Topmode (Myanmar) Co., Ltd.

Plot No. 113, Myay Taing Block No. 40, War Ta Yar Industrial Zone, Shwe Pyi Thar Township, Yangon Region. Email – tony-lin@topmodebridal.com

TOPMODE (MYANMAR) COMPANY LIMITED.

Environmental Management Plan

Manufacturing of Garment on CMP Basis

Prepared by

MYANWEI ENVIRONMENTAL SOLUTIONS

Myanwei Environmental Solutions Co., Ltd.

03-Jan-22

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

Date: 3, 1, 2022

Attention: Dear Director

Environmental Conservation Department

Subject: Environmental Management Plan (EMP) Report in respect of the Manufacturing of Garment Products by Topmode (Myanmar) 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.

MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED
No.....
Date.....

LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS
COMPANY LIMITED.

Topmode (Myanmar) Co., Ltd.

Plot No. 113, Myay Taing Block No. 40, War Ta Yar Industrial Zone, Shwe Pyi Thar Township, Yangon Region. Email – tony-lin@topmodebridal.com

Date: 3, 1, 2022

Dear: Director

Environmental Conservation Department

Nay Pyi Taw

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

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.

Topmode (Myanmar) Co., Ltd. will at all times comply fully with all commitment and obligations in the EMP report.

We acknowledge and understand that

Mr. Hsieh Ting-Tsai
Promoter
TOPMODE (MYANMAR) CO., LTD.

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နိဒါန်း

လူတိုင်းသည် သန့်ရှင်းပြီး ကျန်းမာသည့် နေရာတွင်နေထိုင်လိုကြသည်။ ယခုအချိန်တွင် ကမ္ဘာ့မြေ၏အဓိက စိုးရိမ်ပူပန်မှုမှာ ပတ်ဝန်းကျင်ပြောင်းလဲမှုဖြစ်စဉ်များကြောင့်ဖြစ်သည်။ အဘယ်ကြောင့်ဆိုသော် လူသားတို့၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအပေါ် ပေါ့ဆမှုကြောင့်ဖြစ်သည်။ ထို့ကြောင့် သဘာဝပတ်ဝန်းကျင် ထိခိုက်မှုမဖြစ်စေရေး၊ ရေရှည်စဉ်ဆက်မပြတ် တိုးတက်ကောင်းမွန်ရေးအတွက် စနစ်ကျသော ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်ရှိရန်လိုအပ်ပါသည်။ ထို့ကြောင့် Topmode (Myanmar) Co., Ltd.၏ ထုတ်လုပ်မှုလုပ်ငန်းအတွက် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ် (EMP) ကို အကောင်အထည်ဖော်ခဲ့ပါသည်။ EMP ၏ အဓိက ရည်ရွယ်ချက်မှာ ညစ်ညမ်းမှုထိန်းသိမ်းရေး စွန့်ပစ်ပစ္စည်း လျော့ချရေးနှင့် စွန့်ပစ်ပစ္စည်းများကို ပြန်လည်အသုံးပြုရေး အစီအစဉ်များကို အလေးထားဖော်ပြထားပြီး၊ စက်မှုလုပ်ငန်းဆိုင်ရာ တိကျသော ထိန်းချုပ်မှု အစီအမံများအပြင် အခြားအဆိုပြုထားသည့် စက်မှုလုပ်ငန်းသည် အောက်ပါလမ်းညွှန်ချက်များကို လိုက်နာသင့်သည်။

အဆိုပြုလုပ်ငန်းသည် (CMP) အထည်ချုပ်လုပ်ငန်းအတွက် အသစ်ရင်းနှီးမြှုပ်နှံသော ကုမ္ပဏီဖြစ်ပါသည်။ ရင်းနှီးမြှုပ်နှံမှုလိုင်စင်ကို ၂၀၂၀ ပြည့်နှစ်၊ ဩဂုတ်လ ၁၄ ရက်နေ့တွင် (ထောက်ခံချက်အမှတ် (ရကတ-၄၀၇/၂၀၂၀))ဖြင့် ရန်ကုန်တိုင်းဒေသကြီး ရင်းနှီးမြှုပ်နှံမှုကော်မတီမှ ရရှိပြီးဖြစ်ပါသည်။ လုပ်ငန်းလည်ပတ်ရန်အတွက် မြန်မာနိုင်ငံ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင် ထိန်းသိမ်းရေးဝန်ကြီးဌာန (MONREC) ၏အတည်ပြုချက်ရယူရန်လိုအပ်ကြောင်း ကော်မရှင်မှ မှာကြားခဲ့ပါသည်။

