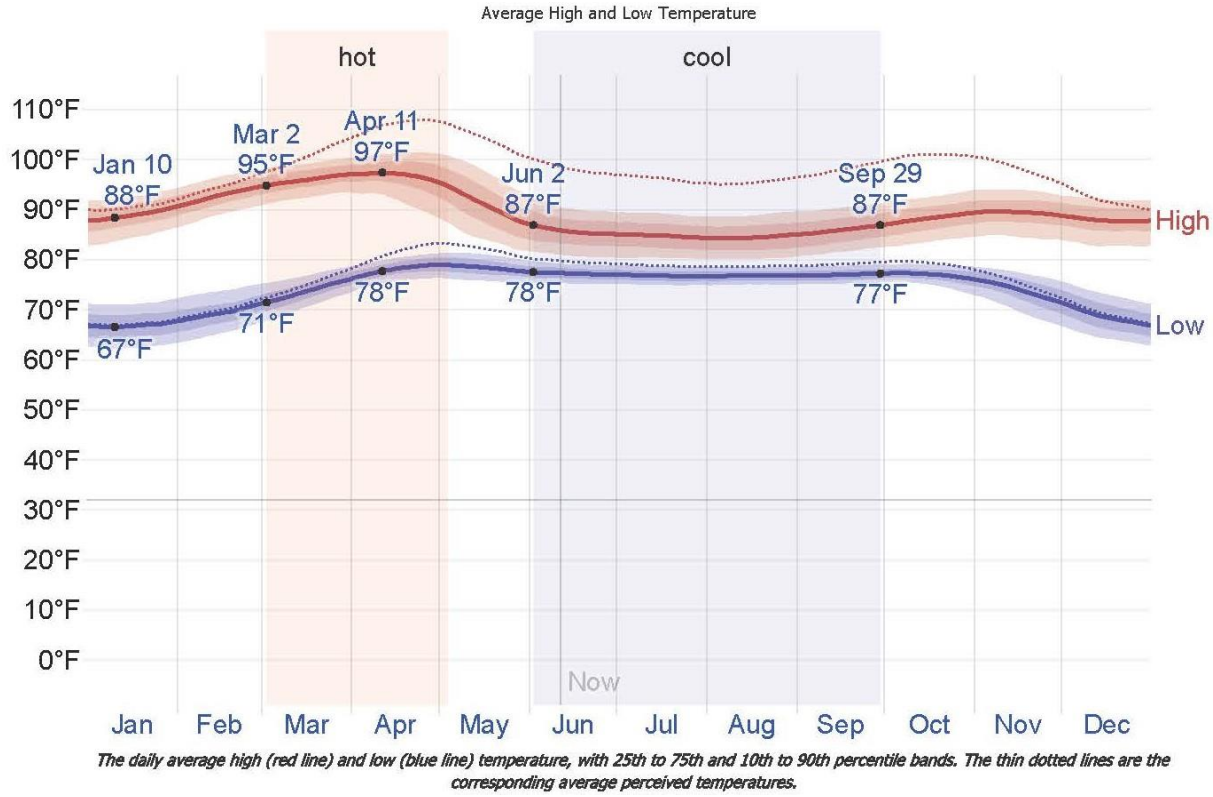


Figure 4-8 Average Temperature of Yangon Region

4.3.6.3. Clouds

In Yangon, the average percentage of the sky covered by clouds experiences extreme seasonal variation over the course of the year. In clearer part of the year in Yangon begins around November 2 and lasts for 5.6 months, ending around April 22. On February 20, the clearest day of the year, the sky is clear, mostly clear, or partly cloudy 72% of the time, and overcast or mostly cloudy 28% of the time.

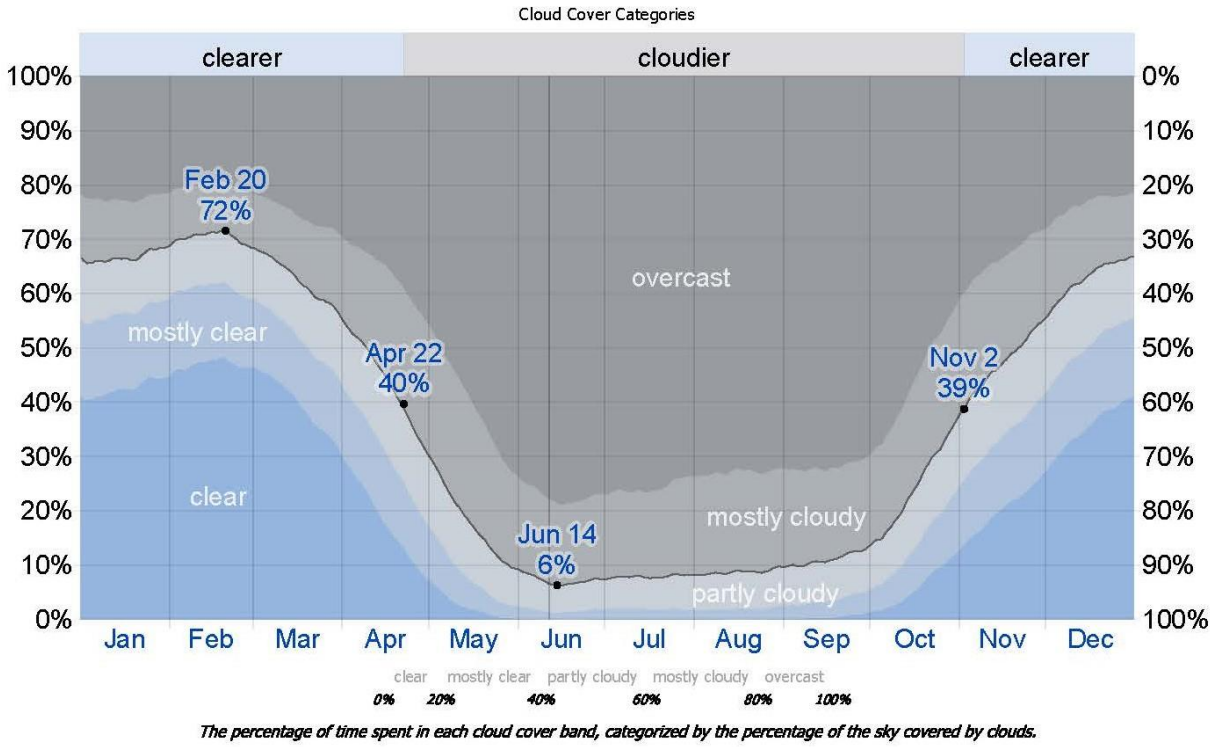


Figure 4-9 Cloud Cover Categories

4.3.6.4. Rainfall

To show variation within the months and not just the monthly totals, we show the rainfall accumulated over a sliding 31-day period centered around each day of the year. Yangon experiences extreme seasonal variation in monthly rainfall. The rainy period of the year lasts for 7.7 months, from April 5 to November 28, with a sliding 31-days rainfall of at least 0.5 inches. The most rain falls during the 31 days centered around July 30, with an average total accumulation of 9.1 inches. The rainless period of the year lasts for 4.3 months, from November 28 to April 5. The least rain falls around February 1, with an average total accumulation of 0.1 inches.

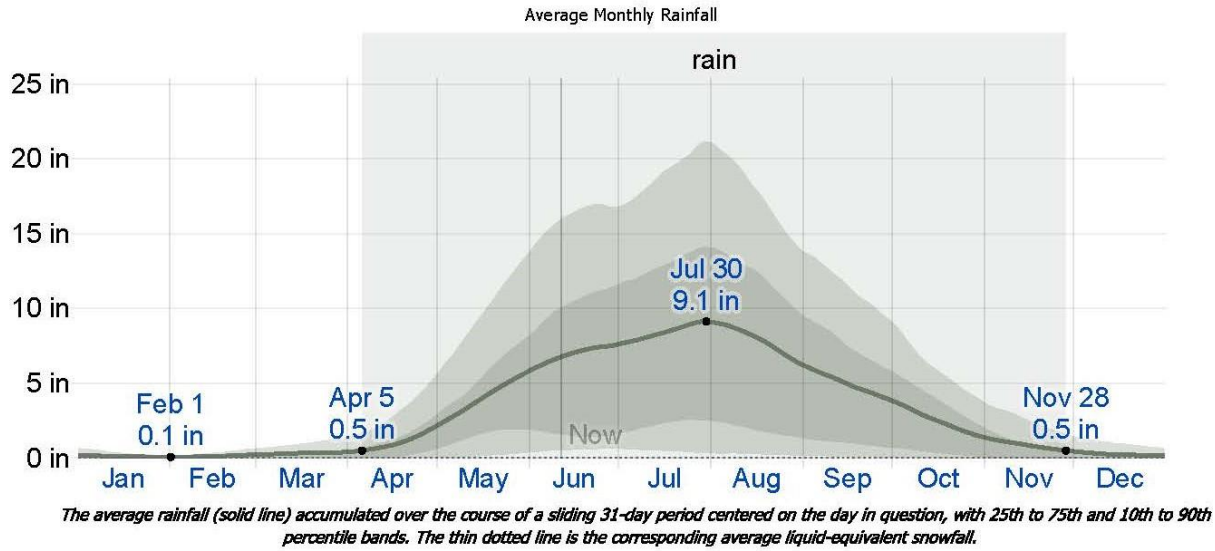


Figure 4-10 Average Monthly Rainfall at Yangon Region

Table 4-7 Annual rainfall and temperature

Year	Rainfall		Temperature	
	Raining day	Rainfall value	Summer season Max (°C)	Winter season Min (°C)
2016	102	79.20	45° C	15° C
2017	101	138.85	42° C	18° C
2018	113	134.53	40° C	12.5° C
2019	112	122.35	45° C	15° C

Source: Department of Administrative Dagon Myothit (Seikkan) Township, Regional data (www.gad.gov.mm.com)

4.3.6.5. Humidity

We base the humidity comfort level on the dew point, as it determines whether perspiration will evaporate from the skin, thereby cooling the body. Lower dew points feel drier and higher dew points feel more humid. Unlike temperature, which typically varies significantly between night and day, dew point tends to change more slowly, so while the temperature may drop at night, a muggy day is typically followed by a muggy night.

Yangon experiences extreme seasonal variation in the perceived humidity. The muggier period of the year lasts for 10 months, from February 22 to December 23, during which time the comfort level is muggy, oppressive, or miserable at least 61% of the time. The muggiest day of the year is August 5, with muggy conditions 100% of the time. The least muggy day of the year is January 11, with muggy conditions 48% of the time.

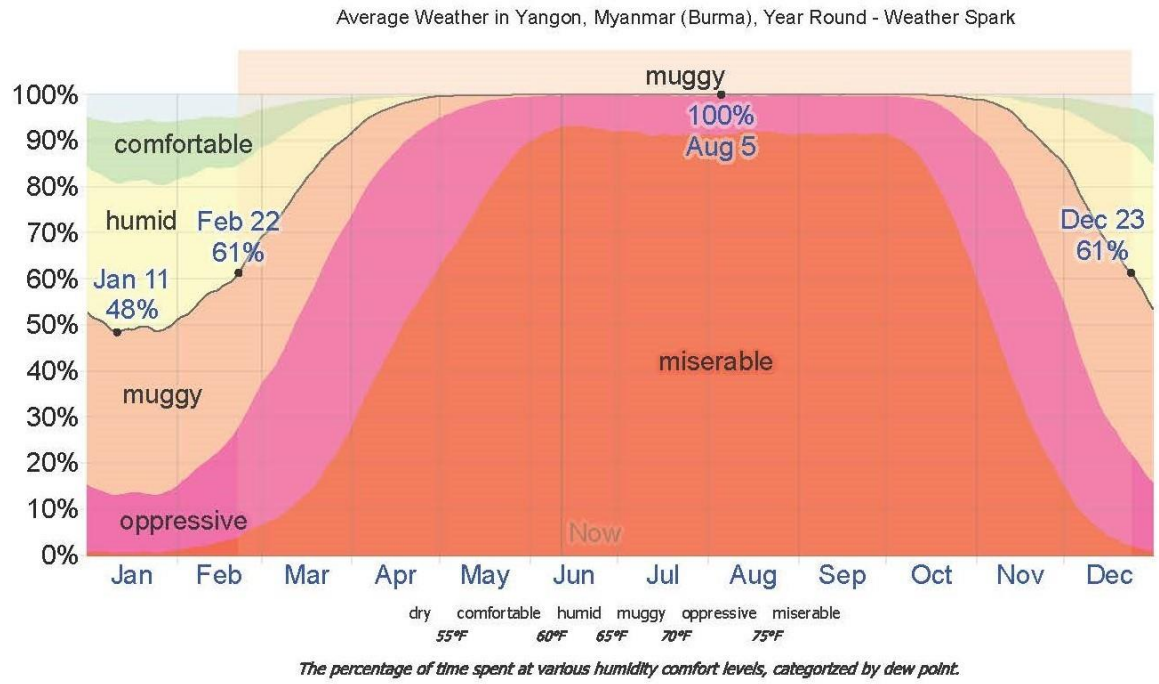


Figure 4-11Humidity of Yangon

4.3.6.6. Wind

This section discusses the wide-area hourly average wind vector (speed and direction) at 10 meters above the ground. The wind experienced at any given location is highly depended on local topography and other factors, and instantaneous wind speed and direction vary more widely than hourly averages. The average hourly wind speed in Yangon experiences significant seasonal variation over the course of the year. The winder part of the year lasts for 4.1 months, from May 1 to September 4, with average wind speeds of more than 8.2 miles per hour. The windiest day of the year is June 24, with an average hourly wind speed of 10.6 miles per hour. The calmer time of year lasts for 7.9 months, from September 4 to May 1. The calmest day of the year is January 9, with an average hourly wind speed of 5.8 miles per hour.

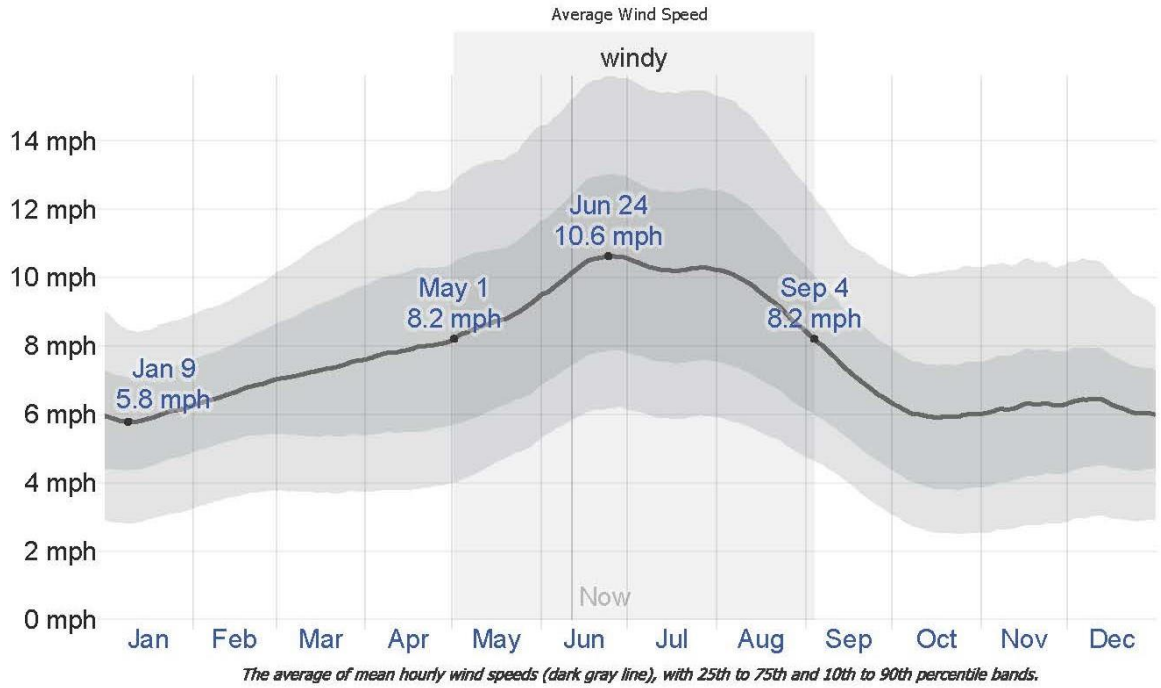


Figure 4-12 Average Wind Speed in Yangon

4.4. BIOLOGICAL COMPONENT (SECONDERY DATA)

As the proposed project area is located in the industrial zone, the information of ecological resources is very unlikely. In addition, within the proposed project area, there are no forests, protected areas and coastal resources. The proposed project site is not located in or near a sensitive ecosystem as the proposed project area is situated in the Dagon Myothit (Seikkan) Township. The Project Site is a built-environment and the species of flora surveyed at the site are native species uncommon to the Yangon area.

Ecological Resources	Existing condition
Wildlife	Non existence
Forests	Non existence
Rare or endangered species	Non existence
Protected areas	Non existence

4.5. SOCIO-ECONOMIC COMPONENT

4.5.1. Population

In 2019, the population of Dagon Myothit (Seikkan) Township is about 187,891 people as present in Table 4-8. [1]

Table 4-8 Population of Males and Females at Dagon Myothit (Seikkan) Township (2019)

Item	Older 18 year			Younger 18 year			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Urban	57,999	65,988	123,987	23,627	23,611	47,238	81,626	89,599	171,225

Item	Older 18 year			Younger 18 year			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Rural	5,424	5,632	11,056	2,734	2,876	5,610	8,158	8,508	16,666
Total	63,423	71,620	135,043	26,361	26,487	52,848	89,784	98,107	187,891

Source: Department of Administrative Dagon Myothit (Seikkan) Township, Regional data (www.gad.gov.mm.com)

4.5.2. Religion

The different kinds of religion present in Dagon Myothit (Seikkan) Township are shown in Table 4-9. More than 90% of the people living in the township are Buddhists. [1]

Table 4-9 Religion in Dagon Myothit (Seikkan) Township (2019)

Township	Buddhist	Christian	Hindu	Muslim	other	Total
Dagon Myothit (Seikkan) Township	181,085	3,938	1,403	1,465	-	187,891

Source: Department of Administrative Dagon Myothit (Seikkan) Township, Regional data (www.gad.gov.mm.com)

4.5.3. Local Economy

Among regional towns, Dagon Myothit (Seikkan) 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

4.5.4. Public Infrastructure and Access

4.5.4.1. Communication and Transportation

Major transportation route in Dagon Myothit (Seikkan) Township is car road as presented in Table 4-10. [1]

Table 4-10 Transportation Route

Categories	Township	Miles

	From	to	
Bus Line (2,3,4,5,6,8,8,71,60,80,99,100,83) City Bus	Yuzana	Downtown Area	
Bago River Road	Dagon Bridge	Ayawun Road	2.4 miles
Ayawun Road	Thar Kay Ta	Bago River Road	2.5 miles

Source: Department of Administrative Dagon Myothit (Seikkan) Township, Regional data (www.gad.gov.mm.com)

4.5.4.2. Electricity

The electricity demand of Dagon Myothit (Seikkan) Township is higher and higher due to the normally increased in population and infrastructure. [1]

4.5.4.3. 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 Dagon Myo Thit (Seikkan) Township. The name and the located village tract/ ward of schools are described inTable 4-10. [1]

Table 4-11 List of major school in Dagon Myothit (Seikkan) Township

No.	Name of School	Location
1	Nationalities Youth Resource Development Degree Collage	No.(3383), Sittaung Road, (61) Ward
2	BEHS (1)	(88) Ward
3	BEHS (2)	(94) Ward
4	BEHS (3)	(168) Ward
5	BEHS (4)	(93) Ward
6	BEHS (5)	(89) Ward
7	BEHS (Branch) Thayetpinchong	Thayetpinchong Village
8	BEHS (Branch) Nyaungpin	Nyaungpin Village
9	BEMS (Branch) Kyi Su Ywar Thit	Kyi Su Ywar Thit
10	BEMS (Branch) Kyi Su East	Kyi Su East
11	BEPS (Total) -9	

Source: Department of Administrative Dagon Myothit (Seikkan) Township, Regional data (www.gad.gov.mm.com)

4.5.4.4. Health Status

The diseases of high prevalence reported in 2019 are Tuberculosis (TB), followed by Acute Respiratory Infection (ARI), Diarrhea, TB and snakebites. With reference to the Township Health Profile 2019 of Dagon Myo Thit (Seikkan) Township, no accidental work injuries reported to the township hospital in 2019. The common diseases are shown in Table 4-12.

Table 4-12 Common Diseases in the Dagon Myothit (Seikkan) Township

Disease	Dagon Myothit (Seikkan) Township

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

Table 4-13 Lists of hospital in the Dagon Myothit (Seikkan) Township

Hospital Name	Beds/Services	Responsible
Dagon Seikkan Hospital	25	Government

Source: Department of Administrative Dagon Myothit (Seikkan) Township, Regional data (www.gad.gov.mm.com)

4.6. CULTURAL AND VISUAL COMPONEMTS

Dagon Myothit (Seikkan) Township is growing into a busy and vibrant community. The population fluctuates; however, there has been steady growth over the last decade. It tends to be a stopover on a journey rather than a destination. It has a number of sites that are interesting; however, there is no main attraction. Visitors to the town are generally visiting for work, investment or family reasons.

5. ENVIRONMENTAL IMPACT AND MITIGATION MEASURES

5.1. 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.

5.1.1. 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 Kyi Su Industrial Zone, Dagon Myothit (Seikkan) Township, there may have business opportunities to local people. Local people can have a market by selling foods, snacks and drinks nearby the factory.

5.1.2. 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.

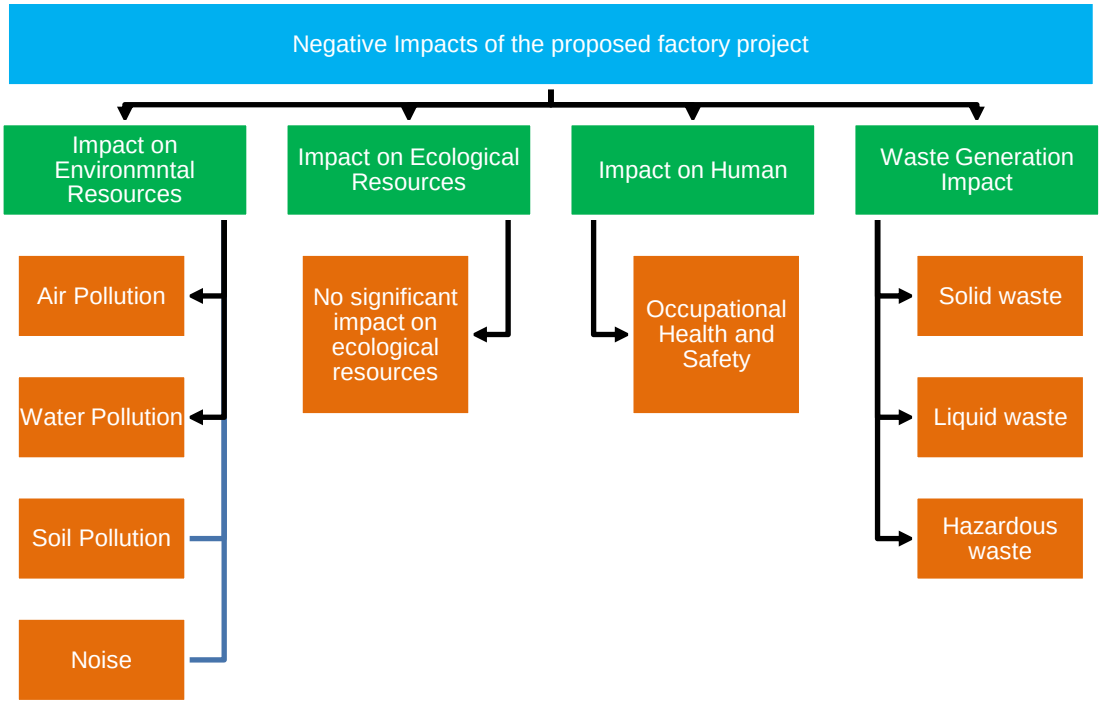


Figure 5-1 Potential negative impact affect from proposed factory project

5.2. 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**
Magnitude (M)	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
Duration (D)	0 - 1 year	2 - 5 year	6 - 15 year	Life of operation	Post Closure
Extent (E)	Limited to the site	Limited to the local area	Limited to the region	National	International
Probability (P)	Very improbable	Improbable	Probable	Highly probable	Definite

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

Significant Point (SP) = (Magnitude + Duration + Extent) * 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

5.3. POTENTIAL ENVIRONMENTAL IMPACT DURING CONSTRUCTION AND DECOMMISSIONING PHASE

Construction phase: 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 impact on environment is not assessed and affected must be caused the construction period.