မြန်မာနိုင်ငံ၏ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဥပဒေ (၂၀၁၂)အရ၊ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (EMP) ပြုလုပ်ရန်လိုအပ်ကြောင်း ၂၀၂၀ ပြည့်နှစ်၊ အောက်တိုဘာလ၊ ၂ ရက်နေ့တွင် (စာအမှတ်၊ ရက-၁/၃/၄ (အီးအိုင်အေ) ၂၁၃၀/၂၀၂၀) ဖြင့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန ရန်ကုန်တိုင်းဒေသကြီးမှ သဘောထားမှတ်ချက် ရရှိပြီးဖြစ်ပါသည်။ ထို့ကြောင့် EMP အစီရင်ခံစာရေးဆွဲရန် တတိယအဖွဲ့အစည်းဖြစ်သော Myanwei Environmental Solutions Company Limited မှ တာဝန်ယူရေးဆွဲခဲ့ပါသည်။

ရင်းနှီးမြှုပ်နှံသူ၏ အချက်အလက်

ရင်းနှီးမြှုပ်နှံသူ အမည်	Mr. Hsieh Ting-Tsai
ID No. :	352339367
နိုင်ငံသား	ထိုင်ဝမ်နိုင်ငံသား
မှတ်ပုံတင်သွင်းသည့် လိပ်စာ	Beach Road, Ground Floor NPE Building, Vistra Corporate Services Center, APIA, Samoa

အဆိုပြုထားသော စီမံကိန်း၏ အဓိကလက္ခဏာများ

လုပ်ငန်းအမျိုးအစား	CMP စနစ်ဖြင့် အဝတ်အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း
ရင်းနှီးမြှုပ်နှံမှုအမျိုးအစား	၁၀၀ ရာခိုင်နှုန်း နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု
မြေအမျိုးအစား	စက်မှုဇုန်မြေ
အကျယ်အဝန်း	၄.၂၀၆ ဧက (၁၇,၀၂၁.၀၇၈ စတုရန်းမီတာ)
အဆောက်အဦး	စက်ရုံအဆောက်အဦး ၅ ခု (၁၂၀ ပေ × ၂၀၀ ပေ) သုံးထပ် ထုတ်လုပ်မှု အဆောက်အဦး (၁၆၀ ပေ × ၅၈ ပေ)၊ (၁၂၀ ပေ × ၃၀ ပေ) ရုံးအဆောက်အဦးနှင့် လူနေအဆောက်အဦး (၃၀ ပေ × ၄၀ ပေ) ဂိတ်အဆောက်အဦး (၂၀ ပေ × ၃၀ ပေ) မီးစက်အခန်း (၂၀ ပေ × ၂၀ ပေ) ရေသန့်စက်အခန်း
မြေငှားမှု	နှစ် ၅၀
တည်ဆောက်ရေးကာလ	၁ နှစ်
လိပ်စာ	မြေကွက်အမှတ်-၁၁၃၊ မြေတိုင်းအမှတ် ၄၉၊ ဝါးတရာစက်မှုဇုန်၊ ရွှေပြည်သာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး။
ဆက်သွယ်ရန်	ဒေါ်မီးမီး ၀၉-၆၇၈၅၈၇၄၂၆

အဆိုပြုလုပ်ငန်း၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်ကို Myanwei Environmental Solutions Co., Ltd. တာဝန်ယူ ရေးဆွဲထားပါသည်။