Decommissioning phase: The proposed duration of the investment shall be 30 years. The term of the Lease shall be initial 10 years commencing from the date of signing of the Lease Agreement between Local owner and Yangon Pan-Pacific International Co., Ltd. for proposed project site for 3.99 acres of land and extendable for ten years in 2 times. The project of land and building will be restitution to land owner after close the operation. Therefore, the assessment study cannot be need for environmental impact assessment during decommission phase.

These two phases of operation shall be represented by land owner. If the owner will be demolished their factory, they will need mitigation and monitoring plan for environmental impact. Therefore, Myanwei's environmental assessment team presented for monitoring plan during decommissioning phase.

5.4. SIGNIFICANT IMPACTS OF PROJECT ACTIVITY AND MITIGATION MEASURE

The project activities, their impacts and significance of impact are provided in Table 5-2.

Table 5-2 Evaluation and Perdition of Significant Impacts and Mitigation Measures on Operation phase

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
Impact on Environmental Resource									
Air	• Dust and GHGs emission from vehicles used for transporting raw materials and final products • Emission from emergency diesel generator and vehicle movement	3	4	2	4	36	Moderate	• Air pollution in atmosphere. • Inhaling them can increase the chance you'll have health problems. • People with heart or lung disease, older adults and children are at greater risk from air pollution.	• To control air pollution, the vehicles, generators and machineries have to check and maintain regularly. • Ensuring vehicles, compressor and generator are well maintained.
Water	• Production process	1	4	1	1	6	Insignificant	• The factory not generated wastewater from production process on CMP basic	• No Mitigation Measure
Soil	• Engine oil leaks, spills at diesel storage and during fuel refueling.	1	4	1	1	6	Insignificant	• The factory compound area was paved with concrete and hence, contamination due to the oil spillage at this area is insignificant.	• No Mitigation Measure
Noise and Vibration	• Generating noise from the production machinery	3	4	1	3	24	Low	• The factory not operate heavy machinery • The major noise source of CMP basic operation	• To use personal protective equipment (PPE) like earmuffs and ear plugs in the noisy workplace

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
								activities such as cutting, sewing, finishing and packaging by respective machines. There is insignificant impact on surrounding environment	
Impact on Ecological Resources									
Flora and fauna on terrestrial and aquatic life	Operation of the garment factory	1	4	1	1	6	Insignificant	• Not Significant Impact on Ecological Resources	• No Mitigation Measure
Impact on Human									
Fire	• Poor electrical installations • Waste disposed area raw materials and chemical storage	3	5	2	4	40	Moderate	• Serious damage to property and even injury and death	• To provide 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. • 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.
Occupational Safety	• Accidental cases cause by operating machines.	3	4	1	4	32	Moderate	• Accident in workplace (physical injuries or even death) can occur	• First aid training, safety training, firefighting training or other essential training for machinery handling must

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
	• Unloading, mixing, cutting, pressing and packaging activities. • Accidental cases of thermic fluid heater							during operation.	be provided for emergency cases of 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.
Health	• Influx of people • Noise from the generating of the emergency generators	2	4	1	2	14	Very Low	• Change in demographic structure, new diseases form immigrant workers • To cause a range of health problems ranging from stress, poor concentration, productivity losses in the workplace, and communication difficulties and fatigue from lack of sleep, to more serious issues	• Manage the drainage systems of the factory to prevent health risk of the workers. • The maximum allowable noise level for workers is 90dB(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
Waste Generation Impact									
Solid Waste	• Residual pieces of	3	4	1	4	32	Moderate	• Surrounding	• Provides separate garbage bins at

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
	fabric scraps from the production lines • Waste from packaging materials • Waste from kitchen, dormitory and office.							environmental pollution and soil contamination	each building. • All of the solid wastes will be collected separately in garbage based on their types and stored in relevant separated waste storage area • Final wastes should be disposed by using YCDC's service.
Liquid Waste	• Septic system and sewage. • Domestic liquid waste disposal from office, kitchen and dormitory.	2	4	2	2	16	Low	• Contamination of soil, surface water, ground water	• Regular inspection and cleaning, oil traps, septic tank and adequate covers for all storage and waste disposal areas can decrease these contaminations.
Hazardous Waste	• Used oil and lubricant discharged from the maintenance of vehicles and machines.	2	4	1	2	14	Very Low	• Reduce the risk of contamination from fuels, oils and hazardous wastes • Response effectively to incident and accident	• Proper inspection and maintenance in storage of hazardous waste. • Dispose of hazardous chemicals and containers in accordance with occupational health, safety and environmental requirements. • The empty chemical containers will hand over to suppliers for recycle or appropriate disposal • The hazardous wastes are transported by specially licensed carriers and disposed in a licensed faculty (eg., DOWA and YCDC)
Natural Disaster (Earthquakes, Floods, landsides and									• Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
cyclone)									

Table 5-3 Evaluation and Predication of Significant Impacts and Mitigation Measure on Decommissioning Phase

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	S			
Air	Demolish of buildings and related materials Transportation of demolished materials	3	1	1	4	20	Low	Emissions of particulate matters and carbon dioxide gases into the air	Spray water twice a day Cover mesh trap around the decommission area Install shading net about 2 meters above temporary fence of decommission area Carry broken material with cover by canvas.
Water pollution	Sewage form decommissioning workers Demolition machinery equipment	3	1	1	3	15	Low	Contamination of surface water and ground water	Systematically demolish the septic tanks.
Soil	Demolish of buildings and related materials Transportation of demolished materials	3	1	1	3	15	Low	Contamination of soil	Manage the spillage of oil and diesel and sewage.
Noise and Vibration	Decommission activities Transportation of demolished materials	3	1	1	3	15	Low	Noise pollution to the surrounding	Carry out the activities during day time. Maintain the machines and vehicles to reduce noise pollution.

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	S			
									Provide the ear plugs to the workers.
Waste disposal	Demolished debris such as bricks, concrete materials	2	1	1	3	12	Very Low	Dumping to the surrounding environment	Recyclable materials and dispose to the define areas.
Hazardous waste	Used lubricants from decommissioning vehicles and machines	2	1	1	3	12	Very Low	Spillage of lubricant	Manage the disposal way of hazardous waste.
Occupational Health and Safety (Accidents, Injuries)	Decommissioning activities Transportation of demolished materials	3	1	2	3	18	Low	Injuries and accidents	Provide protective fencing or demarcation with tape at the boundaries of dangerous / hazardous zone and the appropriate warning signs, marking and safety signs and installation of the lost time injury notice board. Clean up excessive waste debris and liquid spills regularly. Use the third-party expert assisted by trained personnel to identify and remove hazardous materials.

6. ENVIRONMENTAL MANAGEMENT ACTION

6.1. AIR POLLUTION/ DUST MANAGEMENT ACTION

Objective	➢ To minimize the adverse impact to air quality caused by stack gas emission from generator and also dust management generated from vehicular movement. ➢ To comply with relevant government rules	
Relevant Government Law and Rule	➢ National Environmental Quality (Emission) Guideline 2015, ➢ Motor Vehicles Act (2015), ➢ Boiler Law (2015)	
Time Frame	➢ Entire life spans of proposed project operation	
Management Action	➢ Must be plant around the proposed project to reduce carbon emission ➢ Should be prohibited burning of waste material at the proposed project site ➢ Must be control air pollution, the vehicles, generators and machineries have to check and maintain regularly. ➢ The factory should use chimney for generator through which the flue gas is emitted for reducing the impact of stack emission on environment. ➢ Must be ensuring vehicles, compressor and generator are well maintained.	
Monitoring and Reporting	Frequency	Biannually
	Monitoring Point	Indoor and Outdoor of proposed project
	Parameters	$PM_{2.5}$, PM_{10}, SO_2, NO_2, O_3, CO
Estimated Cost	1,000,000 Kyats per year	
Responsible Person	Management of the proposed factory; ▪ Head of maintenance: Total implementation of above of air pollution management plan ▪ Production manager: Air quality in the production area is good enough ▪ Manager: To hire organization/ independent third-party testing air quality ▪ EHS officer: Monitor the hygiene of ambient air quality in surrounding of the factory	

6.2. NOISE MANAGEMENT PLAN

Objective	➢ To maintain low noise exposures, such that human health and well-being are protected. The specific objectives of noise management are to develop criteria for the maximum safe noise exposure levels, and to promote noise assessment and control as part of environmental health programmes.	
Relevant Government Law and Rule	➢ National Environmental Quality (Emission) Guideline 2015	
Time Frame	➢ Throughout the project life	
Management Action	➢ Building noise insulated generator room and ensure satisfactory maintenance of relevant equipment ➢ Impose speed limit to track and vehicles at the transportation route. ➢ Provide sufficient personal protective equipment (PPE) at the work place ➢ All the related personnel will be provided proper training about the relevant issues and ensure PPE wear during working in noisy area.	
Monitoring and Reporting	Frequency	Biannually
	Monitoring Point	Two points in operation area (especially cutting and sewing)
	Parameters	Sound Decibel
Estimated Cost	500,000 Kyats per year	
Responsible Person	HSE Manager or Environmental Management Team of Yangon Pan-Pacific International Company Limited.	

6.3. FIRE MANAGEMENT PLAN

Objective	➢ To ensure that fire control practices are implemented on site to minimise the risk of fire from site operations and bush fires
Relevant Government Law and Rule	➢ Myanmar Fire Brigade Law 2015
Time Frame	➢ Entire life spans of proposed project operation
Management Action	➢ Must be provide fire extinguishers, fire hose reels and fire hydrants on the walls of the factory for fire emergency cases. ➢ Must be indicated the emergency exit and assembly point in public area. ➢ Regular inspection for existing firefighting equipment must be done.

	In case of fire emergency, water storage tank for fire frightening. ➢ 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.
Monitoring and Reporting	To check monthly Visual inspection, Firefighting equipment (fire extinguish, firefighting hose, portable fire pumps, fire hose reels, fire monitor and firefighting nozzles)
Estimated Cost	1,200,000 Kyats per year
Responsible Person	HSE Manager, Operation Manager or Environmental Management Team of Yangon Pan-Pacific International Company Limited.

6.4. OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT PLAN

Objective	➢ To provide a broad framework for improving standards of workplace health and safety to reduce work-related injury and illness.
Relevant Government Law and Rule	➢ Public Health Law (1972), Prevention and Control of Communicable Diseases Law 1995 (Amendment 2011), Occupational Safety and Health Law (2019)
Time Frame	➢ Entire life spans of proposed project
Management Action	➢ First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for emergency cases of 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 (PPE) 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. ➢ Manage the drainage systems of the factory to prevent health risk of the workers. ➢ The maximum allowable noise level for workers is 90dB(A) for 8hours 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.
Monitoring and	➢ Weekly check fire extinguishers and water hydrant in position

Reporting	➢ Daily inspect that all fire exist are open ➢ Servicing fire extinguisher and records accidents
Estimated Cost	1,000,000 Kyats per year
Responsible Person	HSE Manager, Operation Manager or Environmental Management Team of Yangon Pan-Pacific International Company Limited.

6.5. SOLID WASTE MANAGEMENT PLAN

Objective	➢ To assess the activities involved for the proposed and determine the type, nature and estimated volumes of waste to be generated ➢ To identify any potential environmental impacts from the generation of waste at the site
Relevant Government Law and Rule	➢ Yangon City Development Committee Law (2018), National Waste Management Strategy and Action Plan (Draft 2018)
Time Frame	➢ Entire life spans of proposed project
Management Action	➢ Must be 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 storage area ➢ Final wastes should be disposed by using YCDC's service.
Monitoring and Reporting	➢ Daily waste has to be collected and handover to YCDC waste collector ➢ The inventory record of waste disposal will be maintained as proof for proper management as designed
Estimated Cost	50,000 Kyats per month
Responsible Person	Manager (HR) ▪ Responsible for overall site cleanliness and waste management ▪ Regular waste collection to minimize excessive waste storage

6.6. LIQUID WASTE MANAGEMENT PLAN (WASTEWATER)

Objective	➢ To implementation plan for the management of liquid waste from collection, through treatment and resource recovery, to residual disposal
Relevant Government Law and Rule	➢ Yangon City Development Committee Law (2018), National Environmental Quality (Emission) Guidelines (2015), Underground Water Act
Time Frame	➢ Entire life spans of proposed project

Management Action	➢ Regular inspection and cleaning, oil traps, septic tank and adequate covers for all storage and waste disposal areas can decrease these contaminations.	
Monitoring and Reporting	Frequency	Biannually
	Parameters	pH, Turbidity, Conductivity, Iron, Sulpahte, TSS, TDS, Manganese, COD, BOD, Cyanide, Copper, Zinc, Carbonate
	Proper maintenance of drainage and sewerage system will be conducted periodically	
Estimated Cost	500,000 Kyats per year	
Responsible Person	Manager: To hire organization/ Independent third-party testing wastewater quality EHS officer: Monitor the condition of factory's drainage and sewerage system	

6.7. HAZARDOUS WASTE MANAGEMENT PLAN

Objective	➢ To avoid environmental pollution and adverse health effects due to its improper handing & disposal.
Relevant Government Law and Rule	➢ Yangon City Development Committee Law (2018), Explosive Ordnance Disposal Law (2018)
Time Frame	➢ Entire life spans of proposed project
Management Action	➢ Proper inspection and maintenance in storage of hazardous waste. ➢ Dispose of hazardous chemicals and containers in accordance with occupational health, safety and environmental requirements. ➢ The empty chemical containers will hand over to suppliers for recycle or appropriate disposal ➢ The hazardous wastes are transported by specially licensed carriers and disposed in a licensed faculty (e.g. DOWA and YCDC)
Monitoring and Reporting	Any hazardous materials purchased should include a Material Safety Data Sheet (MSDS), otherwise known as a Safety Data Sheet (SDS) or Product Safety Data Sheet (PSDS). By mandate of the World Health Organization's Inter-Organization Programme for the Sound Management of Chemicals (IOMC), all manufacturers of hazardous materials are required to provide a MSDS so that end users can treat the materials properly.
Estimated Cost	1,000,000 Kyats per year
Responsible Person	HSE Manager or Environmental Management Team of Yangon Pan-Pacific International Company Limited

6.8. ENERGY MANAGEMENT PLAN

Objectives:	➢ To improve energy efficiency, reduce cost, optimize capital investment, reduce environmental and greenhouse gas emissions, and conserve natural resources
Relevant government law and rule	➢ National Energy Management Committee (Myanmar Energy Master Plan 2015)
Time Frame	Once in a year throughout the factory life
Management Action	➢ Installation of timers and thermostats to control heating and cooling ➢ Energy saving light installed in different area of the factory for saving energy ➢ Used of energy saving devices must be installed ➢ Ensure that good housekeeping measures such as turning off equipment and lights when not in use
Monitoring & Reporting	Conduct annual energy efficiency of adult to find out the scope for energy saving
Estimated cost	Approximately 1,000,000 Kyats per year
Responsibility	Manager ➢ To arrange energy, audit technical personnel ➢ To monitor and record electricity consumption, other related energy issues and take necessary actions if any problem arises

6.9. EMERGENCY RESPONSE AND DISASTER MANAGEMENT PLAN

Objectives:	➢ To reduce the harmful effects of all hazards, including 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.
Relevant government law and rule	➢ The Employment and Skill Development Law (August 2013), ILO guide to Myanmar Labour Law (2017)
Time Frame	➢ Entire life spans of the factory operation
Management Action	➢ The factory management has taken proper measures to handle any emergency situation like fire, earthquake, flood and storm ➢ Provision and inspection of firefighting equipment and fire hydrant system in all the sections ➢ A detail evaluation plan (fire exist, emergency exit door, etc.) is established and communicated with workers ➢ Periodic inspection of safety relief valve provided with pressure vessels and equipment, preventive maintenance; aware the workers about electric shock by necessary training. ➢ Regular fire drill operation is conducted ➢ 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 ➢ 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. ➢ A medical team has been prepared for primary treatment (First Aid) ➢ 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. ➢ Build a safety committee which from firefighting team, rescue team. The committee arrange a meeting every month to discuss about safety management ➢ Ensure proper training of the employees about the disaster management, fire safety as well as occupational health and safety
Monitoring & Reporting	Weekly check fire extinguishers and water hydrant in position Daily inspect that all fire exist are open Servicing fire extinguisher and records accidents,
Estimated cost	Approximately 1,500,000 Kyats per year
Responsibility	Manager and EHS officer ➢ Arrange firefighting training after every 3 months ➢ Responsible for fire control and response ➢ Monitoring daily danger warning and bans

6.10. ENVIRONMENTAL MONITORING SCHEDULE AND REPORTING

The Environmental Monitoring Plan (EMoP) 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 EMoP. Table 6-1 is provided the environmental monitoring schedule for Yangon Pan-Pacific International Co.,Ltd. Co., Ltd. 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 6-1 Environmental monitoring process

Issues	Parameter	Frequency	Area to be monitored	Responsible Organization
Operation Phase				
Common	Monitoring of mitigation measures (**Error! Reference source not found.**)	Yearly (3 years after operation)	The project	Environmental Management Team's Yangon Pan-Pacific International Co.,Ltd.
Air quality	SO2, NO2, CO, CO2, PM2.5, PM10	Annually monitoring and reporting to ECD (first 3 years after operation)	One point in the factory	Environmental Management Team's Yangon Pan-Pacific International Co.,Ltd.
Waste Generation	Solid waste, Liquid waste and Hazardous waste	weekly	Recycle house and waste house and at the factory office	Environmental Management Team's Yangon Pan-Pacific International Co.,Ltd.
Fire	Visual inspection,	Monthly	At the factory	Environmental

Issues	Parameter	Frequency	Area to be monitored	Responsible Organization
Hazardous	firefighting equipment			Management Team's Yangon Pan-Pacific International Co.,Ltd.
Light intensity	Illuminance	Monthly	At the production line (especially cutting and QC)	Environmental Management Team's Yangon Pan-Pacific International Co.,Ltd.
Decommissioning Phase				
Air quality	SO2, NO2, CO, CO2, PM2.5, PM10	One time during this phase	One point in the production area	Land Owner
Noise	Noise level in decibel (dBA)	One time during this phase	One points in demolishing area	Land Owner
Rehabilitation	Recovering and Revegetation		All decommissioning area	Land Owner

6.11. 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, Yangon Pan-Pacific International Co., Ltd. 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. Estimation cost for EMP implementation is presented in Table 6-2.

Table 6-2 Cost estimation for EMP implementation

No	Item	Frequency/Times	Cost (MMK)
Mitigation Plan			
1	Maintenance of air ventilation system	Once per year	600,000 per year
2	Grass plantation within the area of factory compound	Once per three months	100,000 per three months
3	Solid waste disposal	12	20,000 per month
4	Purchase of Personal Protective Equipment (PPE)	Once per half a year	100,000 per month
5	Medical Check-up and Health Insurances	Once per year	800,000 per year
Monitoring Plan			
1	Air Quality	2	500,000 per year
3	Light level	2	50,000 per year
4	Environmental Monitoring report	1	500,000 lump sum

6.12. CAPACITY BUILDING AND TRAINING PLAN

The emergency preparedness is vital, as quick and correct response is necessary in case of emergency to reduce injuries, harm and other damage. Care should be given for during processing activities in order to prevent synthetic errors and accidental cases (e.g., electricity shock and fire hazards).

The emergency response plans should be established for handling all foreseeable emergencies in the workplace and must provide the following;

6.12.1. Assignment of responsibilities

All senior staff such as a line/production manager or safety officer should be assigned to lead the emergency response team and charged with the duties of (1) assessing the emergency and taking necessary actions (2) overseeing the implementation of the emergency response plan (3) organizing regular drill (4) ensuring all emergency equipment is well maintained.

6.12.2. Emergency procedures

Emergency procedures are operating instructions for employees to follow in emergency case About work safety in the concerned processing, the management team should

a) Identify and list out all possible emergency situations in the workplace
b) Assess the effects and impacts of the emergency situations
c) Establish emergency response plans
d) Provide and maintain emergency equipment and other necessary resources
e) Ensure that staff are familiarized with the arrangements in case of emergencies by providing procedural instructions and employee training and organizing drills

6.12.3. Training for Emergencies

The type, amount and frequency of training varies, depending upon the task's employees are expected to perform. Although training must be provided to employees at least annually, safety meetings and drills should be conducted at more frequent intervals.

Regardless of the specific type of facility, training should include, though not be limited to the following;

- Hazard recognition and prevention (fire, explosion, etc.)
- Proper use of fire extinguishers
- Emergency reporting procedures
- Preventive maintenance
- Hazardous materials spill response
- First Aid

6.12.4. Fire Prevention and Protection

The fire prevention and protection program must address the following topics:

Prevention; policies, practices and procedures designed to keep the conditions necessary for a fire from coming together

- Hot work permits

- Lockout/tag out policies
- Design specifications for storage of flammable materials

Severity reduction; policies, practices and procedures designed to reduce the spared of fire and end the fire.

- Emergency plans
- Alarm systems
- Portable fire extinguishers
- Fire Protection Equipment

Cleanup; policies, practices and procedures designed to return the affected area to an operational level and reduce other losses created by improper cleanup

- First aid
- Removal of debris to an appropriate waste site
- Equipment and facility repair

6.12.5. Fire Protection Equipment

1. Explosion Suppression Systems: Explosion suppression systems should be used in unusually hazardous areas such as elevator legs, boots and head, or in areas such as bins, distributors and tanks.

2. Portable Fire Extinguishers: All buildings within a facility must have fully charged and operable portable fire extinguishers. If employees are expected to use portable extinguishers or other firefighting equipment against incipient fires, they must be trained to use the equipment. Training must include the following:
   - Correct type of extinguisher to use on different classes of fire
   - Proper techniques for use of the equipment to extinguish a fire
3. Standpipes and Hoses: All areas within a facility that are above 75 feet from ground level and in which combustible materials other than grain are stored should have wet or dry standpipes and hoses installed.

4. Automatic Sprinkler Systems: Automatic sprinkler systems are recommended in areas containing combustible materials.

5. Fire Hydrants: All grain and feed mill facilities should have adequate public or private fire hydrants on site. Each fire hydrant should have an adequate water supply.

6.12.6. Fire Safety and Evacuation Plan

Fire Evacuation plans should include the following information

- Emergency escape routes must be clearly shown on floor plans and workplace maps
- Employers must know that their employees know the emergency escape routes
- Procedures for employees who must remain to operate critical equipment before evacuating
- Identification and assignment of personnel responsible for rescue or emergency medical aid

Fire Safety Plans should include the following information:

1. Procedure for reporting a fire or other emergency

2. Site plans indicating the following
   - The Occupancy assembly point
   - The locations of fire hydrants
   - The normal routes of fire department vehicles access
3. Floor Plans identifying the locations of the following
   - Exits
   - Primary evacuation routes
   - Secondary evacuation routes
   - Accessible egress routes
   - Areas of refuge
   - Exterior area for assisted rescue
   - Manual fire alarm boxes
   - Portable fire extinguishers
   - Occupant-use hose stations
   - Fire alarm annunciators and controls

The following American National Fire Fighting Association (NFFA) Standards must be following.

Table 6-3 American National Fire Fighting Association (NFFA) Standards

No.	Parameters	Proposed Capacity	Remark
1	Fire water flow	14 bars	
2	Deluging rate	12.0 liters/m2/min	
3	Foam rate	10.0 liters/m2/min	
4	Maximum water pressure	190 liters/min	For storage area

Emergency evacuation Drill: An exercise performed to train staff and occupants and to evaluate their efficiency and effectiveness in carrying out emergency excavation procedures

Employee Training and Response Procedures: Employee shall be trained in the fire emergency procedure described in their fire evacuation and fire safety plans and training should be based on these plans;

Frequency: Employee shall receive training in the contents of fire safety and evacuation plans and their duties as part of new employee orientation and at least annually thereafter. Records shall be kept and made available to the fire code official upon request.

Employee Training Program: Employee shall be trained in fire prevention, evacuation and fire safety in accordance with the following sections.

Fire Prevention Training - Employee shall be apprised of the fire hazards of the materials and processes to which they are exposed. Each employee shall be instructed in the proper procedures for preventing fires in the conduct of their assigned duties

Evacuation Training – Employees shall be familiarized with the fire alarm and evacuation signals, their assigned duties in the event of an alarm or emergency, evacuation routes, areas of refuge, exterior assembly areas and procedures for evacuation

Fire Safety Training – Employee assigned fire-fighting duties shall be train Toiled to know the locations and proper use of portable fire extinguishers or other manual fire-fighting equipment and the protective clothing or equipment required for its safe and proper use.

6.12.7. Site Fire Control

1. Alert other people through fire alarm
2. If small, control using an extinguisher
3. Contact fire brigade if not under immediate control
4. Attend to human life in immediate danger
5. For electrical fires turn off power before fighting
6. Once out of the building, stay out. Do not allow people to go back into the burning building to collect valuables. While evacuating the building, close doors (but do not lock) to slow down the spread of fire
7. Obey all instructions
8. Proceed to an emergency evacuation area (Muster Point)

6.12.8. Employee Information and Training

Employees must be informed about any operations in their work area where hazardous chemicals or materials are present. They must also be informed about the locations and availability of the hazard communication program, list of chemicals and SDSs. Employees must receive training on the following:

- Methods for detecting the presence or release of a hazardous chemical, such as monitoring devices and the visual
- appearance or odor of the chemical
- Physical and health hazards of chemicals in their work area
- How to protect themselves using work practices, emergency procedures and personal protective equipment
- How to interpret the information on the labels and MSDSs

6.12.9. Health and Safety Training Plan for Worker

Health and Safety Training plan currently used and provided in Yangon Pan-Pacific International Co., Ltd. to all employees and workers by trainings internally and externally. Specific trainings are recommended and conducted according to the health and safety guidelines to enhance worker's health and to prevent all potential risks and hazards might occur in the factory. All required trainings related to health and the respective departments propose safety or operational parts, top management makes decision and HR organizes and conducts the trainings.

Table 6-4 Training Plan in Yangon Pan-Pacific International Co.,Ltd.

No.	Health and Safety Guidelines	Training needs
1.	Management	General fire and emergency response plan, evacuation. All training materials and procedures covering health and safety for workers and employees
2.	Machine safety and noise management	Training for machine operations to all operators

		Use of PPE and proper use of any necessary protection Maintenance and Emergency procedures
3.	Environment safety	Understanding and training on recognition and maintenance not to affect environment
4.	Material storage and safety	Safety use of related devices and machines Use of necessary protections in working areas Sanitation work
5.	Fire Safety	Firefighting and evacuating training and practices Firefighting materials/ devices use
6.	First Aid	first aid / CPR/ AED training from providers (Outsource) training on hazard of pathogens

6.13. 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 Yangon Pan-Pacific International Co., Ltd's factory consists of three main sectors; Health, Education and Communities Development Sector. CSR activities are conducted in compliance with MIC's guideline for implementation of CSR program.

Yangon Pan-Pacific International Co., Ltd has a plan to implement and donate 2 percent of the profit per year for Corporate Social Responsibility (CSR) and Employee Welfare Arrangement (Table 6-5).

Table 6-5 CSR plan at Yangon Pan-Pacific International Co., Ltd.

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

6.13.1. 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.

6.13.2. 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 is that we want our manufacturing of 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.

6.13.3. 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.

6.14. 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 though Grievance Committee, which includes the responsible persons of Yangon Pan-Pacific International Co., Ltd. representative from Kyi Su Industrial Zone, Dagon Myothit (Seikkan) Township and representative from General Administration Department (Dagon Myothit Seikkan 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.

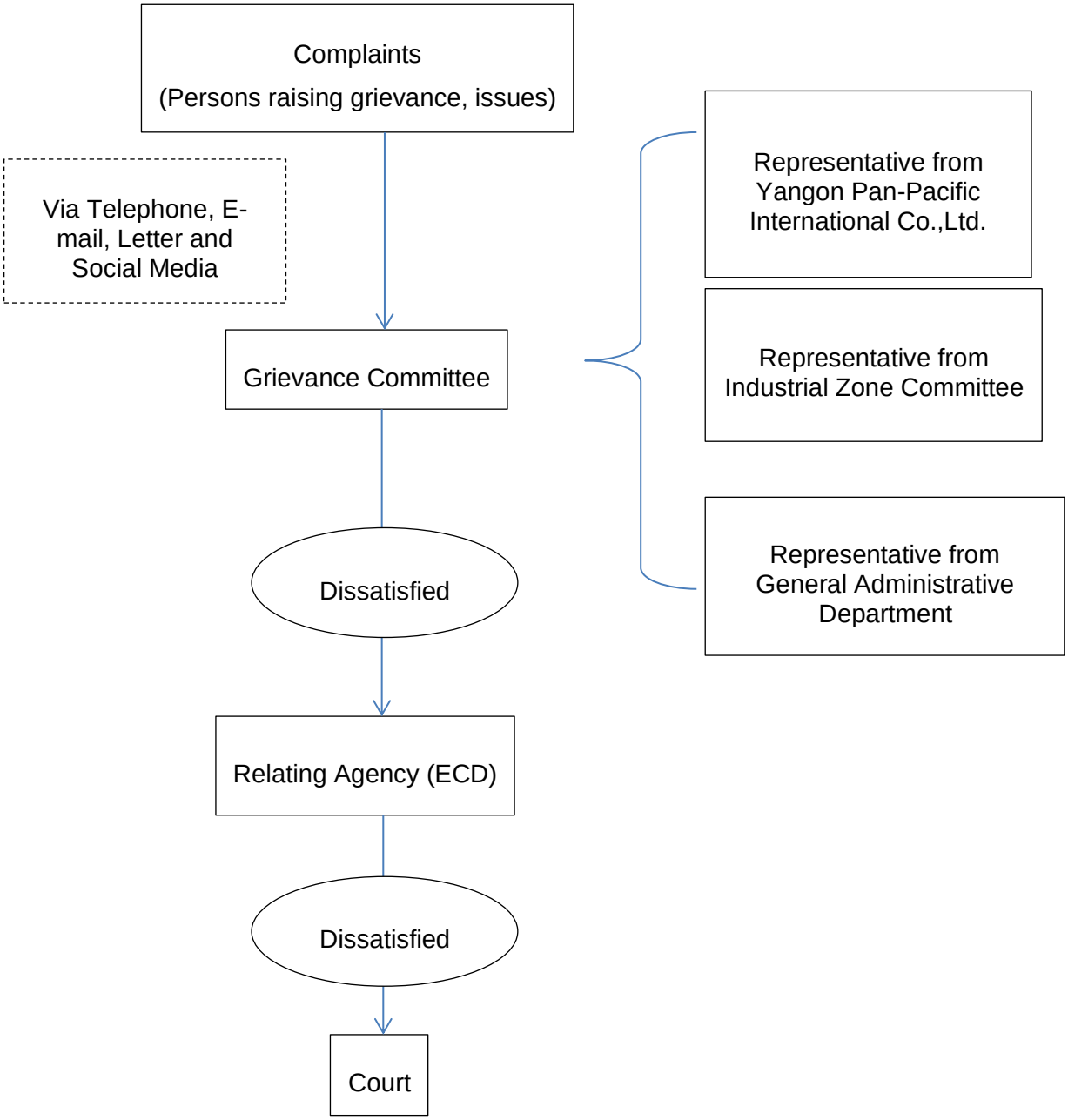


Figure 6-1 Grievance Redress Mechanism flow diagram

7. PUBLIC CONSULTATION DISCLOSURE

7.1. PUBLIC CONSULTATION PROCESS

This chapter presents public consultation and information disclosures during the remaining period of the Environmental Management Plan (EMP). Public consultation is the activities for gathering opinions and suggestions from related stakeholders. It will help to improve the implementation of the project, set the scope for the environmental impact assessment and development mitigation measures, which will be reported in the project's EMP report.

Public consultation conducted as part of this EMP project has three purpose:

1) Information the stakeholders about the Project, environmental and social issues related to project construction and operation, and mitigation measures to minimize environmental and social impacts;
2) Considering the views, concerns, and perceptions of stakeholders, communities and individuals that could be affected by the project or who otherwise have an interest in the project;
3) Participation and partnership where issues and needs are jointly discussed and assessed.

Although the public consultation is the effective way to achieve the information purpose, to seek views of the participation and partnership purpose, it cannot hold due to the current condition of Covid-19 diseases which started spreading in Myanmar since April, 2020.

During the preparation of this report, the second wave of Covid-19 disease becomes serious in Yangon. The Ministry of Health and Support declared to avoid gathering more than 5 people to avoid close contact and to prevent spreading of disease. Thus, the project condition, the present environmental condition and the management plan are through the social media of Myanwei Environmental Solutions Company Limited Facebook page (https://drive.google.com/file/d/1APxpeM1UpEnwWVbdmHUI4LnFIZom45_u/view?usp=drivesdk) declared in 5th November, 2020 due to current situation. The suggestion, complain and comments from the public, organization and stakeholder are warmly welcome and accept via mailing, comment, telephoning and messengers.

Details of project information disclosure in the public consultation PowerPoint presentation (**Appendix F**) which is prepared in Myanmar language includes as follows;

- Objective of EMP
- Project Description
- Existing Environment and Monitoring
- Potential Impact and Mitigation measures
- Cooperative Social Responsibility (CSR)

Figure 7-1 Announcement Post of Proposed Project at Social Media

8. CONCLUSION AND RECOMMENDATION

Environmental Management Plan (EMP) has been prepared for Yangon Pan-Pacific International Co., Ltd. factory which is located at Plot No. B-4, Myay Taing Block No. (175), Kyi Su Industrial Zone, Dagon Myothit (Seikkan) 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 manufacturing factory.

Yangon Pan-Pacific International Co., Ltd. is using ground water for both industrial and household (drinking and sanitation) purpose, which is supplied by deep tube well. The factory also has generators for electricity generation. The fuel used in the industry is Diesel and Purchased electricity. The sanitary liquid waste of the factory is stored in septic tank. There is no chemical used in the factory because the project is the simple process of garment manufacturing.

The major pollution caused by the factory's operation are water pollution by discharging liquid waste generated from domestic use, air pollution by generator's effluent gas emission, noise pollution created during the operation of generator and other machines.

Solid waste such as sludge, broken machine parts is hand over to local waste buyer or YCDC. 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.

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 hand, the factory has a positive impact in terms of environmental management 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 CSR program for Yangon Pan-Pacific International Co., Ltd's factory consists of three main sectors; Health, Education and Communities Development Sector. CSR activities are conducted in compliance with MIC's guideline for implementation of CSR program.

It 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 be disposed according to Yangon City Development Committee (YCDC) rules and regulations
- Workers should be provided proper training and it should be ensured that workers use PPE during factory operation area.
- Daily, monthly and annual action plans 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.
- Abide environmental policies, 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 Project Proponent shall submit monitoring report to the Ministry every six (6) months, as provided in a schedule in the EMP. The proponent should abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

9. REFERENCE

[1] General Administrative Department (Dagon Myothit Seikkan Township), Dagon Myothit (Seikkan) Township Data (2019).

[2] Hla Hla Aung, Potential Seismicity of Yangon Region (Geological Approach), “Yangon Surface Displacement as Detected by Insar Time Series Analyisi” 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.

[6] https;//weatherspark.com/y/112503/Average-Weather-in-Yangon-Myanmar-(Burma)-Year-Round

APPENDIX A
Yangon Pan-Pacific International Co., Ltd.

Myanmar Investment Commission Permit

THE REPUBLIC OF THE UNION OF MYANMAR

Myanmar Investment Commission

Amendment on Permit No. 296/1997 dated 28th November 1997

The Myanmar Investment Commission, at its meeting 10/2019 held on 28th June 2019, 14/2019 held on 30th August 2019 and 15/2019 held on 14th September 2019, approved the place of investment, the amount of foreign capital and the total amount of capital and the permitted duration of investment of Yangon Pan-Pacific International Company Limited which is carrying out manufacturing of garment and padding be changed from Training School, Myat Wut Yee Street, Thuwanna, Yangon to Myay Taing Block No.175, Plot No. B-4, Dagon Myothit (Seikkan) Township, Yangon Region, the amount of foreign capital and the total amount of capital be increased from US$ 8.000 million to US$ 11.238 million and the permitted duration of investment be extended to 30 years.

(g) **Place(s) at which investment is permitted** MYAY TAING BLOCK NO.175, PLOT NO. B-4, DAGON MYOTHIT (SEIKKAN) TOWNSHIP, YANGON REGION

(h) **Amount of Foreign Capital** US$ 11.238 MILLION

(j) **Total amount of capital (Kyat)** EQUIVALENT IN KYAT OF US$ 11.238 MILLION

(k) **Permitted duration of investment** 20 YEARS + 1 YEAR AND 19 DAYS + 1 YEAR + 30 YEARS (W.E.F 16-12-2019 to 15-12-2049)

for Chairman

(Thant Sin Lwin, Secretary)

Date: 23 October 2019

Location: Yangon

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်

၁၉၉၇ ခုနှစ် နိုဝင်ဘာလ ၂၈ ရက်စွဲပါ ခွင့်ပြုမိန့်အမှတ် ၂၉၆/၁၉၉၇ တွင် ပြင်ဆင်ချက်

၂၀၁၉ ခုနှစ် ဇွန်လ ၂၈ ရက်နေ့တွင် ကျင်းပပြုလုပ်ခဲ့သော မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှု ကော်မရှင်၏ ၁၀/၂၀၁၉ ကြိမ်မြောက် အစည်းအဝေး၊ ၂၀၁၉ ခုနှစ် သြဂုတ်လ ၃၀ ရက်နေ့တွင် ကျင်းပပြုလုပ်ခဲ့သော မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ ၁၄/၂၀၁၉ ကြိမ်မြောက် အစည်း အဝေးနှင့် ၂၀၁၉ ခုနှစ် စက်တင်ဘာလ ၁၄ ရက်နေ့တွင် ကျင်းပပြုလုပ်ခဲ့သော မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ ၁၅/၂၀၁၉ ကြိမ်မြောက် အစည်းအဝေးဆုံးဖြတ်ချက်များအရ အထည်ချုပ် လုပ်ငန်းနှင့် နိုင်လွန် ဂွမ်းကပ်လုပ်ငန်း ဆောင်ရွက်လျက်ရှိသော Yangon Pan-Pacific International Company Limited ၏ ရင်းနှီးမြှုပ်နှံသည့်အရပ်ဒေသအား သင်တန်းကျောင်း၊ မြတ်ဝတ်ရည်လမ်း၊ သုဝဏ္ဏ၊ ရန်ကုန်မြို့မှ မြေတိုင်းရပ်ကွက်အမှတ်-၁၇၅၊ မြေကွက်အမှတ် B-4၊ ဒဂုံမြို့သစ်(ဆိပ်ကမ်း)မြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီးသို့ပြောင်းလဲခြင်း၊ နိုင်ငံခြားမတည်ငွေရင်း ပမာဏနှင့် စုစုပေါင်းမတည်ငွေရင်းပမာဏအား အမေရိကန်ဒေါ်လာ ၈.၀၀၀ သန်းမှ ၁၁.၂၃၈ သန်းသို့ တိုးမြှင့်ခြင်းနှင့် ရင်းနှီးမြှုပ်နှံမှုခွင့်ပြုသည့်သက်တမ်းအား နောက်ထပ် ၃၀ နှစ်သို့ တိုးမြှင့် ခြင်းတို့အားပြင်ဆင်ခွင့်ပြုလိုက်သည်။

(ဆ) **ရင်းနှီးမြှုပ်နှံသည့်အရပ်ဒေသ(များ)** မြေတိုင်းရပ်ကွက်အမှတ်-၁၇၅၊ မြေကွက်အမှတ် B-4 ၊ ဒဂုံမြို့သစ်(ဆိပ်ကမ်း)မြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး

(ဇ) **နိုင်ငံခြားမတည်ငွေရင်း** အမေရိကန်ဒေါ်လာ ၁၁.၂၃၈ သန်း

(ည) **စုစုပေါင်း မတည်ငွေရင်းပမာဏ(ကျပ်)** အမေရိကန်ဒေါ်လာ ၁၁.၂၃၈ သန်း နှင့်ညီမျှသော မြန်မာကျပ်ငွေ

(ဋ) **ရင်းနှီးမြှုပ်နှံမှုခွင့်ပြုသည့် သက်တမ်း** ၂၀ နှစ်+ ၁ နှစ် ၁၉ ရက်+ ၁ နှစ် + ၃၀ နှစ် (၁၆-၁၂-၂၀၁၉ မှ ၁၅-၁၂-၂၀၄၉ ထိ)

ဥက္ကဋ္ဌ(ကိုယ်စား)
(သန့်စင်လွင်၊အတွင်းရေးမှူး)

ရက်စွဲ၊ ၂၀၁၉ ခုနှစ် အောက်တိုဘာလ ၂၄ ရက်
နေရာ၊ ရန်ကုန်မြို့

Confidential

Republic of the Union of Myanmar
Sr. No. 477.B
Date 23.10.19
Myanmar Investment Commission

THE REPUBLIC OF THE UNION OF MYANMAR

MYANMAR INVESTMENT COMMISSION

No.(1), Thitsar Road, Yankin Township, Yangon

Tel: 95-1-658128 Our ref:MIC-3/FI-423/2019(477-B)

Fax: 95-1-658141 Date : 23 October 2019

Subject: **Decision of the Myanmar Investment Commission for amendment of the place of investment, the amount of foreign capital and the total amount of capital and the permitted duration of investment of Yangon Pan-Pacific International Company Limited**

Reference: Yangon Pan-Pacific International Company Limited's letter dated 27th September 2019

1. The Myanmar Investment Commission, at its meeting 10/2019 held on 28th June 2019, 14/2019 held on 30th August 2019 and 15/2019 held on 14th September 2019, approved the place of investment, the amount of foreign capital and the total amount of capital and the permitted duration of investment of Yangon Pan-Pacific International Company Limited which is carrying out manufacturing of garment and padding be changed from Training School, Myat Wut Yee Street, Thuwanna, Yangon Region to Myay Taing Block No.175, Plot No. B-4, Dagon Myothit (Seikkan) Township, Yangon Region, the amount of foreign capital and the total amount of capital be increased from US$ 8.000 million to US$ 11.238 million and the permitted duration of investment be extended to 30 years.

2. Hence, the place of investment is hereby amended to Myay Taing Block No.175, Plot No. B-4, Dagon Myothit (Seikkan) Township, Yangon Region, the amount of foreign capital and the total amount of capital be amended to US$ 11.238 million and the permitted duration of investment be amended to 52 years and 19 days of Yangon Pan-Pacific International Company Limited on the Permit No.296/1997 dated 28-11-1997.

3. Yangon Pan-Pacific International Company Limited shall have to sign the Land Lease Agreement with U Ye Wint Aung. After signing the Agreement, five(5) copies shall have to be forwarded to the Commission.