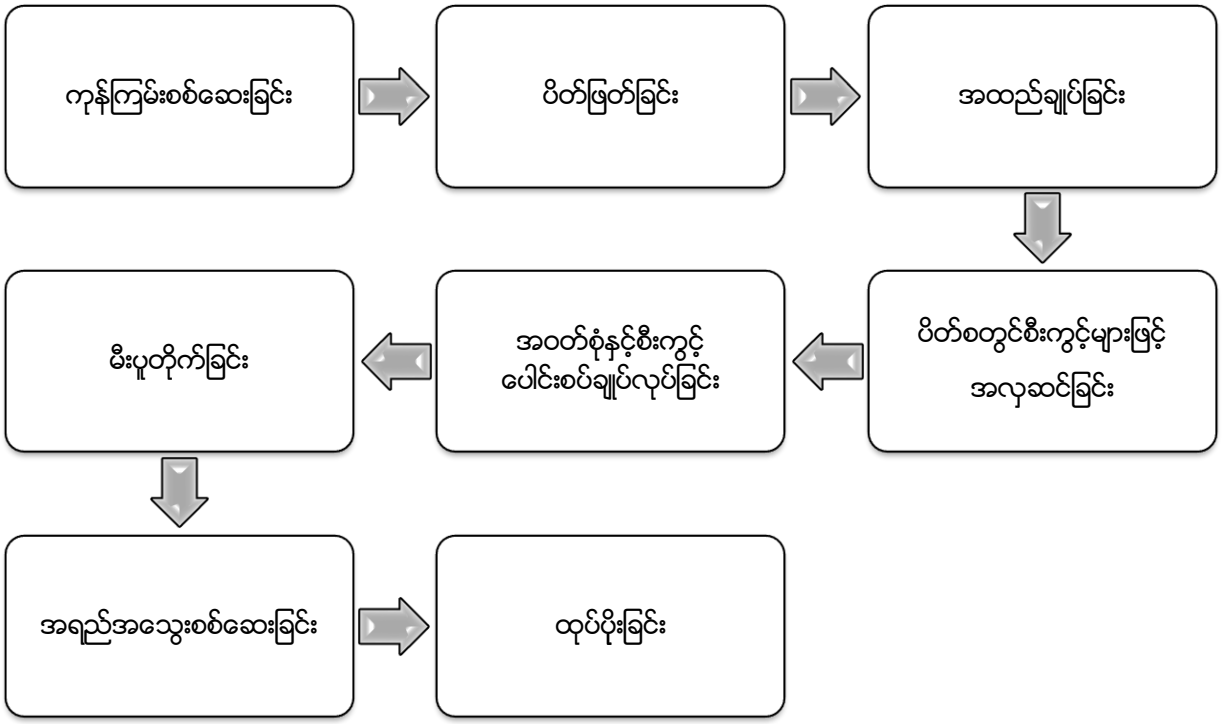
ဥပဒေနှင့် နည်းဥပဒေ အခန်းတွင် MONREC မှ ထုတ်ပြန်ထားသည့် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများ၊ အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များအပြင် စက်ရုံနှင့် ဆက်စပ်သက်ဆိုင်နေပြီး လိုက်နာရမည့် ဥပဒေနှင့် နည်းဥပဒေများ၊ ဒေသတွင်း သို့မဟုတ် အပြည်ပြည်ဆိုင်ရာ သဘာဝ ပတ်ဝန်းကျင်နှင့် လူမှုပတ်ဝန်းကျင်ဆိုင်ရာ မူဝါဒများ၊ ဆက်စပ်နေသည့် နိုင်ငံတကာသဘောတူချက်များကို အကျဉ်းချုပ် ရေးသားဖော်ပြထားပါသည်။

1. Constitution 2008
2. Environmental Conservation Law, 30 March 2012
3. Environmental Conservation Rules, 2014
4. Environmental Impact Assessment Procedure (December 2015)
5. National Environmental Quality (Emission) Guideline (NEQG) (December 2015)

6. National Environmental Policy of Myanmar (2019)
7. Foreign Investment Law, 2012
8. Foreign Investment Rule, 2013
9. Myanmar Investment Rule, 2017
10. Payment of Wages Law (2016)
11. Yangon City Development Committee Law (2018)
12. The Amended Law for Factories Act, 1951 (2016)
13. The Private Industrial Enterprise Law, 1990
14. The Export and Import Law (2012)
15. The Prevention of Hazard from Chemical and Related Substances Law, 2013
16. Underground Water Act
17. Myanmar Fire Brigade Law (2015)
18. The Electricity Law (2014)
19. Labor Dispute Settlement Law (28 March 2012 replacing 1929 version)
20. The Employment and Skill Development (2013)
21. The Worker's Compensation Act, 1923
22. The Payment of Wages Act, 1936
23. The Leave and Holidays Act, (1951, partially revised in 20140
24. The Minimum Wage Law (2013)
25. Public Health Law (1972)
26. Prevention and Control of Communicable Disease Law 1995 (Amendment in 2011)
27. Occupational Safety and Health Law (2019)
28. The Law on Standardization
29. လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သောဝတ္ထုပစ္စည်းများဆိုင်ရာဥပဒေ (၂၀၁၈)
30. Myanmar Insurance Law (1993)
31. The Conservation of Water Resources and River Law (2006)

Topmode စက်ရုံသည် မြေကွက်အမှတ်-၁၁၃၊ မြေတိုင်းရပ်ကွက်အမှတ်-၄၉၊ ဝါးတရာ စက်မှုဇုန်မြေ၊ ရွှေပြည်သာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီးတွင်တည်ရှိပြီး မြေဧရိယာစုစုပေါင်း ၄.၂၀၆ ဧက ကျယ်ဝန်းပါသည်။