Confidential

4. It is notified that Yangon Pan-Pacific International Company Limited shall have to abide by all terms and conditions stated on the Commission's letter No.YaKa-1/423/97(1436)dated 28-11-1997, YaKa -1/423/98(3195) dated 28-7-1998, YaKa-1/423/99 (4236) dated 12-8-1999, YaKa-7(kha)/Na-325/2008 (1829-A) dated 11-2-2009, YaKa-7(kha)/Na-361/2011(7808) dated 22-7-2011, DICA-1/FI-361/2014(5464-U) dated 29-5-2014, MIC-3/FI-423/2017(949) dated 28-12-2017 and MIC-3/FI-423/2018(570) dated 13-12-2018.

for Chairman

(Thant Sin Lwin, Secretary)

Yangon Pan-Pacific International Company Limited

cc: 1. The Office of the Union Government

2. Ministry of Home Affairs
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 Industry
7. Ministry of Commerce
8. Ministry of Planning and Finance
9. Ministry of Investment and Foreign Economic Relations
10. Chairman, CMP Enterprises Supervision Committee
11. Yangon Region Investment Committee
12. Office of the Yangon Region Government
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. Yangon Region Office, Directorate of Investment and Company Administration

APPENDIX B
Transitional Consultant Registration Certificate

THE REPUBLIC OF THE UNION OF MYANMAR

Ministry of Natural Resources and Environmental Conservation

Environmental Conservation Department

CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION

(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

No. 00068 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 (အဖွဲ့အစည်းအမည်)	Myanwei Consulting Co., Ltd.
(b)	Name of the representative in the organization (အဖွဲ့အစည်းကိုယ်စားလှယ်၏အမည်)	U Nyan Lynn Aung
(c)	Citizenship of the representative in the organization (အဖွဲ့အစည်းကိုယ်စားလှယ်၏နိုင်ငံသား)	Myanmar
(d)	Identity Card /Passport Number of the representative person in the organization (အဖွဲ့အစည်းကိုယ်စားလှယ်၏ မှတ်ပုံတင်/ နိုင်ငံကူးလက်မှတ် အမှတ်)	12/Sakhana(N)056196
(e)	Address of organization (ဆက်သွယ်ရန်လိပ်စာ)	No. 28, Myay nu street, Sanchaung Township, Yangon, Myanmar. Mobile phone: 09440251888 E mail: ceo@myanweiconsulting.com
(f)	Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Organization
(g)	Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 December 2019

Director General

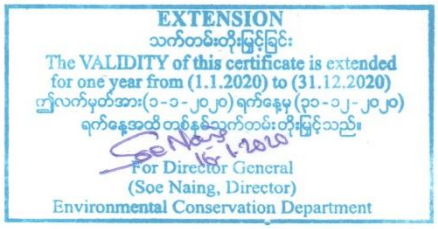
Environmental Conservation Department

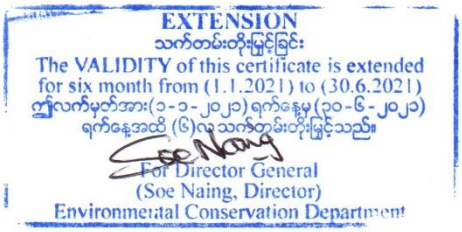
Ministry of Natural Resources and Environmental Conservation

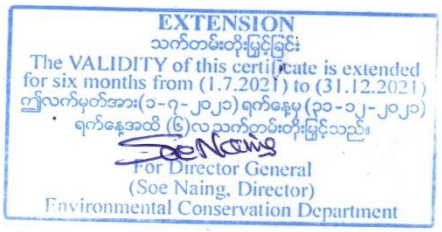
Areas of Expertise Permitted

(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

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







REPUBLIC OF THE UNION OF MYANMAR

Ministry of Natural Resources and Environmental Conservation

CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION

(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

No. 10048 Date

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

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for one year from (1.4.2018) to (31.3.2019)
ဤလက်မှတ်အား (၁-၄-၂၀၁၈) ရက်နေ့မှ (၃၁.၃.၂၀၁၉) ရက်နေ့အထိ တစ်နှစ်သက်တမ်း တိုးမြှင့်သည်။
12.10.2018
For Director General
(Soe Naing, Director)
Environmental Conservation Department

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

Areas of Expertise Permitted
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Geology and Soil

EXTENSION
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

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for six months from (1.7.2021) to (31.12.2021)
ဤလက်မှတ်အား(၁-၇-၂၀၂၁) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၁) ရက်နေ့အထိ (၆)လသက်တမ်းတိုးမြှင့်သည်။
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION (သက်တမ်းတိုးမြှင့်ခြင်း)
The VALIDITY of this certificate is extended for one year from (1.1.2022) to (31.12.2022)
ဤလက်မှတ်အား(၁-၁-၂၀၂၂) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၂) ရက်နေ့အထိ တစ်နှစ်သက်တမ်းတိုးမြှင့်သည်။
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)လသက်တမ်း တိုးမြှင့်သည်။
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 တစ်နှစ်သက်တမ်းတိုးမြှင့်သည်။
For Director General
(Soe Naing, Director)
Environmental Conservation Department

APPENDIX C
Air Monitoring Result

MYANWEI
ENVIRONMENTAL SOLUTIONS
Plot No. (36, 38), Room No. 9A, 9th floor, Grand Myay Nu Condominium, Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.
Office: (+95) 1 526574, Mobile: (+95) 9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting .com

Project Name:	Yangon Pan-Pacific International Company Limited
Project Location:	Land Plot No. B-4, Myay Taing Block No.175, Dagon Myothit (Seikkan) Township, Yangon Region.
Sampling Date:	August 26, 2020
Sampling Time:	1:00 PM to 4:00 PM
Sampling Condition:	
Sampling By:	Environmental Team Represented By Myanwei Environmental Solutions Company Limited

Instrument	Type	Sampling Rate	Location
OCEANUS-AQM-09	PM, O_3, NO_2, SO_2	0-999.9 (µg/m^3)	Operation Area

National Environmental Quality (Emission) Guideline

Parameter	Averaging period	Guideline value	Unit
PM 10[a]	1-year 24-hour	20 50	(µg/m^3)
PM 2.5[a]	1-year 24-hour	10 25	(µg/m^3)
O_3[a]	8-hour	100	(µg/m^3)
NO_2[a]	1-year 1-hour	40 200	(µg/m^3)
SO_2[a]	24-hour 10-min	20 500	(µg/m^3)

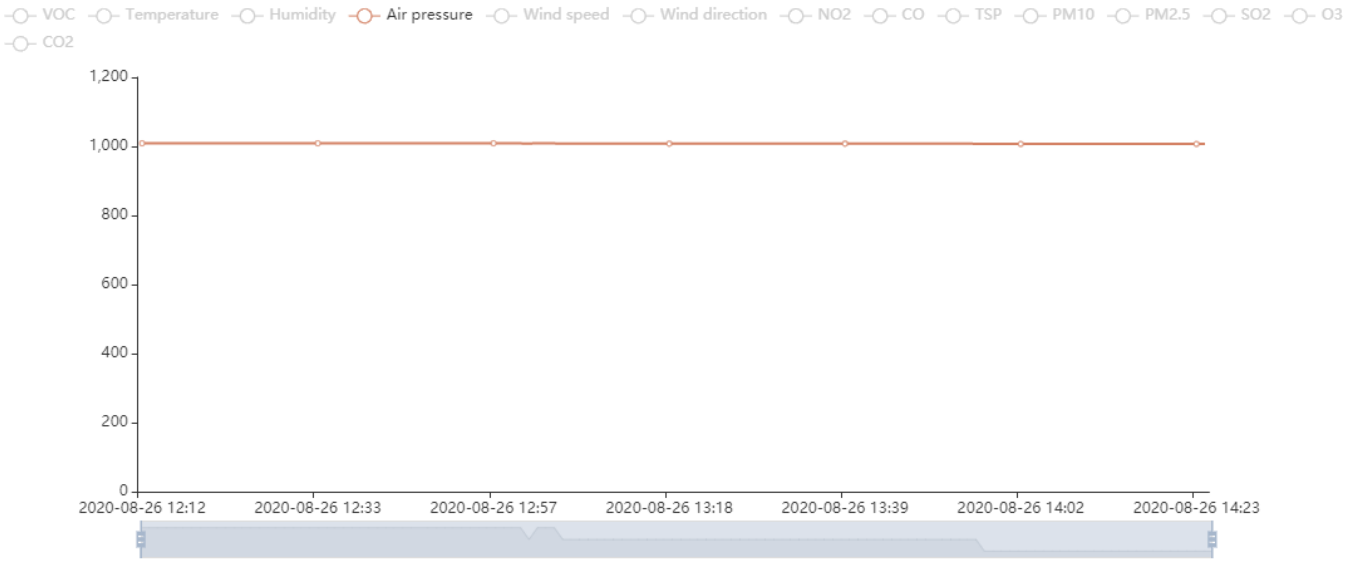
a. Values from air quality guidelines-global update 2005: particulate matter, ozone, nitrogen dioxide and sulfur dioxide.

Monitoring Result

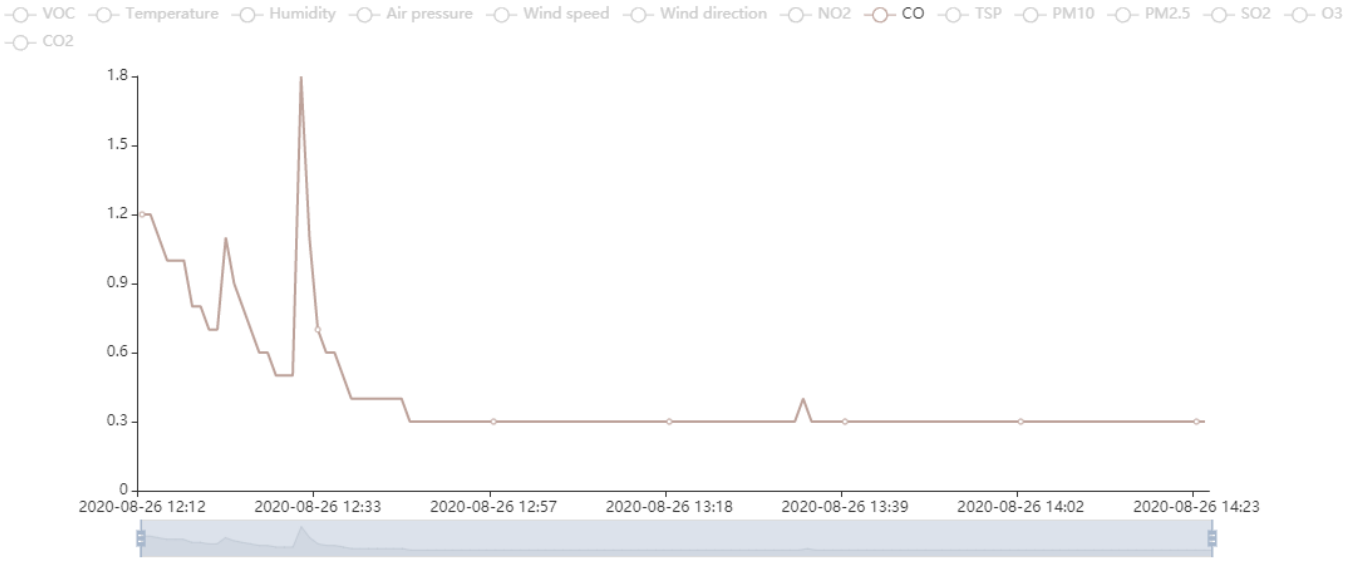
Parameters	Observed value	Guideline value	Unit	Organization	Period
PM_{10}	17.86	50	$\mu g/m^3$	NEQG	24 hours
$PM_{2.5}$	13.5	25	$\mu g/m^3$	NEQG	24 hours
SO_2	130.9	500	$\mu g/m^3$	NEQG	10 mins
NO_2	54.3	200	$\mu g/m^3$	NEQG	1 hour
O_3	37.2	100	$\mu g/m^3$	NEQG	8 hours
VOC	0.07	-	ppm	-	6 hours
Air Pressure	1008.16	-	hPa	-	6 hours
Wind Speed	0.13	-	m/s	-	6 hours
Wind Direction	184.78	-	°	-	6 hours
CO	0.412	-	ppm	-	6 hours
TSP	23.63	-	$\mu g/m^3$	-	6 hours
CO2	487.73	-	ppm	-	6 hours

LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS
COMPANY LIMITED.

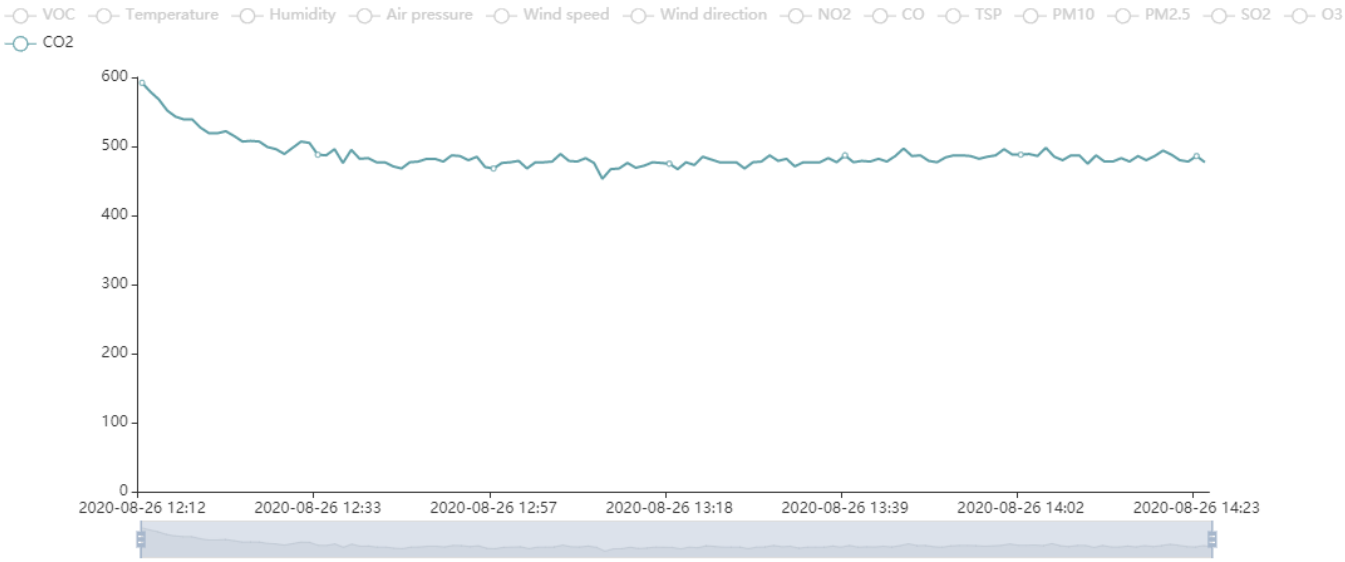
Air Quality Monitoring Graphs



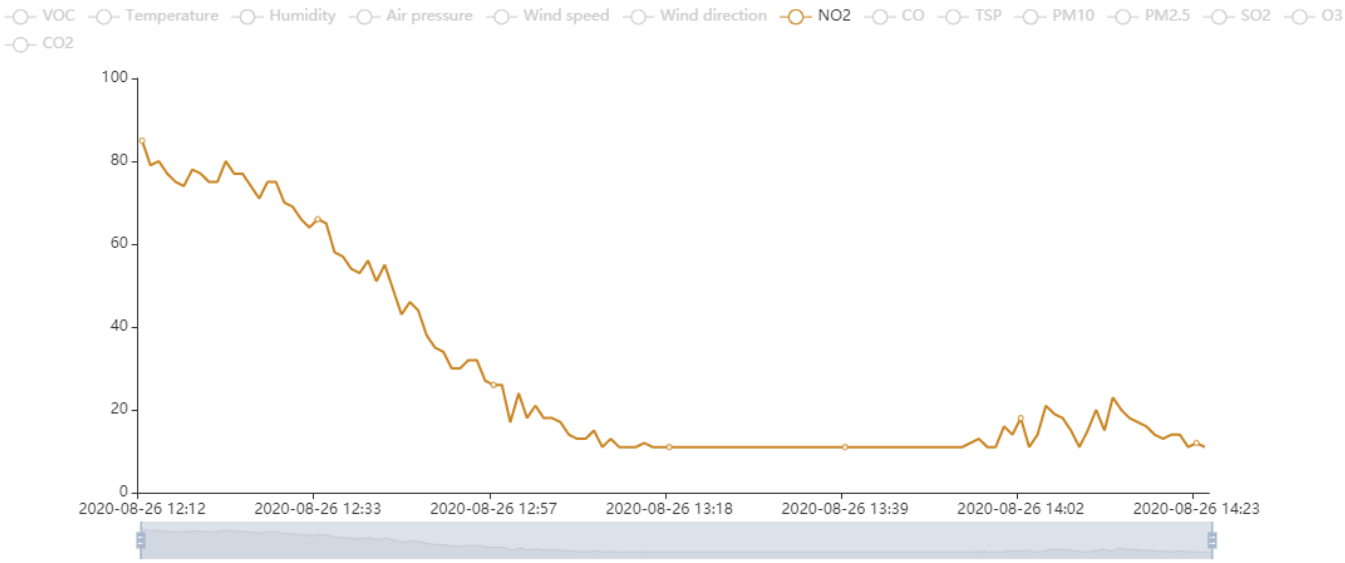
Air pressure (hPa)



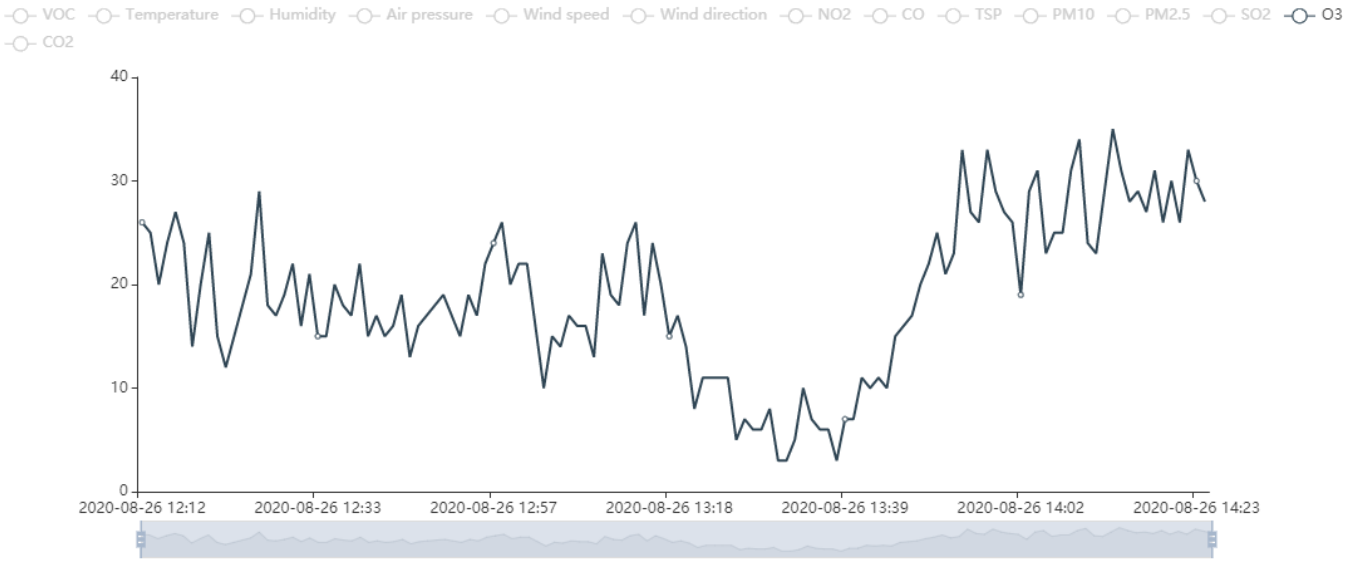
Carbon Monoxide (CO)



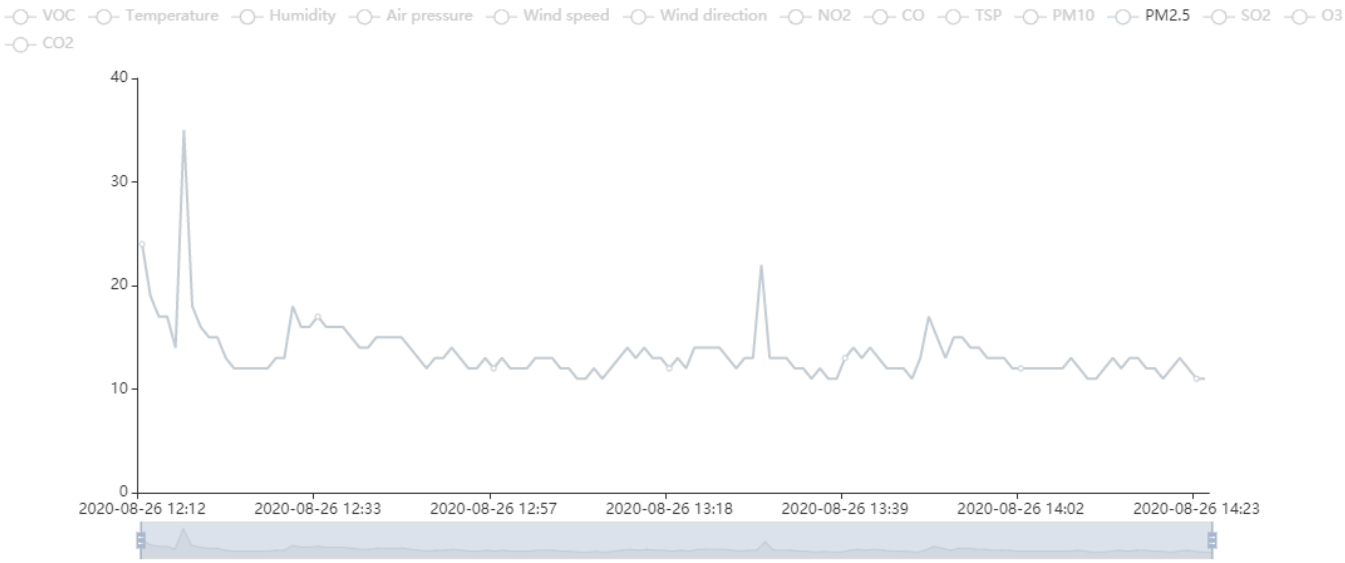
Carbon Dioxide (CO2)



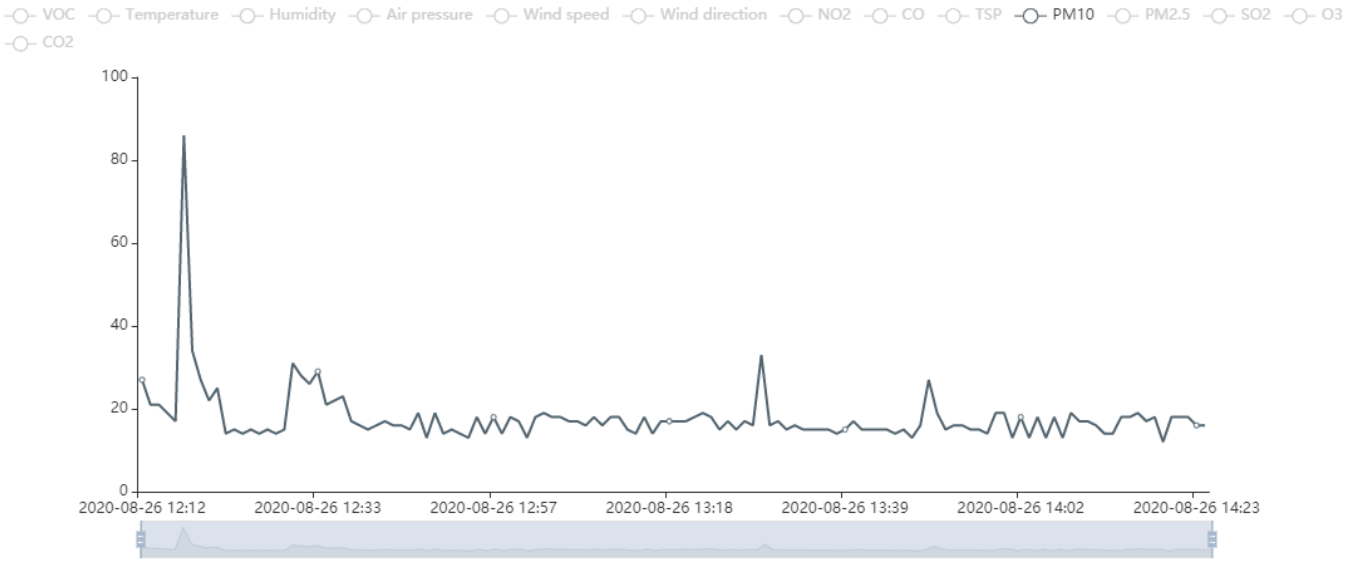
Nitrogen Dioxide (NO2)