Topmode ၏ အဓိက ထုတ်ကုန်မှာ မင်္ဂလာဝတ်စုံ အမျိုးမျိုးကို အဓိကထုတ်လုပ်ပါသည်။



ထုပ်လုပ်ပုံလုပ်ငန်းအဆင့်ဆင့်

လုပ်ငန်းမှ ပထမနှစ်မှ ၁၀ နှစ်အတွင်း အထည်ရေ ၂၀,၉၀၀ မှ ၂၂,၉၉၀ အထိ တိုးမြှင့်ထုတ်လုပ်သွားမည် ဖြစ်သည်။ နိုင်ငံခြားသားကျွမ်းကျင်ပညာရှင် (၁၅) ယောက်နှင့် နိုင်ငံသား (ပြည်တွင်း) ဝန်ထမ်းများကို ပထမနှစ်မှ ၁၀ နှစ်အတွင်း ၇၀၆ ဦး ခန့်အပ်ပြီး ဆောင်ရွက်သွားမည်ဖြစ်သည်။ EMP အတွက်ကွင်းဆင်းလေ့လာချိန်တွင် စက်ရုံ၌ လက်ရှိ လူဦးရေ ၂၃၀ ယောက်ဖြင့် ထုတ်လုပ်မှုအချို့ပြုလုပ်နေပြီး ပြင်ဆင်မှုများလဲပြုလုပ်နေသည်ကို တွေ့ရှိခဲ့ပါသည်။ စက်ရုံ၏ လုပ်ငန်းလည်ပတ်မှုကြောင့်လည်း သဘာဝပတ်ဝန်းကျင်အပေါ် ဆိုးဆိုးဝါးဝါးထိခိုက်မှု မရှိကြောင်း လေ့လာ တွေ့ရှိခဲ့ပါသည်။



ထုတ်ကုန်မာတ်ပုံ

လက်ရှိပတ်ဝန်းကျင်၏ ပတ်ဝန်းကျင်ဆိုင်ရာအချက်အလက်၊ ပတ်ဝန်းကျင်အရည်အသွေး တိုင်းတားခြင်းများနှင့် သက်ရောက်မှုများကို ၂၀၂၁ ခုနှစ်၊ ဇန်နဝါရီလ၊ ၂၀ ရက်နေ့တွင် ပြုလုပ်ခဲ့ပါသည်။ ထို့အပြင် စက်ရုံတည်နေရာနှင့်

သက်ဆိုင်သည့် အချက်အလက်များဖြစ်သော လူမှုစီးပွားအခြေအနေ၊ ရှုပထဝင်းကျင်ဆိုင်ရာ အချက်အလက်များ၊ ဇီဝပတ်ဝန်းကျင်ဆိုင်ရာ အချက်အလက်များ၊ ရာသီဥတုဆိုင်ရာ အချက်အလက်များ အစရှိသည့်များကို ရန်ကုန်တိုင်းဒေသကြီး၊ ရွှေပြည်သာမြို့နယ်မှ တရားဝင်ပြဌာန်းထားသော မြို့နယ်ဆိုင်ရာအချက်အလက်များမှ ကိုးကားဖော်ပြထားပါသည်။

အဆိုပြုလုပ်ငန်း၏စစ်တမ်းကောက်ယူမှု

အမျိုးအစား	**ရလဒ်**
ရာသီဥတုအခြေအနေ	
အပူချိန်	29.67 °C
စိုထိုင်းဆ	47.7 %
ဆူညံသံ	
ထုတ်လုပ်မှုဌာန	66.71 dBA
လေထုအရည်အသွေး	
PM_{10}	42.31 (µg/m^3)
$PM_{2.5}$	25.35 (µg/m^3)
SO_2	183.73 (µg/m^3)
NO_2	11.12 (µg/m^3)
CO	0.31 (µg/m^3)

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	အသင့်အတင့်နှင့် အနည်းငယ် လုပ်ငန်းခွင်ပြောင်းလဲမှု ဖြစ်စေနိုင်သော	မြင့်မားနှင့် သိသာစွာလုပ်ငန်းခွင်ပြောင်းလဲမှု ဖြစ်စေနိုင်သော	အလွန်မြင့်မားနှင့် အမြဲတမ်းလုပ်ငန်းခွင် ပြောင်းလဲမှု ဖြစ်စေနိုင်သော
အချိန်	၀-၁ နှစ်	၂-၅ နှစ်	၆-၁၅ နှစ်	လုပ်ငန်း လည်ပတ်စဉ် ကာလ တစ်လျှောက်	လုပ်ငန်းပိတ်သိမ်းခြင်းကာလအထိ
ကျယ်ပြန့်မှု	လုပ်ငန်းခွင်အတွင်း	ဒေသအတွင်း	မြို့နယ်အတွင်း	နိုင်ငံအတွင်း	နိုင်ငံတကာအတွင်း
ဖြစ်နိုင်ချေ	လုံး၀ မဖြစ်နိုင်သော	မဖြစ်နိုင်သော	ဖြစ်နိုင်သော	ဖြစ်နိုင်ချေမြင့် သော	အတိအကျ