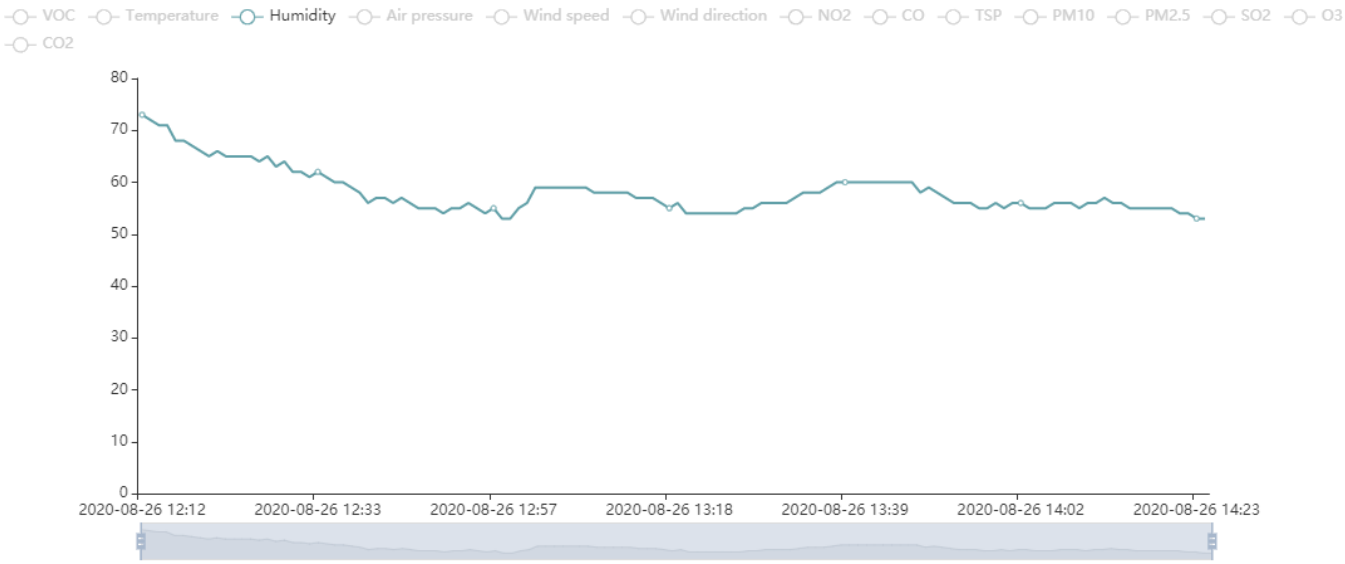
Ozone (O3)



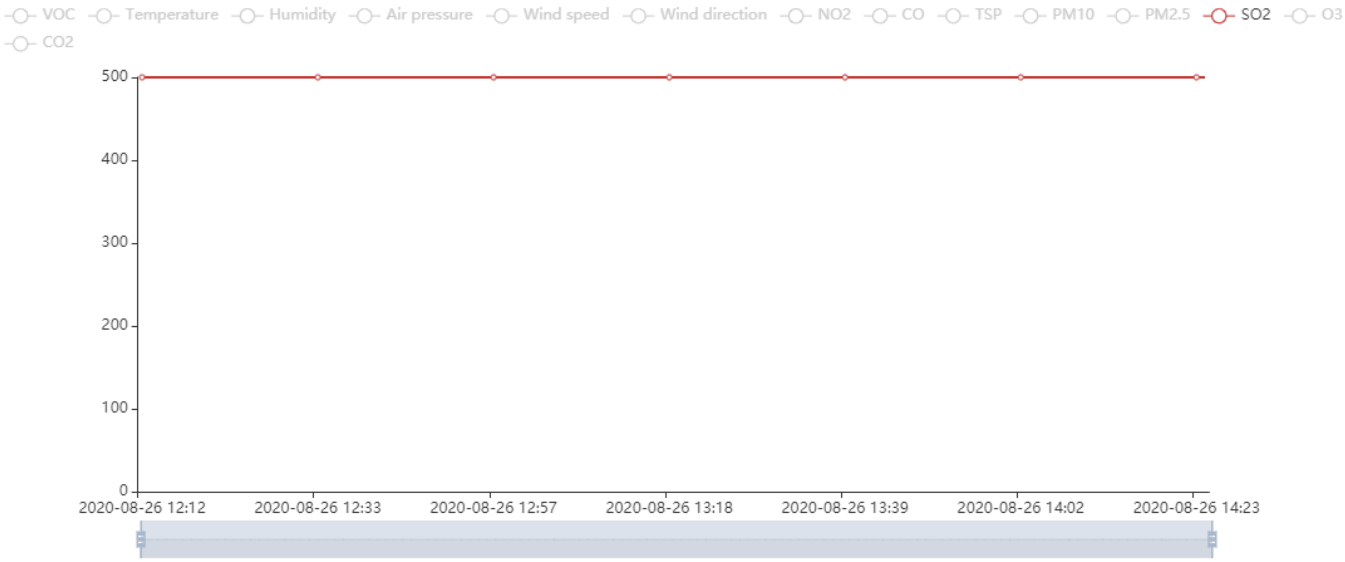
Particulate Matter (PM 2.5)



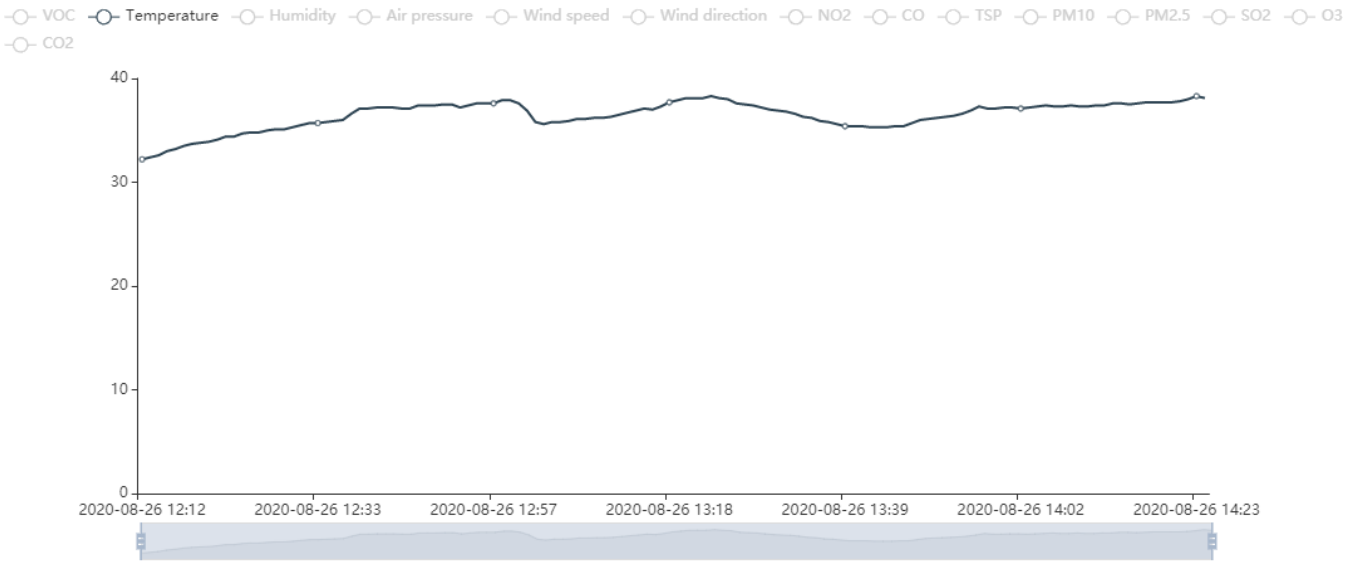
Particulate Matter (PM 10)



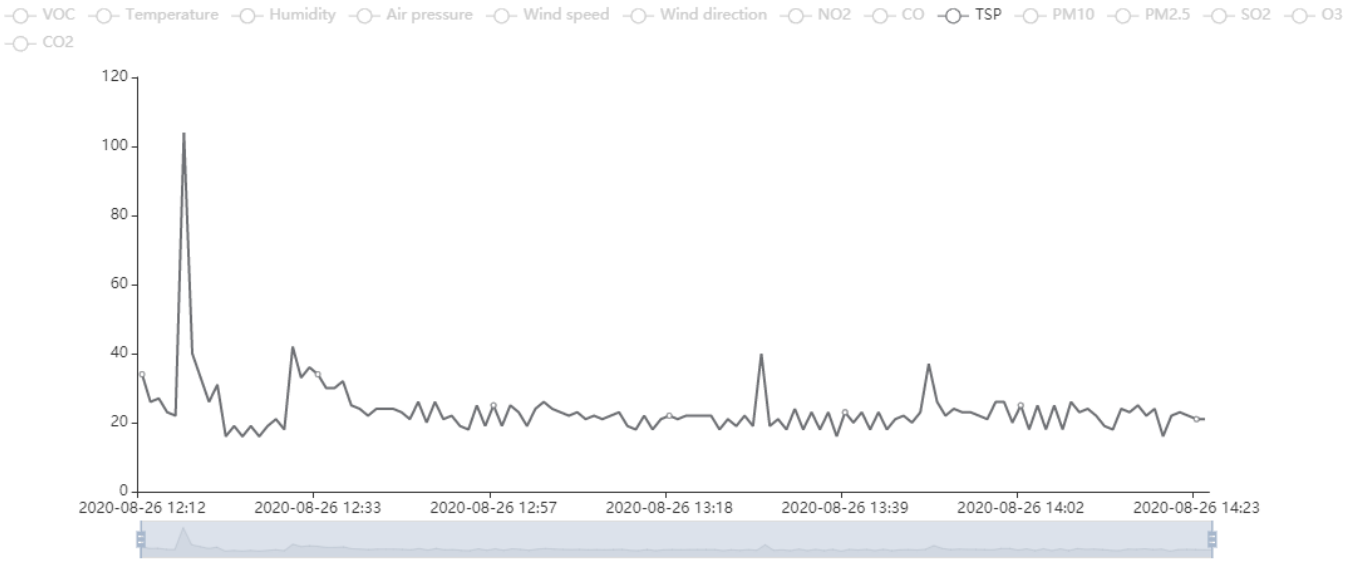
Relative Humidity (%)



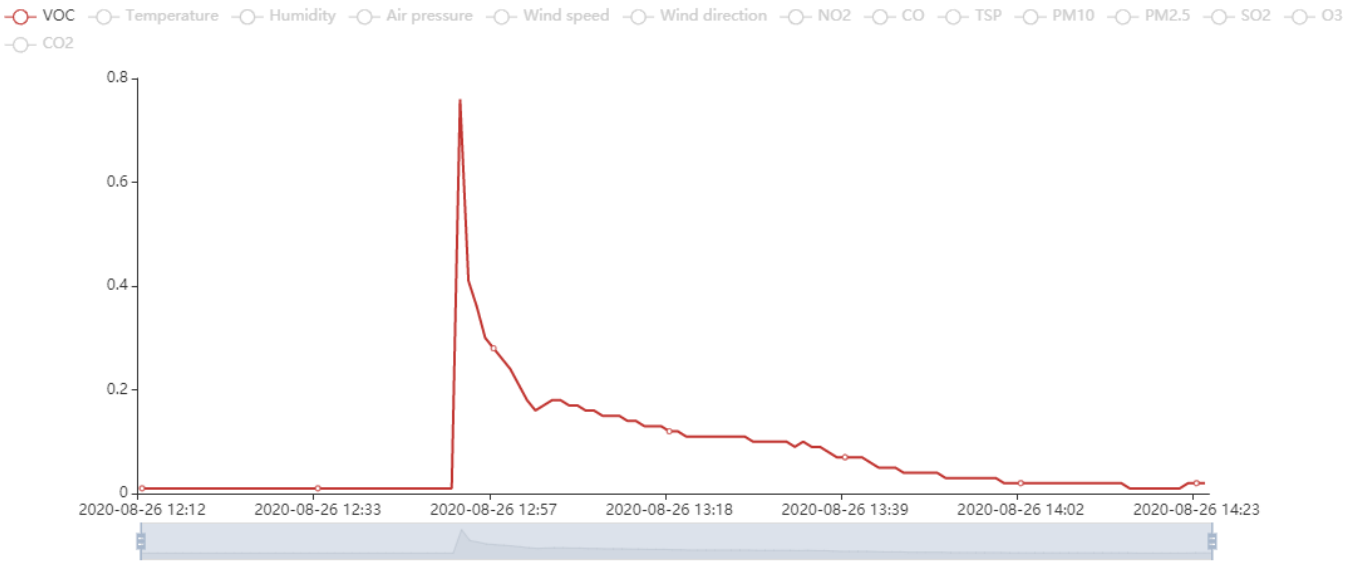
Sulphur Dioxide (SO2)



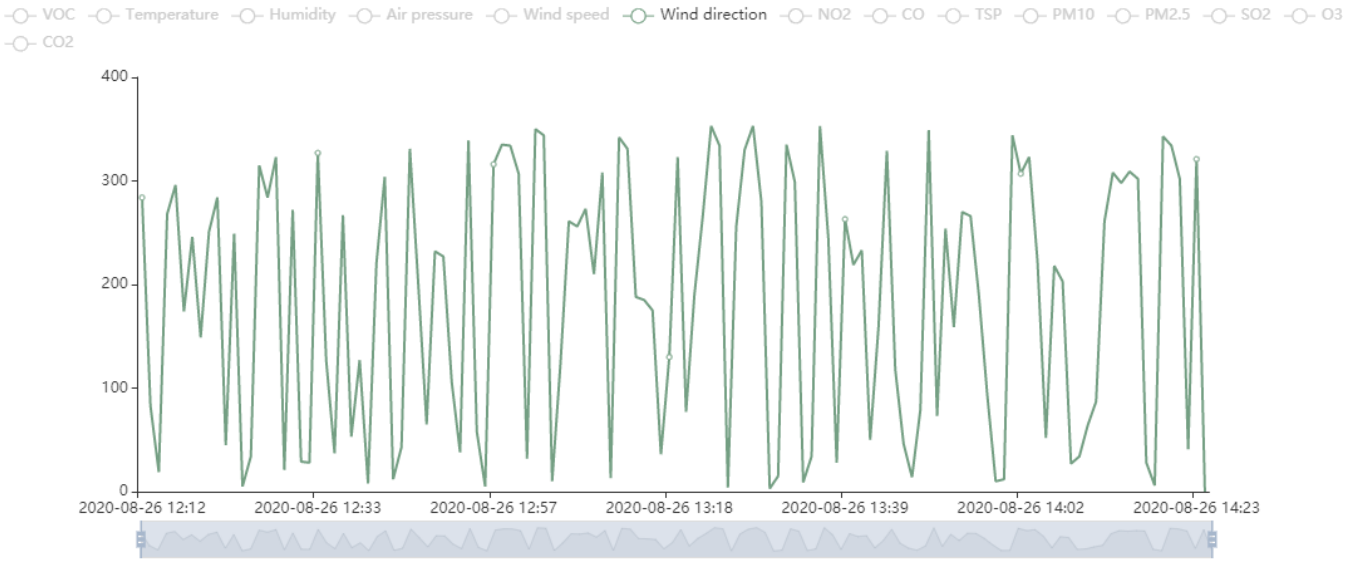
Temperature (°C)



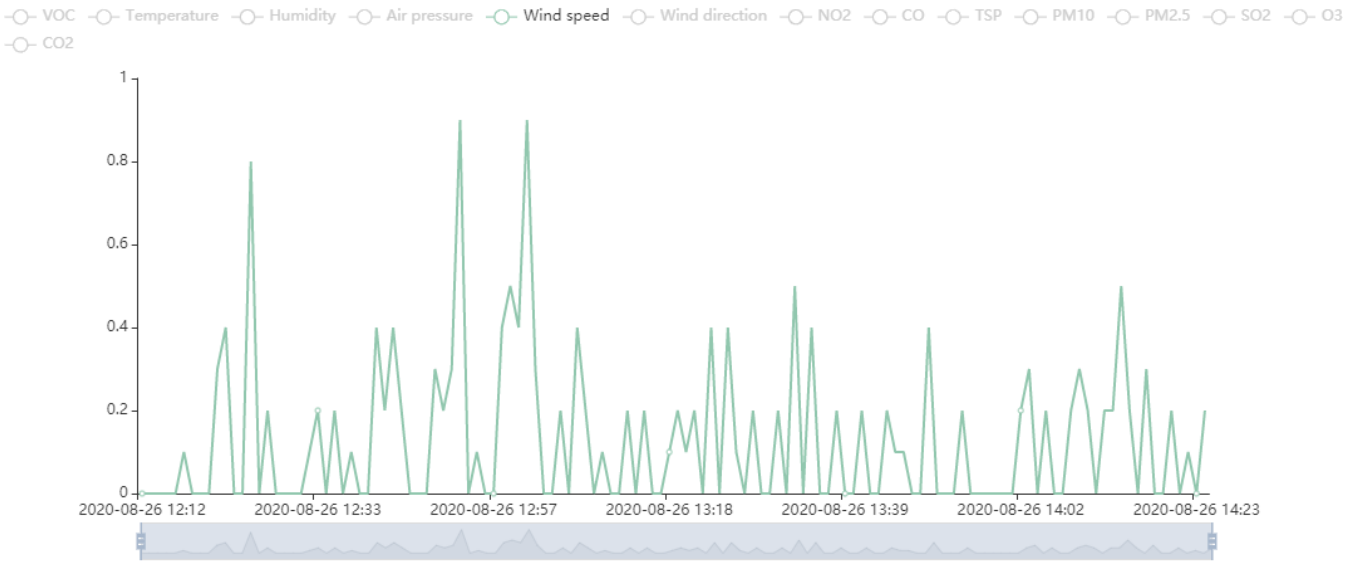
Total Suspended Particulars (TSP)



Volatile Organic Compound (VOC)



Wind direction (°)



Wind speed (m/s)

APPENDIX D
Noise Level Result

MYANWEI
ENVIRONMENTAL SOLUTIONS
Plot No. (36, 38), Room No. 9A, 9th floor, Grand Myay Nu Condominium, Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.
Office: (+95) 1 526574, Mobile: (+95) 9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting .com

Project Name:	Yangon Pan-Pacific International Company Limited
Project Location:	Land Plot No. B-4, Myay Taing Block No.175, Dagon Myothit (Seikkan) Township, Yangon Region.
Sampling Date:	August 26, 2020
Sampling Time:	1:00 pm To 4:00 pm
Sampling Condition:	
Sampling By:	Environmental Team Represented By Myanwei Environmental Solutions Company Limited

Instrument	Type	Sampling Rate	Location
Digital Sound Level Meter	GM 1356 USB	30 -130 dB	16°52'26.37"N 96°16'35.30"E

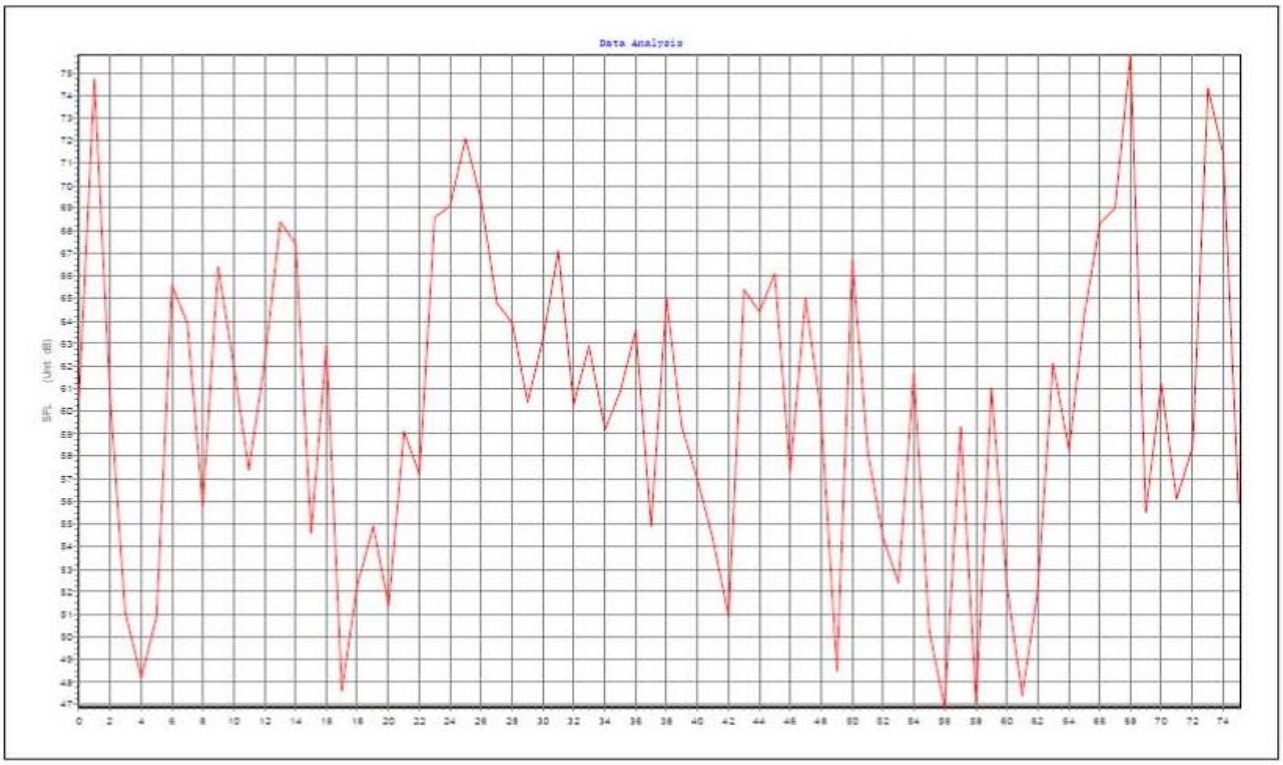
No	Place	Unit	Result	Standard	Remark
1	Operation Area	dBA	60.13 dBa	70 dBA	-

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.

Noise Graph



APPENDIX E
Light Result

MYANWEI
ENVIRONMENTAL SOLUTIONS
Plot No. (36, 38), Room No. 9A, 9th floor, Grand Myay Nu Condominium, Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.
Office: (+95) 1 526574, Mobile: (+95) 9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting .com

Project Name:	Yangon Pan-Pacific International Company Limited
Project Location:	Land Plot No. B-4, Myay Taing Block No.175, Dagon Myothit (Seikkan) Township, Yangon Region.
Sampling Date:	August 26, 2020
Sampling Time:	1:00 PM to 4:00 PM
Sampling Condition:	
Sampling By:	Environmental Team Represented By Myanwei Environmental Solutions Company Limited

Instrument	Type	Sampling Rate	Location
Uni-T (Luminometer)	UT380 Series	100 times/second	16°52'26.37"N 96°16'35.30"E

No.	Measure area	Unit	Result	Standard	Remark
1	Warehouse Area	Lux	1153	300	Above
2	Cutting Area	Lux	833	1000	Normal
3	Sewing Area	Lux	1277	400	Above
4	Ironing Area	Lux	1195	600	Above
5	Quality Inspection Area	Lux	1413.5	900	Above
6	Packing Area	Lux	1154	600	Above

IEESNA Lighting Handbook

Department	Type of Light	Wattage of Light	Lux Level
Warehouse	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.

APPENDIX F
Water Quality Result

ISO TECH LABORATORY

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

ISO 9001:2015 Cert. No. 688600

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

W0620 423

WATER QUALITY TEST RESULTS FORM

Client	YPI Co., Ltd.
Nature of Water	Treated Water
Location	South Dagon Township
Date and Time of collection	11.6.2020
Date and Time of arrival at Laboratory	12.6.2020
Date and Time of commencing examination	13.6.2020
Date and Time of completing	15.6.2020

Results of Water Analysis			WHO Drinking Water Guideline (Geneva - 1993)
pH	7.6		6.5 - 8.5
Colour (True)	Nil	TCU	15 TCU
Turbidity	Nil	NTU	5 NTU
Conductivity		micro S/cm	
Total Hardness	4	mg/l as $CaCO_3$	500 mg/l as $CaCO_3$
Calcium Hardness		mg/l as $CaCO_3$	
Magnesium Hardness		mg/l as $CaCO_3$	
Total Alkalinity	14	mg/l as $CaCO_3$	
Phenolphthalein Alkalinity		mg/l as $CaCO_3$	
Carbonate ($CaCO_3$)		mg/l as $CaCO_3$	
Bicarbonate (HCO_3)		mg/l as $CaCO_3$	
Iron	0.07	mg/l	0.3 mg/l
Chloride (as CL)		mg/l	250 mg/l
Sodium chloride (as NaCL)	25	mg/l	
Sulphate (as SO_4)		mg/l	500 mg/l
Total Solids	20	mg/l	1500 mg/l
Total Suspended Solids		mg/l	
Total Dissolved Solids	19	mg/l	1000 mg/l
Manganese		mg/l	0.05 mg/l
Phosphate		mg/l	
Phenolphthalein Acidity		mg/l	
Methyl Orange Acidity		mg/l	
Salinity		ppt	

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

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

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

APPENDIX G
Fire Fighting Training

မြို့ နယ် မီး သတ် ဦး စီး မှူး ရုံး
ဒ ဂုံ မြို့ သစ် (ဆိပ် ကမ်း) မြို့ နယ်
စာအမှတ်၊ ၀၅၃ / ၂၀ / ၁၅ / ဦး - ၁
ရက် စွဲ၊ ၂၀၂၀ ခု နှစ် ၊ မတ် လ ၃ ရက်

သို့

သက်ဆိုင်ရာ

အကြောင်းအရာ။ ထောက်ခံချက်ပေးပို့ခြင်း

ရန်ကုန်တိုင်းဒေသကြီး ၊ အရှေ့ပိုင်းခရိုင် ၊ ဒဂုံမြို့သစ်(ဆိပ်ကမ်း)မြို့နယ် ၊ ကျီစုစက်မှုဥယျာဉ်၊ ကနောင်မင်းသားကြီးလမ်း၊အမှတ် (B-4) ရှိ Yangon Pan -Pacific အထည်ချုပ်စက်ရုံတွင် လုပ်သား (၁၀၀) ဦးအား ဒဂုံဆိပ်ကမ်းမြို့နယ်မီးသတ်ဦးစီးမှူး ဦးဆောင်၍ (၂၉.၂. ၂၀၂၀) ရက်နေ့တွင် မီးဘေး လုံခြုံရေးအသိပညာပေးဟောပြောခြင်းနှင့် မီးသတ်ဆေးဘူးများအသုံးပြု၍လက်တွေ့မီးငြှိမ်းသတ်ခြင်း လေ့ကျင့်ခန်း များဆောင်ရွက်ခဲ့သည်မှာ မှန်ကန်ပါကြောင်းထောက်ခံအပ် ပါသည်။

မြို့နယ်မီးသတ်ဦးစီးမှူး
ဒဂုံမြို့သစ်(ဆိပ်ကမ်း)မြို့နယ်

မိတ္တူ

လက်ခံစာတွဲ

Certificate of Nurse aid

Sr.No. 07085

This is to certify that

Khin Lapyae Win

Regular Training

successfully completed

" BASIC FIRST AID TRAINING "

conducted by Myanmar Red Cross Society

from **21st** to **23rd May** 2018

The Training Topics included the following:

1. Red Cross Movement
2. First Aid Concept
3. Victim Assessment
4. Wounds and Bleeding
5. Shock
6. Burns and Scalds
7. Basic Life Support and Choking
8. Musculoskeletal Injuries and RICE Procedure
9. Poisoning, Animals Bites and Stings
10. Dressing and Bandaging
11. Head Injuries and Spinal Injuries
12. Unconsciousness
13. Handling and Transportation

The course included theory and practical exercises

Director (for)
First Aid and Safety Services Department
Myanmar Red Cross Society

Vice President
Myanmar Red Cross Society

Sr.No. 07086

This is to certify that

Khaing Mar Win

Regular Training

successfully completed

" BASIC FIRST AID TRAINING "

conducted by Myanmar Red Cross Society

from **21st** to **23rd May** 2018

The Training Topics included the following:

1. Red Cross Movement
2. First Aid Concept
3. Victim Assessment
4. Wounds and Bleeding
5. Shock
6. Burns and Scalds
7. Basic Life Support and Choking
8. Musculoskeletal Injuries and RICE Procedure
9. Poisoning, Animals Bites and Stings
10. Dressing and Bandaging
11. Head Injuries and Spinal Injuries
12. Unconsciousness
13. Handling and Transportation

The course included theory and practical exercises

Director (Fw)
First Aid and Safety Services Department
Myanmar Red Cross Society

Vice President
Myanmar Red Cross Society

Sr.No. 07078

This is to certify that

Ei Ei Paing

Regular Training

successfully completed

" BASIC FIRST AID TRAINING "

conducted by Myanmar Red Cross Society

from **21st** to **23rd May** 2018

The Training Topics included the following:

1. Red Cross Movement
2. First Aid Concept
3. Victim Assessment
4. Wounds and Bleeding
5. Shock
6. Burns and Scalds
7. Basic Life Support and Choking
8. Musculoskeletal Injuries and RICE Procedure
9. Poisoning, Animals Bites and Stings
10. Dressing and Bandaging
11. Head Injuries and Spinal Injuries
12. Unconsciousness
13. Handling and Transportation

The course included theory and practical exercises

Director (for)
First Aid and Safety Services Department
Myanmar Red Cross Society

Vice President
Myanmar Red Cross Society

Sr.No. 07084

This is to certify that

Ei Khaing Moe

Regular Training

successfully completed

" BASIC FIRST AID TRAINING "

conducted by Myanmar Red Cross Society

from **21st** to **23rd May** 2018

The Training Topics included the following:

1. Red Cross Movement
2. First Aid Concept
3. Victim Assessment
4. Wounds and Bleeding
5. Shock
6. Burns and Scalds
7. Basic Life Support and Choking
8. Musculoskeletal Injuries and RICE Procedure
9. Poisoning, Animals Bites and Stings
10. Dressing and Bandaging
11. Head Injuries and Spinal Injuries
12. Unconsciousness
13. Handling and Transportation

The course included theory and practical exercises

Director
First Aid and Safety Services Department
Myanmar Red Cross Society

Vice President
Myanmar Red Cross Society

Sr.No. 05749

This is to certify that

Su Su Khaing

Yangon Pan-Pacific Int'l Co., Ltd

successfully completed

" BASIC FIRST AID TRAINING "

conducted by Myanmar Red Cross Society

from **23rd** to **25th August** 2017

The Training Topics included the following:

1. Red Cross Movement
2. First Aid Concept
3. Victim Assessment
4. Wounds and Bleeding
5. Shock
6. Burns and Scalds
7. Basic Life Support and Choking
8. Musculoskeletal Injuries and RICE Procedure
9. Poisoning, Animals Bites and Stings
10. Dressing and Bandaging
11. Head Injuries and Spinal Injuries
12. Unconsciousness
13. Handling and Transportation

The course included theory and practical exercises

Director
First Aid and Safety Services Department
Myanmar Red Cross Society

Vice President
Myanmar Red Cross Society

Sr.No. 05747

This is to certify that

Nyein Nyein Ei

Yangon Pan-Pacific Int'l Co., Ltd

successfully completed

" BASIC FIRST AID TRAINING "

conducted by Myanmar Red Cross Society

from **23rd** to **25th August** 2017

The Training Topics included the following:

1. Red Cross Movement
2. First Aid Concept
3. Victim Assessment
4. Wounds and Bleeding
5. Shock
6. Burns and Scalds
7. Basic Life Support and Choking
8. Musculoskeletal Injuries and RICE Procedure
9. Poisoning, Animals Bites and Stings
10. Dressing and Bandaging
11. Head Injuries and Spinal Injuries
12. Unconsciousness
13. Handling and Transportation

The course included theory and practical exercises

Director
First Aid and Safety Services Department
Myanmar Red Cross Society

Vice President
Myanmar Red Cross Society

Sr.No. 07083

This is to certify that

Yu Yu

Regular Training

successfully completed

" BASIC FIRST AID TRAINING "

conducted by Myanmar Red Cross Society

from **21st** to **23rd May** 2018

The Training Topics included the following:

1. Red Cross Movement
2. First Aid Concept
3. Victim Assessment
4. Wounds and Bleeding
5. Shock
6. Burns and Scalds
7. Basic Life Support and Choking
8. Musculoskeletal Injuries and RICE Procedure
9. Poisoning, Animals Bites and Stings
10. Dressing and Bandaging
11. Head Injuries and Spinal Injuries
12. Unconsciousness
13. Handling and Transportation

The course included theory and practical exercises

Director (For)
First Aid and Safety Services Department
Myanmar Red Cross Society

Vice President
Myanmar Red Cross Society

Sr.No. 07082

This is to certify that

Aye Kham Le

Regular Training

successfully completed

" BASIC FIRST AID TRAINING "

conducted by Myanmar Red Cross Society

from **21st** to **23rd May** 2018

The Training Topics included the following:

1. Red Cross Movement
2. First Aid Concept
3. Victim Assessment
4. Wounds and Bleeding
5. Shock
6. Burns and Scalds
7. Basic Life Support and Choking
8. Musculoskeletal Injuries and RICE Procedure
9. Poisoning, Animals Bites and Stings
10. Dressing and Bandaging
11. Head Injuries and Spinal Injuries
12. Unconsciousness
13. Handling and Transportation

The course included theory and practical exercises

Director (for)
First Aid and Safety Services Department
Myanmar Red Cross Society

Vice President
Myanmar Red Cross Society

APPENDIX H
CSR activities photo

APPENDIX I
Power Point Presentation Slides

Yangon Pan-Pacific International Co.,Ltd. ၏ CMP စနစ်ဖြင့် အဂတ်ချုပ်လုပ်ငန်းနှင့်နိုင်လွန်ဂွမ်းကပ်ခြင်းလုပ်ငန်း

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီရင်ခံစာ (မူကြမ်း) အတွက် သက်ဆိုင်သူများနှင့် တွေ့ဆုံဆွေးနွေးပွဲ အခမ်းအနား။

နိုဝင်ဘာလ၊ ၂၀၂၀ ခုနှစ်။

Preparaed By

Myanwei Environmental Solutions Co., Ltd

အစည်းအဝေး အကြောင်းအရာ

၁။ Yangon Pan-Pacific International Co.,Ltd. အား မိတ်ဆက်ခြင်း

၂။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်အား မိတ်ဆက်ခြင်း

၃။ သက်ရောက်မှုဆန်းစစ်ခြင်း ရလဒ်များနှင့် ထိခိုက်မှုအဆင့်သတ်မှတ်ချက်များ

၄။ ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများနှင့် ဖြေလျော့ရေးနည်းလမ်းများ

၅။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ် နှင့်

၆။ စက်ရုံ၏ဆောင်ရွက်ချက်များ

Yangon Pan-Pacific International Company Limited စက်ရုံပြင်ပအဆောက်အအုံပုံစံ

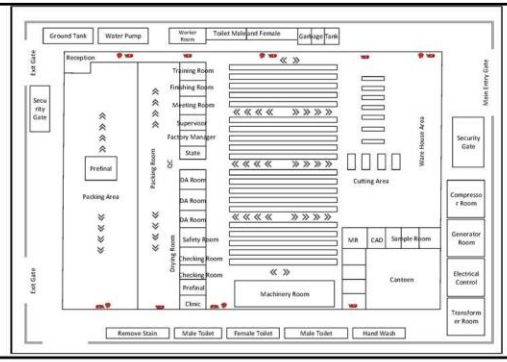
Yangon Pan-Pacific International Company Limited

လုပ်ငန်းအမျိုးအစား	CMP စနစ်ဖြင့် အဂတ်ချုပ်လုပ်ငန်းနှင့်နိုင်လွန်ဂွမ်းကပ်ခြင်းလုပ်ငန်း
ခွင့်ပြုမိန့်အမှတ်	(ခွင့်ပြုမိန့်အမှတ်- ၂၉၆/၉၇) ၁၉၉၇ ခုနှစ်၊ နိုဂင်ဘာလ။
ရင်းနှီးမြှုပ်နှံမှု	၁၀၀ ရာခိုင်နှုန်း နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု။
မြေဧရိယာ	မြေဧရိယာစုစုပေါင်း- ၃.၉၉ ဧက
အဆောက်အအုံ	အဆောက်အအုံတစ်လုံး (၁၄၀၄၀ စတုရန်း မီတာ)
ရင်းနှီးမြှုပ်နှံသည့်ကာလ	နှစ် ၃၀ ရင်းနှီးမြှုပ်နှံမှု။
စက်ရုံလိပ်စာ	မြေကွက်အမှတ် ဘီ-၄၊ မြေတိုင်းရပ်ကွက်အမှတ် (၁၇၅)၊ ကျိုစက်မှုဇုန်၊ ဒဂုန်မြို့သစ်ဆိပ်ကမ်း၊ ရန်ကုန်တိုင်းဒေသကြီး။

လုပ်ငန်းလည်ပတ်ရန်အခြေခံလိုအပ်ချက်များ

ရေအသုံးပြုမှုအခြေအနေ	
ရေအရင်းအမြစ်	အဝီစီတွင်းရေ (၁ တွင်း)
အဓိကလိုအပ်ချက်	
ခန့်အပ်မည့်လုပ်သားဦးရေ	၁၂၀၄ ဦး
အဓိကကုန်ကြမ်း	ချည်ထည်၊ နိုင်လွန်စ၊ကြေယ်သီးဖစ်အမျိုးမျိုး နှင့် ဆက်စပ်ပစ္စည်းများ။
နှစ်စဉ်ထွက်ကုန်ပစ္စည်းပမာဏ	နှစ်စဉ် ပျမ်းမျှထုတ်ကုန်အရေအတွက် တစ်ဆယ့်ခြောက်သိန်းကျော်။

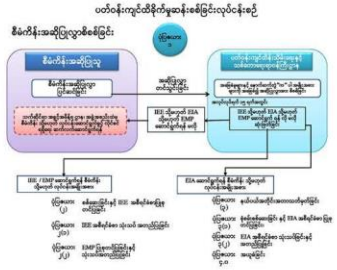
Yangon Pan-Pacific International Company Limited ၏စီမံကိန်း တည်နေရာ

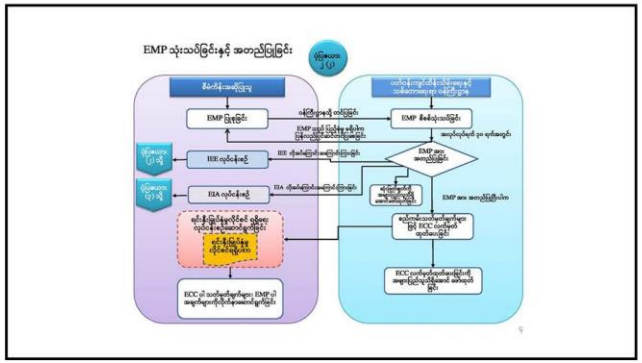


Vuino Gear Myanmar Company Limited ၏ ထုတ်ကုန်များ

ပတ်ဂန်းကျင်စိမ်ခန့်ခွဲမှု လုပ်ငန်းအား မိတ်ဆက်ခြင်း

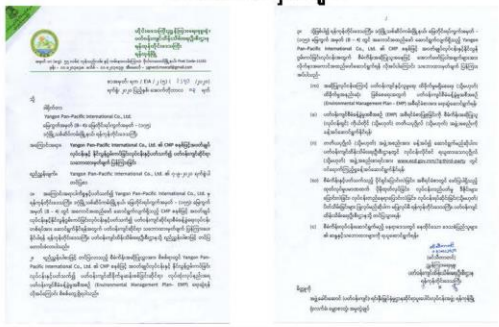
ပတ်ဂန်းကျင် စိမ်ခန့်ခွဲမှု လုပ်ငန်းစဉ်





ရန်ကုန်တိုင်းဒေသကြီးရင်းနှီးမြှုပ်နှံမှုကော်မတီအတည်ပြုမိန့်

သဘောထားမှတ်ချက်



သက်ရောက်မှုဆန်းစစ်ခြင်းရလာဒ်များနှင့် ထိခိုက်မှုအဆင့်သတ်မှတ်ချက်များ

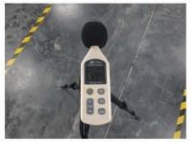
စီမံကိန်းပတ်ဝန်းကျင်အနေအထား

စဉ်	အကြောင်းအရာ	ဖော်ပြချက်
၁။	ကိုဩဒိနိတ်အမှတ်	မြောက်လတ္တီကျု ၁၆°၅၂'၂၆.၃၇"နှင့် အရှေ့လောင်ဂျီကျု ၉၆°၁၆'၃၅.၃၀"
၂။	ရာသီဥတုအခြေအနေ	ဒဂုန်မြို့သစ်ဆိပ်ကမ်းမြို့နယ် နှစ်စဉ်ပျမ်းမျှအမြင့်ဆုံးအပူချိန် ၄၅°C၊ အနိမ့်ဆုံးအပူအချိန် ၁၂.၅°C
၃။	စက်ရုံနေရာတွင်မြေအသုံးချမှု	စက်မှုလုပ်ငန်းနှင့်သက်ဆိုင်သောမြေအသုံးချမှုပုံစံ (စက်မှုဇုန်)
၄။	လမ်းပန်းဆက်သွယ်ရေး	ရှိုးမရိုပ်သာလမ်း၊ မင်းရဲကျောင်းပန်လမ်းမ
၅။	သစ်တောဧရိယာ	မရှိ
၆။	ကန့်သတ်ကာကွယ်ထားသော ဧရိယာ	မရှိ
၇။	တိုင်းတာမှုရလဒ်	❑ ဆူညံသံ တိုင်းတာခြင်း ❑ လေထုအရည်အသွေး တိုင်းတာခြင်း ❑ အပူချိန် နှင့် စိုထိုင်းမှု အရည်အသွေး တိုင်းတာခြင်း ❑ ရေအရည်အသွေး

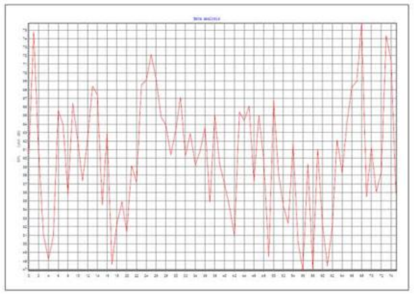
ဆူညံသံတိုင်းတာမှု

Date & Time	Location	GPS location	Noise Result	NEQ Guideline
26. August. 2020	Operation Area	16° 52' 26.37" N 96° 16' 35.30" E	60.13 dBA	70 dBA

အထက်ဖော်ပြပါ ဆူညံသံတိုင်းတာမှုရလဒ်များအရ
Vuino Gear Myanmar Company Limited.၏ဆူညံသံများမှာ National Environmental Quality (Emission) Guildline အတွင်းတည်ရှိနေသည်ကို ဆန်းစစ်တွေ့ရှိရပါသည်။



Vuino Gear Myanmar Company Limited ၏ဆူညံသံတိုင်းတာမှုပြ ဂရပ်

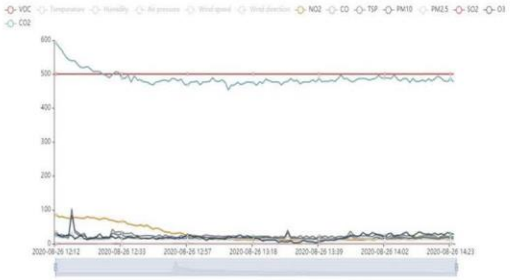


လေထုတိုင်းတာမှု

Parameters	Observed Value	Guideline Value	Unit	Organization	Period
PM10	17.86	50	µg/m³	NEQG	24 hours
PM2.5	13.5	25	µg/m³	NEQG	24 hours
SO2	130.9	500	µg/m³	NEQG	10 mins
NO2	54.3	200	µg/m³	NEQG	1 hours
O3	37.2	100	µg/m³	NEQG	8 hours
VOC	0.07	-	ppm	-	6 hours
Air Pressure	1008.16	-	hPa	-	6 hours
Wind Speed	0.13	-	m/s	-	6 hours
Wind Direction	184.78	-	°	-	6 hours
CO	0.412	-	ppm	-	6 hours
TSP	23.63	-	µg/m³	-	6 hours
CO2	487.73	-	ppm	-	6 hours

လေထုတိုင်းတာမှုပုံရိပ်များ

စီမံကိန်းဇရိယာအတွင်းလေထုတိုင်းတာမှုပြဂရပ်

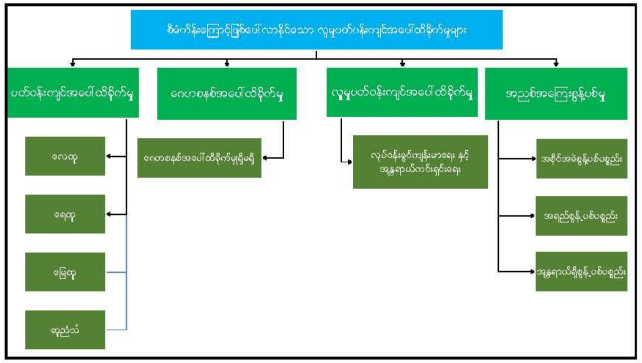


အလင်းရောင်တိုင်းတာမှု

No.	Location	Measure value (Lux)	Standard*	Remark
1	Warehouse Area	1153	300	Above
2	Cutting Area	833	1000	Above
3	Sewing Area	1277	400	Above
4	Ironing Area	1195	600	Above
5	Quality Inspection Area	1413.5	900	Above
6	Packing Area	1154	600	Above

စက်ရုံဧရိယာအလင်းရောင်တိုင်းတာမှုပုံရိပ်များ

ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများနှင့် ဖြေလျှော့ရေးနည်းလမ်းများ



သက်ရောက်မှု	စီမံကိန်းဆောင်ရွက်ချက်	လျော့နည်းစေရန် အရေးယူဆောင်ရွက်မှု
စီမံကိန်းလည်ပတ်ချိန်		
လေထု	မီးစက်၊မော်တော်ယာဉ်များမှ မီးခိုးများထွက်ခြင်း။	မီးစက် အတွက် မီးခိုး ခေါင်းတိုင်အသုံးပြုစေခြင်း။ မော်တော်ယာဉ်၊ မီးစက်များကို ပုံမှန် စစ်ဆေးခြင်း။
ဆူညံသံ	မီးစက်၊ အပ်ချုပ်စက်နှင့် မော်တော်ယာဉ် အသုံးပြုမှုတို့ကြောင့် ပတ်ဝန်းကျင်အပေါ် ဆူညံမှု	ဆူညံသံထွက်သောနေရာများကို အကာအကွယ်ဖြင့် ထားရှိခြင်း စက်ရုံဝန်ထမ်းများကို PPEအပြည့်အစုံအထောက်ပံ့ပေးခြင်း
မီးဘေး	ကုန်ကြမ်းသိုလှောင်မှု နှင့် လျှပ်စစ်သုံးစွဲ ပေါ့လျော့မှု	ကုန်ကြမ်းများအား သီးသန့်ထားရှိခြင်း လျှပ်စစ်သုံးစွဲမှုများအား စနစ်တကျ အသုံးပြုစေခြင်း
ကျန်းမာရေးစောင့်ရှောက်မှု	လုပ်ငန်းလည်ပတ်ခြင်းကြောင့် မတော်တဆထိခိုက်မှုဖြစ်ပေါ်ခြင်း၊	အရေးပေါ်အခြေအနေများအတွက် ပစ္စည်းကိုင်တွယ်မှု သင်တန်းပေးခြင်း၊ တစ်ကိုယ်ရေကာကွယ်သုံးပစ္စည်းများအသုံးပြုစေခြင်း
စွန့်ပစ်ပစ္စည်း (အစိုင်အခဲ၊ အရည်)	ထုတ်လုပ်ရာတွင်ကျန်ရှိသော ချည်မျှင်အပိုင်းအစများ။ နေအိမ်၊ စားသောက်ဆောင် တို့မှစွန့်ထုပ်ရေ၊ မိလ္လာကန်စနစ်	စွန့်ပစ်အမှိုက်များအား ပြန်လည်သုံးစွဲရန် နှင့် စွန့်ပစ်ရန် အဖြစ်သတ်မှတ်ပြီး သီးခြားစွန့်ပစ်စေခြင်း စွန့်ပစ်အရည်များအားသီးခြားရေနုတ်မြောင်းတွေဖြင့်စွန့်ပစ်ခြင်း။
အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများ	စက်များမှဆီယိုစိမ့်မှုများ။ နိုင်လွန်ပိုက်စများ။ တစ်ခြားမီးလောင်လွယ်သောအမှိုက်များ	စက်သုံးဆီများအားစနစ်တကျ အသုံးပြုစေခြင်း၊ စနစ်တကျသိုလှောင်ခြင်း နှင့် အန္တရာယ်ရှိပစ္စည်းများအား စနစ်တကျထားရှိစေခြင်း

သက်ရောက်မှု	စီမံကိန်းဆောင်ရွက်ချက်	လျော့နည်းစေရန် အရေးယူဆောင်ရွက်မှု
စီမံကိန်းပိတ်သိမ်းချိန်		
လေထု	အဆောက်အဦးဖြိုချမှု သယ်ယူမှုများ	လျော့ချရန်မလိုပါ။
ရေထု	မြေပေါ် မြေအောက်အပေါ်သက်ရောက်မှုမရှိနိုင်ပါ	လျော့ချရန်မလိုပါ။
ဆူညံသံ	ဆူညံသံများမဖြစ်ပေါ်နိုင်ပါ။	လျော့ချရန်မလိုပါ။
လုပ်ငန်းခွင် ဘေးအန္တရာယ်	လုပ်ငန်းခွင်ဖျက်သိမ်းချိန်တွင် မတော်တဆမှုများဖြစ်ပေါ်နိုင်ခြင်း	လုပ်သားများကို တစ်ကိုယ်ရေ ကာကွယ်သုံး ပစ္စည်းများအသုံးပြုစေခြင်း။
စွန့်ပစ်ပစ္စည်း (အစိုင်အခဲ၊ အရည်)	စီမံကိန်းဖျက်သိမ်းရာမှ တည်ဆောက်ရေး ပစ္စည်း အကျိုးအပဲ့များထွက်ခြင်း၊ ကျန်ရှိနေသော မိလ္လာကန်များ။	အမှိုက်များကို မြို့တော် စည်ပင်သာယာရေး ကော်မတီနှင့် ချိတ်ဆက်၍ စွန့်ပစ်ခြင်း
အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်း	စက်ဆီ၊ ဒီဇယ်ပုံးအခွံများ	ဓာတုပစ္စည်းထည့်ထားသော ပုံးခွံများ၊ ဒီဇယ်ပုံးအခွံများကိုဆေးကြော၍ ပြန်လည်အသုံးပြုခြင်း။ စနစ်တကျစွန့်ပစ်ခြင်း

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်

လေထုညစ်ညမ်းမှုလျော့ချရေး

ရည်ရွယ်ချက်	စီမံကိန်းကြောင့် စက်ရုံမှ ထွက်သော ဓာတ်ငွေ့များနှင့် မီးစက်များမှ ထွက်ရှိသော ဓာတ်ငွေ့များကြောင့် လေထုညစ်ညမ်းမှုကို လျော့ချရန်
လိုက်နာရမည့် စည်းကမ်း	**အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး(ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ (၂၀၁၅)**
စီမံခန့်ခွဲမှု အစီအစဉ်	▪ စက်ရုံအတွင်းနှင့် အနားပန်းကျင်တွင် သစ်ပင်ပန်းမန်စိုက်ပျိုးခြင်း ▪ စက်ရုံအတွင်း မည်သည့်စွန့်ပစ်ပစ္စည်းများအား မီးရှို့ဖျက်စီးခြင်း မပြုလုပ်ခြင်း ▪ လုပ်သားများအား Personal Protective Equipment (PPE) ဟုခေါ်သော အကာအကွယ်ပစ္စည်းများဖြစ်သည့် လေကာ/နေကာမျက်မှန်များ၊ နှာခေါင်းစည်း၊ စသည်တို့အားထောက်ပံ့ခြင်း၊ အသိပညာပေး သင်တန်းများ ပေးခြင်း
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	▪ ပြုပြင်ထိန်းသိမ်းရေးအရာရှိ - လေထုညစ်ညမ်းမှုလျော့ချရေးနည်းလမ်းများ ▪ ထုတ်လုပ်ရေးမန်နေဂျာ- လုပ်ငန်းခွင်လေထုသန့်ရှင်းရေး ▪ မန်နေဂျာ - ပတ်ဝန်းကျင်လေအရည်အသွေးတိုင်းတာရန် (ThirdParty) ဖြင့်ညှိနှိုင်းဆောင်ရွက်ရန်

ဆူညံသံလျော့ချရေး

ရည်ရွယ်ချက်	ဘေးပတ်ဝန်းကျင်ဆူညံမှုဖြစ်ပေါ်စေရန် နှင့် စက်ရုံရှိ မီးစက်နှင့် အခြားစက်ပစ္စည်းများ ကြောင့် လုပ်သားများအပေါ် ထိခိုက်မှု လျော့ချရန်
လိုက်နာရမည့် စည်းကမ်း	▪ **ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်း (၂၀၁၅)** ▪ **အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး(ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ (၂၀၁၅)**
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ မီးစက်၊လေမှုတ်စက်တို့ကို ဆူညံသံထိန်းချုပ်နိုင်သော ခန်းဖွဲ့စည်းပုံစံ တည်ဆောက်ထားခြင်း ▪ လုပ်ငန်းသုံးယာဉ်များကိုဆူညံသံလျော့ချရန်သတ်မှတ်အရှိန်ထက်ကျော်လွန်မမောင်းစေခြင်း ▪ လုပ်သားများအား Personal Protective Equipment (PPE) ဟုခေါ်သော အကာအကွယ်ပစ္စည်းများဖြစ်သည့် နားအကာကွယ်ရေးပစ္စည်းများ စသည်တို့အား ထောက်ပံ့ခြင်း၊ အသိပညာပေး သင်တန်းများ ပေးခြင်း
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	မန်နေဂျာ - ဆူညံသံတိုင်းတာရန် (ThirdParty) ဖြင့်ညှိနှိုင်းဆောင်ရွက်ရန်

အမှိုက်အစခွန့်ပစ်မှု ထိန်းသိမ်းရေး

ရည်ရွယ်ချက်	**စွန့်ပစ်အမှိုက်ထွက်ရှိမှုလျော့ချရေးနှင့် စွန့်ပစ်အမှိုက်ကြောင့် ပတ်ဝန်းကျင်ညစ်ညမ်းမှုကို လျော့ချရန်**
လိုက်နာရမည့်စည်းကမ်း	▪ **ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်း (၂၀၁၅)** ▪ **National Waste Management Strategy and Action Plan (Draft 2018)**
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ စက်ရုံမှ မည်သည့်စွန့်ပစ်ပစ္စည်းမှ မြစ်၊ ချောင်း၊ အင်း၊ အိုင် အဝွင်းသို့ မစွန့်ပစ်ရ ▪ စက်ရုံတွင် စွန့်ပစ်ပစ္စည်းများကို ပြန်လည်အသုံးပြုနိုင်သောပစ္စည်း(ဆိုးဆေး၊ စက္ကူစာ၊ ပလက်စတစ်၊ စသည်ဖြင့်) များကို ပြည်ဝင်းပယ်ယူသူများထံ ပြန်လည်ရောင်းချခြင်း ▪ စွန့်ပစ်ရန်ပစ္စည်း(လုပ်သားများမှစွန့်ပစ်ပစ္စည်းနှင့်မီးဖိုရောင်ထွက်ပစ္စည်းများ)ကို မြို့တော်စည်ပင်သာယာရေးအဖွဲ့အစည်း ကို နေ့စဉ်ပေါ်ယူပြီး သိမ်းဆည်းရေခြင်း ▪ အန္တရာယ်ရှိပစ္စည်း (စက်ဆီအဟောင်းများ၊ ဘျစ်စ်ပစ္စည်းအပျက်များ၊ သံထည်ပစ္စည်း) များကို ဝယ်ယူသူသံဖြန်လည် သိမ်းဆည်းရေခြင်း ▪ စက်ရုံတွင် အမှိုက်စွန့်ပစ်ရန် အတွက် အမှိုက်ပုံးများကို စီမံထားခြင်း ▪ စက်ရုံဝန်းထမ်းအားလုံးကို စနစ်တကျ အမှိုက်စွန့်ပစ်ရန် တိုက်တွန်းနှိုးဆော်ထားခြင်း
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	▪ မန်နေဂျာ - စက်ရုံအတွင်းသန့်ရှင်းရေးအတွက်စီမံခန့်ခွဲရန်တာဝန်ရှိသည် ▪ အမှိုက်စွန့်ပစ်မှု ပုံမှန်ပြုလုပ်ရန်နှင့် စွန့်ပစ်ပစ္စည်းသယ်ယူသူများကို ပုံမှန်ပြုလုပ်ရန် တာဝန်ယူဆောက်ရွက်ရန်

စွန့်ပစ်အရည် ထိန်းသိမ်းရေး

ရည်ရွယ်ချက်	**မြေပေါ် ရေနှင့် မြေအောက်ရေ ညစ်ညမ်းမှုမဖြစ်စေရေး**
လိုက်နာရမည့်စည်းကမ်း	▪ ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်း (၂၀၁၅) ▪ အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး(ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ (၂၀၁၅)
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ စက်ရုံရေမြောင်းများနှင့်မိလ္လာစနစ်ကို စနစ်တကျ သန့်ရှင်းအောင်ထားရှိခြင်း လုံလောက်သည့်အတိုင်းအတာ ပမာဏရှိခြင်း ▪ မိလ္လာစနစ်ကို ပုံမှန်စစ်ဆေးပြီး လိုအပ်သကဲ့သို့ ထိန်းသိမ်းပြုပြင်ခြင်း ▪ စက်ရုံရေမြောင်းအတွင်းတွင် ပိတ်ဆို့မှုမရှိစေရန်နှင့် အနံ့ဆိုးများမထွက်စေရန်စီမံခြင်း
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	မန်နေဂျာ - စွန့်ထုတ်ရေအရည်အသွေးတိုင်းတာရန် (ThirdParty) ဖြင့်ညှိနှိုင်းဆောင်ရွက်ရန်

စွမ်းအင်သုံးစွဲမှု ထိန်းသိမ်းရေး

ရည်ရွယ်ချက်	လျှပ်စစ်သုံးစွဲမှုလျော့ချစေရန်နှင့် လုပ်ငန်းခွင်အတွင်း လျှပ်စစ်သုံးစွဲမှုကြောင့် အန္တရာယ်မရှိစေရန်
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ စက်ရုံတွင်း လျှပ်စစ်သုံးစွဲမှုများအတွက် စွမ်းအင်လျော့ချနိုင်သည့် စက်ကရိယာများတပ်ဆင်ခြင်း ▪ အသုံးမပြုလျှင် စက်ကရိယာများပိတ်ဆင်ထားခြင်း ▪ စွမ်းအင်အသုံးနည်းသော Lighting စနစ်တပ်ဆင်ခြင်း ▪ စက်ပစ္စည်းနှင့် Lighting အသုံးပြုမှုကို စောင့်ကြည့်ထိန်းသိမ်းရေးစနစ်ထားရှိခြင်း (ဥပမာ-အသုံးမပြုပဲမီးဖွင့်ထားခြင်း၊ စက်ဖွင့်ထားခြင်းမျိုး မရှိစေရန်)
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	မန်နေဂျာ

မြေအောက်ရေသုံးစွဲမှု

ရည်ရွယ်ချက်	ရေသုံးစွဲမှုလျော့ချရေး
လိုက်နာရမည့်စည်းကမ်း	The Underground Water Act (1930)
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ ရေအသုံးပြုမှု သိရှိနိုင်သော မီတာတပ်ဆင်ခြင်း ▪ ဝန်ထမ်းများအားအသိပညာပေးခြင်းနှင့် လိုက်နာဆောင်ရွက်ရန် တိုက်တွန်းခြင်း ▪ စက်ရုံရှိတာဝန်ရှိပုဂ္ဂိုလ်များအား (Third Party) နေဖြင့်မြေအောက်ရေအကျိုးရှိရှိအသုံးချရန်စည်းကမ်းချက်နဲ့အညီ လမ်းညွှန်ထားခြင်း။
တာဝန်ယူရမည့် ပုဂ္ဂိုလ်	မန်နေဂျာ ▪ ရေ အသုံးပြုမှုစာရင်း စစ်ဆေးခြင်း ▪ ဝန်ထမ်းများလိုက်နာဆောင်ရွက်မှု စစ်ဆေးခြင်း

အရေးပေါ် အခြေအနေတုန့်ပြန်မှု

ရည်ရွယ်ချက်	စက်ရုံတွင်းမတော်တဆထိခိုက်မှု လျော့ချရေး
လိုက်နာရမည့်စည်းကမ်း	အလုပ်အကိုင်နှင့် ကျွမ်းကျင်မှုဖွံ့ဖြိုးတိုးတက်ရေးဥပဒေ (၂၀၁၃), ILO guide to Myanmar Labour Law (2017)
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ အရေးပေါ်အခြေအနေဖြစ်သော (မီး၊ ငလျင်၊ ရေကြီးရေလျှံမှု) တို့အတွက် စက်ရုံတွင် စီမံခန့်ခွဲမှုရှိခြင်း ▪ စက်ရုံအမီးသတ်စနစ်များကို ပုံမှန်စစ်ဆေးခြင်း ▪ ရေးဆွဲထားသော အရေးပေါ်တုန့်ပြန်ရေး အစီအစဉ်များကို ဝန်ထမ်းများ အကျွမ်းတဝင်ဖြစ်စေရန် စီမံထားခြင်း ▪ လောင်စာသိုလှောင်နေရာများ၊ လျှပ်စစ်ဖြန့်ဖြူးရေးနေရာများကို အဓိကထားပြီး စောင့်ကြည့်စစ်ဆေးခြင်း၊ ပြုပြင်မွမ်းမံခြင်း ▪ ပုံမှန်မီးဘေးကာကွယ်ရေး၊ ငလျင်လှုပ်ခတ်လျှင် ပြုလုပ်ရမည့်ပုံစံများ၊ ရေကြီးရေလျှံမှု အခြေအနေထိန်းသိမ်းရေး အစီအစဉ်များ၊ ရှေးဦးပြုစုခြင်းသင်တန်းများကို ပုံမှန်လေ့ကျင့်မှုများ သင်ကြားမှုများ ပြုလုပ်ခြင်း ▪ အရေးပေါ် ဆက်သွယ်ရန် ဖုန်းနံပါတ်၊ လိပ်စာများ၊ အများသူငါမြင်သာစေသောနေရာများတွင် ကပ်ထားခြင်း ▪ စက်ရုံတွင်း မီးသတ်အဖွဲ့ငယ်၊ အန္တရာယ်ကင်းရှင်းရေး စောင့်ကြည့်ရေးအဖွဲ့ငယ်များထားရှိပြီး လစဉ် ဆွေးနွေးတိုင်ပင်ခြင်း လေ့ကျင့်ခြင်းများ ပြုလုပ်ခြင်း
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	▪ Manager and EHS officer ▪ မီးသတ်သင်တန်းများ ၃ လတစ်ကြိမ်ပြုလုပ်ရန်စီမံပေးခြင်း ▪ အရေးပေါ်အခြေအနေနှင့် မတော်တဆထိခိုက်မှုမရှိစေရေး စောင့်ကြည့်စစ်ဆေးခြင်း

ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်မှု

ကဏ္ဍ	အမျိုးအစား	ကြိမ်နှုန်း	နေရာ	တာဝန်ရှိသူ
စီမံကိန်းတည်ဆောက်နေစဉ်				
လေထု	SO2, NO2, CO, CO2, PM2.5, PM10	တစ်ကြိမ် (တည်ဆောက်နေစဉ်အတွင်း)	စီမံကိန်းဧရိယာ	Environmental Management Team's Yangon Pan-Pacific International Company Limited and Third Party
ရေထု	pH, Apparent Colour, Turbidity, TDS, Total solids, Chloride, Free Cyanide, Nitrate, Arsenic, Cadmium, Copper, Iron, Lead and Zinc	တစ်ကြိမ် (တည်ဆောက်နေစဉ်အတွင်း)	အနီးဆုံး မြစ်၊ ချောင်း၊ မြေအောက်ရေ	Environmental Management Team's Yangon Pan-Pacific International Company Limited and Third Party
ဆူညံသံ	dBA	တစ်ကြိမ် (တည်ဆောက်နေစဉ်အတွင်း)	စီမံကိန်းဧရိယာ	Environmental Management Team's Yangon Pan-Pacific International Company Limited and Third Party
မီးဘေး	မီးသွယ်တန်းမှု	တစ်လ တစ်ကြိမ်	စီမံကိန်းဧရိယာ	Environmental Management Team's Yangon Pan-Pacific International Company Limited and Third Party
လုပ်ငန်းခွင်ကျန်းမာရေး နှင့် လုံခြုံမှု	မတော်တဆမှုများ၊ ဆောက်လုပ်ရေးလုပ်သားများအတွက် တစ်ကိုယ်ရေကာကွယ်သုံး ပစ္စည်းများပေးခြင်း	တစ်လ တစ်ကြိမ်	ဆောက်လုပ်ရေး လုပ်သားများ	Environmental Management Team's Yangon Pan-Pacific International Company Limited and Third Party
အမှိုက်စွန့်ပစ်မှု	အစိုင်အခဲ ၊ အရည်	တစ်ပတ်တစ်ကြိမ်	စီမံကိန်းဧရိယာ	Environmental Management Team's Yangon Pan-Pacific International Company Limited and Third Party

ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်မှု

ကဏ္ဍ	အမျိုးအစား	ကြိမ်နှုန်း	နေရာ	တာဝန်ရှိသူ
စီမံကိန်းလည်ပတ်ချိန်				
လေထု	$PM_{2.5}$, PM_{10}, SO_2, NO_2	တစ်နှစ် ၂ကြိမ်	ထုပ်လုပ်မှု ဧရိယာအတွင်း	Yangon Pan-Pacific International Company Limited
ဆူညံသံ	ဆူညံသံ ပမာဏ	တစ်ပတ် ၂ကြိမ်	၂ နေရာ (ထုပ်လုပ်မှု ဧရိယာ အတွင်း)	Yangon Pan-Pacific International Company Limited
အမှိုက်စွန့်ပစ်မှု	အစိုင်အခဲ အရည် နှင့် အန္တရာယ်ရှိပစ္စည်း	အပတ်စဉ်	စက်ရုံအတွင်း ပြန်လည်အသုံးပြုရန်နှင့် စွန့်ပစ်ရန်ဟူ၍ အမှိုက်ပုံများအား ခွဲခြားခြင်း	Yangon Pan-Pacific International Company Limited
မီးဘေးအန္တရာယ်	မီးသတ်အထောက်အကူပစ္စည်းများနှင့်အရေးပေါ် ဖုန်းနံပါတ်များ	လစဉ်	စက်ရုံဧရိယာ အတွင်း	Yangon Pan-Pacific International Company Limited
အလင်းရောင်ပြင်းအား	အလင်းရောင်ပေးခြင်း	တစ်နှစ် ၂ကြိမ်	ထုတ်လုပ်မှု ဧရိယာအတွင်း (ပိတ်ဖော်ခြင်း နှင့် အရည်အသွေး စစ်ဆေးခြင်း)	Yangon Pan-Pacific International Company Limited
Yangon Pan-Pacific International Company Limited				
လေထု	PM2.5, PM10, SO_2, NO_2	ဖြတ်သိမ်းမှု ကာလအတွင်း ၁ကြိမ်	ထုပ်လုပ်မှု ဧရိယာအတွင်း	Yangon Pan-Pacific International Company Limited
ဆူညံသံ	ဆူညံသံ ပမာဏ	ထိုကာလ အတွင်း ၁ ကြိမ်	ဖြတ်သိမ်းမှု ဧရိယာ	Yangon Pan-Pacific International Company Limited
ပြန်လည်ထူထောင်ခြင်း	သစ်ပင်များပြန်လည်စိုက်ပျိုးခြင်း		ဖျက်သိမ်းမည့် ဧရိယာအားလုံး	Yangon Pan-Pacific International Company Limited

ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်မှု ခန့်မှန်းကုန်ကျစရိတ်

စဉ်	အကြောင်းအရာ	အကြိမ်အရေအတွက်	ကုန်ကြစရိတ် (အမေရိကန် ဒေါ်လာ)
လျော့ချခြင်းအစီအစဉ်			
၁.	စက်ရုံအတွင်းလေအဝင်အထွက်အစီအစဉ်	၁နှစ် တကြိမ်	နှစ်စဉ် ဒေါ်လာ ၄၀၀
၂.	စက်ရုံဧရိယာအတွင်း သစ်ပင်များစိုက်ပျိုးခြင်း	၃လ တကြိမ်	၃လခြား ဒေါ်လာ ၁၄၀
၃.	အစိုင်အခဲအမှိုက်ပစ်ခြင်း	၁၂ ကြိမ်	နှစ်စဉ် ဒေါ်လာ ၂၀၀၀
၄.	တစ်ကိုယ်ရည်သုံး ကာကွယ်ရေးပစ္စည်းများဝယ်ယူခြင်း	၆ လ တကြိမ်	၆ လခြား ဒေါ်လာ ၃၀၀
၅.	ဆေးပစ္စည်းများနှင့် ကျန်းမာရေးစစ်ဆေးခြင်း	၁ နှစ် တကြိမ်	နှစ်စဉ် ဒေါ်လာ ၁၀၀၀
အရေးပေါ်အစီအစဉ်			
၁.	မီးသတ်ဆေးဘူး	၁လ တကြိမ်	လစဉ် ဒေါ်လာ ၆၀၀
၂.	မီးသတ်အချက်ပြ စနစ်	၁လ တကြိမ်	
၃.	ရှေးဦးသူနာပြု ပစ္စည်းများ	၁လ တကြိမ်	
စောင့်ကြပ်ကြည့်ရှုရေးအစီအစဉ်			
၁.	ရေဆိုးရေညစ်	၂ ကြိမ်	၁နှစ် ဒေါ်လာ ၄၀၀
၂.	ဆူညံသံ	၂ ကြိမ်	၁နှစ် ဒေါ်လာ ၆၀၀
၃.	စောင့်ကြပ်ကြည့်ရှုမှု အစီရင်ခံစာ	၁ ကြိမ်	ဒေါ်လာ ၂၀၀၀

လူမှုအကျိုးတူပူးပေါင်း ပါဝင်မှု

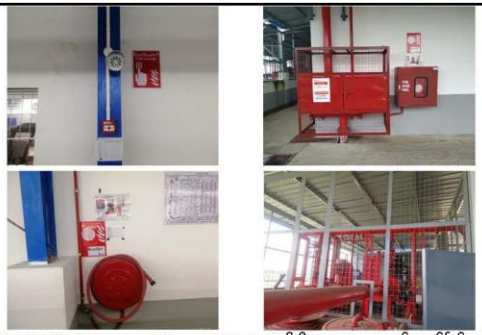
Vuino Gear Myanmar Company Limited တွင် CSR အတွက် အမြတ်ငွေ၏ ၂% ကို ကျန်းမာရေး၊ ပညာရေးနှင့် နယ်မြေဖွံ့ဖြိုးတိုးတက်ရေးတို့ အတွက် အသုံးပြုသွားမည် ဖြစ်ပါသည်။

ကျန်းမာရေး	ဝန်ထမ်းများ ကျန်းမာရေး စောင့်ရှောက်မှု	၀.၅ %
ပညာရေး	ပညာရေးကဏ္ဍ မြှင့်တင်ရေးနှင့် လူ့အခွင့်အရေး အသိပညာပေးခြင်း	၀.၅ %
နယ်မြေဖွံ့ဖြိုးတိုးတက်ရေး	ဒေသတွင်း လိုအပ်သကဲ့သို့ လှူဒါန်းခြင်း	၁ %

စက်ရုံ၏ဆောင်ရွက်ချက်များ

Yangon Pan-Pacific International Company Limited ဝန်ထမ်းများအတွက်သုံးရေးသောက်ရေပြင်ဆင်ထားရှိမှု

Yangon Pan-Pacific International Company Limited ၏ လျှပ်စစ်သုံးစွဲမှုအတွက်ပြင်ဆင်ထားရှိမှု



Yangon Pan-Pacific International Company Limited ၏ မီးဘေးအန္တရာယ်တွက်ပြင်ဆင်ထားရှိမှုများ

စက်ရုံအဝင်းအမှိုက်စွန့်ပစ်မှုအခြေနေများ၊ ဝန်ထမ်းများအတွက်အိမ်သာထားရှိမှုများ နှင့် မိလ္လာကန်ထားရှိမှုအခြေနေများ

ပန်ထမ်းများအတွက် ကျန်းမာရေးစောင့်ရှောက်ရေးခန်းထားရှိမှု

ပန်ထမ်းများ လေကောင်းလေသန့်ရရှိစေရန် ဆောင်ရွက်ပေးထားမှုများ

Thank You for Your Patient Attention!

APPENDIX J
List of Commitment

Yangon Pan-Pacific International Company Limited ၏ CMP စနစ်ဖြင့် အဝတ်အထည်အမျိုးမျိုး ချုပ်လုပ်ခြင်း၊လုပ်ငန်းလည်ပတ်ဆောင်ရွက်ခြင်းကြောင့် ဖြစ်ပေါ်လာနိုင်သော သဘာဝပတ်ဝန်းကျင်၊ လူမှုဘဝ နှင့် ကျန်းမာရေး ထိခိုက်မှုများရှိခဲ့ပါက လျော့ချရေး၊ စီမံခန့်ခွဲရေး နှင့် တားဆီးရေး အစီအစဉ် များကို ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan- EMP) တွင် ပါဝင်ရမည့်, အချက်များကို အကောင်အထည်ဖော် စီမံဆောင်ရွက်သွားမည် ဖြစ်ကြောင်း။ အောက်ဖော်ပြပါ ဇယားဖြင့် အကျဉ်းချုပ် စာရင်းပြုစု ဖော်ပြထားပါသည်။

ကတိကဝတ်၏ အတိုချုပ် အမည်	အမှတ်စဉ်	ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
မူဝါဒ၊ ဥပဒေနှင့် အဖွဲ့အစည်းဆိုင်ရာမူဘောင်များ	၁.၁	ပတ်ဝန်းကျင် ထိန်းသိမ်းရေး ဥပဒေ (၂၀၁၂) ပတ်ဝန်းကျင် ထိန်းသိမ်းရေး နည်းဥပဒေ (၂၀၁၄) ပတ်ဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း (၂၀၁၅) မြန်မာနိုင်ငံမှ ချမှတ်ထားသော စက်ရုံနှင့် သက်ဆိုင်သည့် တခြား လိုက်နာဆောင်ရွက်ရမည့် လုပ်ထုံးလုပ်နည်း၊ ဥပဒေ၊ နည်းဥပဒေ နှင့် မူဝါဒများ အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅) နှင့် နိုင်ငံတကာ ပတ်ဝန်းကျင်ဆိုင်ရာ စံသက်မှတ်ချက်များနှင့် ပတ်ဝန်ကျင် စီမံခန့်ခွဲမှုဆိုင်ရာ လမ်းညွှန်ချက်များ	အခန်း (၂)
ပတ်ဝန်းကျင် အရည်အသွေးတိုင်းတာမှု	၂	အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅) နှင့် နိုင်ငံတကာ ပတ်ဝန်းကျင်ဆိုင်ရာ စံသက်မှတ်ချက်များနှင့် ပတ်ဝန်ကျင် စီမံခန့်ခွဲမှုဆိုင်ရာ လမ်းညွှန်ချက်များကို အခြေခံလေ့လာ တိုင်းတာထားပါသည်	အခန်း (၄)
လေအရည်အသွေး	၂.၁	အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅)၏ ထုတ်လွှတ်အခိုးအငွေ့ (Air emissions) လမ်းညွှန်သက်မှတ်ချက် (PM10, PM2.5,SO2,NO2,O3) တို့ဖြင့် နှိုင်းယှဉ် ဖော်ပြထားပါသည်	အခန်းခွဲ (၄.၂.၂)
ဆူညံသံ	၂.၂	အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅)၏ အမြင့်ဆုံးလက်ခံနိုင်သည့် ဆူညံသံအဆင့် (Noise level) လမ်းညွှန်သက်မှတိချက် စက်မှုဇုန် ဧရိယာတွင် (70 One hour LAeq (dBA)) ဖြင့် နှိုင်းယှဉ် ဖော်ပြထားပါသည်	အခန်းခွဲ (၄.၂.၃)
စက်ရုံတွင်း အလင်းရောင် ရရှိမှု	၂.၃	Illumination and Limiting Glare Index based on IES Code, 1968 ဖြင့် နှိုင်းယှဉ် ဖော်ပြထားပါသည်	အခန်းခွဲ (၄.၂.၄)
ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှု	၃	Yangon Pan-Pacific International Company Limited	အခန်း (၆)

ကတိကဝတ်၏ အတိုချုပ် အမည်	အမှတ်စဉ်	ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
အစီအစဉ်		ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (EMP) အတွက် စက်ရုံစီမံခန့်ခွဲရေးအဖွဲ့၊ အလုပ်သမားများ၊ ဒေသခံလူထုများ၏ အမြင်၊ သက်ဆိုင်ရာ တာဝန်ရှိသူတို့၏အကြံပြုချက်များနှင့် ကွင်းဆင်းလေ့လာသူများမှ ဆွေးနွေးတိုင်ပင်မှုတို့ အပေါ် အခြေခံပြီး ဆောင်ရွက်သွားမည် ဖြစ်သည်။ EMP အစီရင်ခံစာ တွင် စက်ရုံအတွင်း ဘေးအန္တရာယ် ကင်းရှင်းရေး စီမံခန့်ခွဲမှုများကို လိုက်နာရန်အတွက် ထည့်သွင်းဖော်ပြထားပါသည်။	
လေထုညစ်ညမ်းမှုနှင့် ဖုန်မှုန့်များ	၃.၁	လေညစ်ညမ်းမှုများကိုထိန်းချုပ်ခြင်း၊ ယာဉ်များ၊ မီးစက်များ၊ စက စက်ပစ္စည်းများကို ပုံမှန်စစ်ဆေးခြင်း။ ယာဉ်များ၊ ကွန်ပရက်ဆာ၊ မီးစက်များကို ကောင်းမွန်စွာထိန်းသိမ်းခြင်း မီးခိုးထွက်ရှိမှုများကို စစ်ပေးသည့်အိတ်များတပ်ဆင်ပေးခြင်း	အခန်းခွဲ (၆.၂)
ဆူညံသံထွက်ရှိမှု	၃.၂	ဆူညံသံများသော စက်ရုံလုပ်ငန်းနေရာများတွင် တစ်ကိုယ်ရည်သုံး ကာကွယ်ရေးပစ္စည်းများ တပ်ဆင်အသုံးပြုစေခြင်း။ အသံထုတ်လွှတ်မှုနည်းသောစက်ပစ္စည်းများ အသုံးပြုခြင်းနှင့် မီးစက်ခန်း၊ ကွန်ပရက်ဆာခန်းများသီးသန့်ထားရှိစေခြင်း။	အခန်းခွဲ (၆.၃)
မီးဘေးအန္တရာယ်	၃.၃	စက်ရုံ၏မီးဘေးအန္တရာယ်ကာကွယ်ရန်အတွက် မီးသတ်ဗူး၊ မီးသတ်ပိုက်၊ မီးသတ်ခေါင်းများ ထားရှိခြင်း၊ မီးသတ်ဆိုင်ရာစက်ပစ္စည်းများကိရိယာများကို ပုံမှန်စစ်ဆေးခြင်း၊ အရေးပေါ်အခြေအနေအတွက် မီးသတ်ရေကန်အဆင်သင့် ထားရှိခြင်း၊ စက်ရုံအတွင်းအရေးပေါ်အချက်ပေးစနစ်များထားရှိခြင်း၊ အရေးပေါ်ထွက်ပေါက်များတစ်လျှောက်တွင်ကုန်ပစ္စည်းများ ပိတ်ဆို့ခြင်းမရှိအောင် ရှင်းလင်းထားခြင်း	အခန်းခွဲ (၆.၄)
လုပ်ငန်းခွင်ထိခိုက်မှုနှင့် ကျန်းမာရေး	၃.၄	ရှေးဦးပြုစုနည်း သင်တန်းများ၊ ဘေးအန္တရာယ်ကင်းရှင်းရေး လေ့ကျင့်မှု၊ မီးငြိမ်းသတ်နည်းသင်တန်းများ၊ အခြားလိုအပ်သော လေ့ကျင့်မှုများ၊ စက်ပစ္စည်းများကို စနစ်နကျကိုင်တွယ်မှုများအား သင်တန်းပေးခြင်း၊ လုပ်ငန်းခွင်အတွင်း အလုပ်သမားများ အလင်းရောင်ကောင်းစွာရရှိစေရန်နှင့် အမြင်အာရုံမထိခိုက်စေရန် အလင်းရောင်များကို လုံလောက်စွာ ထားရှိခြင်း၊ အလုပ်သမားများအတွက် တစ်ကိုယ်ရေကာကွယ်ရေးသုံးပစ္စည်းများဖြစ်သည့် နားကြပ်၊ လက်အိတ်၊ ဦးထုပ်၊ မျက်မှန်များ အသုံးပြုစေခြင်း၊ လျှပ်စစ်အန္တရာယ်မဖြစ်စေရန်နှင့် ပြုပြင်ထိန်းသိမ်းမှုများ ပြုလုပ်ရန်အ အတွက် ဂန်ထမ်းများထားရှိ၍ ပုံမှန်စစ်ဆေးခြင်း၊ လုပ်သားများအတွက် ကျန်းမာရေးမထိခိုက်စေရန် ရေမြောင်းများကို စနစ်တကျထားရှိခြင်း။ လုပ်သားများအတွက် ဓနာရီအတွင်း လက်ခံနိုင်သည့် အမြင့်ဆုံးဆူညံမှုနှုန်းမှာ 90 dB(A) ဖြစ်သည်၊ ထို့ကြောင့် အသံဆူညံသည့်နေရာများတွင် အသံလုံသည့် နားကြပ်များ နားအကာအကွယ်ပစ္စည်းများ တပ်ဆင်စေခြင်း	အခန်းခွဲ (၆.၅)

ကတိကဝတ်၏ အတိုချုပ် အမည်	အမှတ်စဉ်	ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
အမှိုက်စွန့်ပစ်မှု	၃.၅	စက်ရုံအတွင်း အမှိုက်ပုံး၊ အမှိုက်ကန်များထားရှိခြင်း သတ်မှတ်ထားသောနေရာတွင်သာ အမှိုက်စို၊ အမှိုက်ခြောက်များ ခွဲခြားစွန့်ပစ်ခြင်း အမှိုက်များကို ရန်ကုန်စည်ပင်သာယာရေးကော်မတီနှင့် ချိတ်ဆက်၍စွန့်ပစ်ခြင်း	အခန်းခွဲ (၆.၆)
စွန့်ပစ်အရည်	၃.၆	ဆီကန်၊ မိလ္လာကန်များကို ပုံမှန်စစ်ဆေးခြင်း၊ သန့်စင်ခြင်းများပြုလုပ်ခြင်း	အခန်းခွဲ (၆.၇)
အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်း	၃.၇	အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများ သိမ်းဆည်းမှုအား ပုံမှန်စောင့်ကြပ်စစ်ဆေးခြင်း လုပ်ငန်းခွင်ကျန်းမာရေး လုံခြုံမှုနှင့် ပတ်ဝန်းကျင်ဆိုင်ရာ လိုအပ်ချက်များနှင့် အညီ ဓာတုပစ္စည်းများကို စနစ်တကျစွန့်ပစ်ခြင်း အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများကို ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးကော်မတီ (သို့မဟုတ်) လိုင်စင်ရ အမှိုက်စွန့်ပစ်ရေးဆိုင်ရာ အဖွဲ့အစည်းများ (ဥပမာ DOWA or YCDC)နှင့် ချိန်ဆက်၍ စွန့်ပစ်ခြင်း	အခန်းခွဲ (၆.၈)
စွမ်းအင်	၃.၈	အပူနှင့် အအေးထိန်းရန်အတွက် အချိန်ကန်သတ်သည့်ကရိယာနှင့် သာမိုစတပ်များတပ်ဆင်ခြင်း စွမ်းအင်ချွေတာသောကရိယာများတပ်ဆင်ခြင်း အသုံးမပြုသည့် အချိန်တွင် မီးပတ်ထားခြင်း၊ စက်ပစ္စည်းများ ရပ်နာထားခြင်း	အခန်းခွဲ (၆.၉)
အရေးပေါ် အခြေအနေ	၃.၉	မီးဘေး၊ ငလျင်၊ ရေလွှမ်းမိုးမှု၊ မုန်တိုင်း နှင့်အခြားအရေးပေါ်ကိစ္စများကို ပို၍သင့်တော်သော စီမံခန့်ခွဲမှုများပြုလုပ်ခြင်း စက်ရုံ၏ ကဏ္ဍာတစ်ခုချင်းတိုင်းတွင် မီးငြိမ်းသတ်ရေးကရိယာများနှင့် မီးငြိမ်းသတ်ရေးစနစ်များ ထားရှိခြင်းနှင့် စစ်ဆေးခြင်း မီးဘေးထွက်ပေါက်၊ အရေးပေါ်ထွက်ပေါက် အစရှိသည်တိုကို အလုပ်သမားများနှင့် တိုင်ပင်ဆွေးနွေးပြီး အသေးစိတ်အကဲဖြတ်ခြင်း မီးငြိမ်းသတ်ခြင်းအား ပုံမှန်လေ့ကျင့်ထားရှိခြင်း ငလျင်လှုပ်တဲ့အခါ လုံခြုံသည့်နေရာတွင်သာနေရန်၊ အပြင်မထွက်ခြင်း၊ အပြင်တွင်လုပ်ကိုင်ရသည့် လုပ်သားများမှာ သစ်ပင်၊ အဆောက်အဦးများကို သတိထားရှိရန်နှင့် သက်ဆိုင်ရာလုံခြုံရေးသင်တန်းများပို့ချခြင်း မုန်တိုင်းတိုက်ခြင်း၊ ရေကြီးခြင်း၊ မြေပြိုခြင်းတို့ကြောင့် မြွေကဲ့သို့သော အခြားအန္တရာယ်ရှိတိရိစ္ဆာန်များအန္တရာယ်များကို သတိပေးခြင်း ရှေးဦးသူနာပြုခြင်းကဲသို့သော ကျန်းမာရေးဆိုင်ရာအဖွဲ့အစည်းများ ပြင်ဆင်ထားရှိခြင်း နီးစပ်ရာ ဆေးရုံ၊ ဆေးခန်း၊ ရဲစခန်း၊ မီးသတ်ဌာနတို့၏ ဆက်သွယ်နိုင်မည့် ဖုန်းနံပါတ်များအား လူအများမြင်သာသည့် နေရာများတွင် ထားရှိခြင်း မီးသတ်အဖွဲ့၊ ကယ်ဆယ်ရေးအဖွဲ့ နှင့် လုံခြုံရေးဟူသော အဖွဲ့များ ထားရှိ၍ လစဉ် လုံခြုံရေးများအတွက် အစီအဝေးများပြုလုပ် စီမံခန့်ခွဲခြင်း	အခန်းခွဲ (၆.၁၀)

ကတိကဝတ်၏ အတိုချုပ် အမည်	အမှတ်စဉ်	ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
		ဘေးအန္တရာယ်ဆိုင်ရာ သင်တန်းများအား သေချာပြုလုပ်စေခြင်း	
စောင့်ကြပ်ကြည့်ရှုမှု	၄	အဆိုပြုစီမံကိန်းသည် ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုမှုအစီရင်ခံစာအား ၆လ တစ်ကြိမ် ဝန်ကြီးဌာနများသို့ တင်ပြရမည်	အခန်း (၅)
လေအရည်အသွေး စစ်ဆေးမှု	၄.၁	SO2, NO2, PM2.5, PM10, O3 တစ်နှစ် ၂ ကြိမ် (လုပ်ငန်းစတင်ပြီး ၃နှစ်တွင်) အဆိုပြုလုပ်ငန်း/စက်ရုံဝန်းအတွင်း	ဇယား (၄.၂)
ဆူညံသံတိုင်းတာမှု	၄.၂	ဆူညံသံ (dBA) လစဉ် အဆိုပြုလုပ်ငန်း/စက်ရုံဝန်းအတွင်း	ဇယား (၄.၃)
စွန့်ပစ်ပစ္စည်းထွက်ရှိမှုအခြေအနေ	၄.၃	စွန့်ပစ်ပစ္စည်းအစိုင်အခဲ၊ စွန့်ပစ်ရည်နှင့် အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်း အပတ်စဉ် စက်ရုံအတွင်း ပြန်လည်အသုံးပြုရန်ထားရှိသည့်နေရာနှင့် အမှိုက်ကန်များ	ဇယား (၃.၆)
မီးဘေးအန္တရာယ် စစ်ဆေးမှု	၄.၄	မီးငြိမ်းသတ်ရေးကရိယာများ လစဉ် စက်ရုံအတွင်း	အခန်း၃ (၃.၄.၁)
စက်ရုံတွင်း အလင်းရောင်အခြေအနေ	၄.၅	အလင်းရောင် လစဉ် ကုန်ပစ္စည်းဖြတ်တောက်ခြင်း၊ အရည်အသွေးစစ်ဆေးခြင်းကဲ့သို့သော လုပ်ငန်များလုပ်ကိုင်သည့် နေရာ	ဇယား (၄.၅)
ဘေးအန္တရာယ်ဆိုင်ရာ သင်တန်းပို့ချခြင်း	၅	လုပ်ငန်းခွင်၌ ကြုံတင်ခန့်မှန်းနိုင်သော အရေးပေါ်အခြေအနေများကို အရေးပေါ် တုန့်ပြန်နိုင်ရန် အစီအစဉ်များ ချမှတ်ဆောင်ရွက်ခြင်း	အခန်း၃ (၆.၁၃.၃)
လူထုအကျိုးတူပူးပေါင်းပါဝင်မှု	၆	အဆိုပြုလုပ်ငန်းသည် လူထုအကျိုးပြုပူပေါင်းပါဝင်မှုကို ကျန်းမာရေး၊ ပညာရေးနှင့် နယ်မြေဖွံ့ဖြိုးတိုးတက်ရေးအတွက် မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်က ချမှတ်သည့် အတိုင်း ကုမ္ပဏီ၏ အကျိုးအမြတ် ၂ ရာခိုင်နှုန်းအား နှစ်စဉ် ထည့်ဝင်သွားမည်ဖြစ်သည်။	အခန်း၃ (၆.၁၄)
မကျေနပ်မှုများနှင့် ပြဿနာများ ဖြေရှင်းခြင်း	၇	စီမံကိန်းအနီးပတ်ဝန်းကျင်နေထိုင်သောသူများ (သို့) သက်ဆိုင်သူများသည် သူတို့ခံစားနေရသော ပြဿနာများနှင့် သက်ရောက်မှုများနှင့် ပတ်သတ်၍ ဖြေရှင်းမှုများပြုလုပ်ရန် စက်ရုံ၏ တာဝန်ရှိသူများ၊ စက်မှုဇုံ စီမံခန့်ခွဲရေး ကော်မတီ၊ အုပ်ချုပ်ရေးဦးစီးဌာနတို့ဖြင့် ပူးပေါင်း ချိတ်ဆက် လုပ်ဆောင်ခြင်း။ ကော်မတီအဆင့်တွင် အခြားမဖြေရှင်းနိုင်သော ပြဿနာများကို တာဝန်ရှိအာဏာပိုင်များသို့ တင်ပြပြီး တရားရေးအရ အဆုံးအဖြတ်ပြုလုပ်မည် ဖြစ်သည်။	အခန်း၃ (၆.၁၅)