သတ်မှတ်ချက် = (ပမာဏ+အချိန်+ကျယ်ပြန့်မှု)* ဖြစ်နိုင်ချေ

ပတ်ဝန်းကျင်ထိခိုက်မှုကိုအောက်ပါအတိုင်း ခွဲခြားနိုင်သည်။

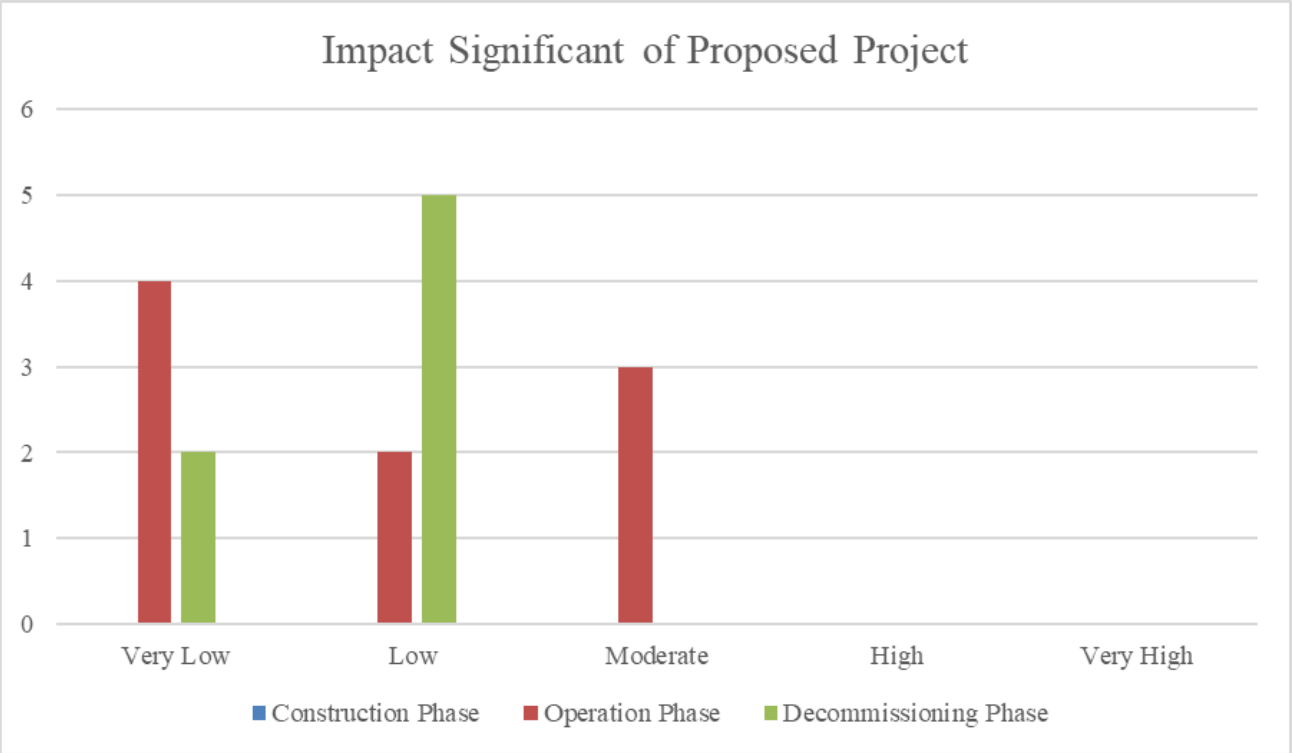
သတ်မှတ်ချက်	ထိခိုက်မှုအဆင့်
<၁၅	အလွန်နိမ့်
၁၅ - ၂၉	နိမ့်
၃၀ - ၄၄	အလယ်အလတ်
၄၅ - ၅၉	မြင့်
၆၀	အလွန်မြင့်

အုပ်စုများ	သက်ရောက်မှု အရင်းအမြစ်	လျော့ချရေးနည်းလမ်းများ
လေအရည်အသွေး	ကုန်ကြမ်းပစ္စည်းများ၊ ကုန်ချောပစ္စည်းများသယ်ဆောင်သော ယာဉ်များမှ ဖုန်မှုန့်များ၊ အရေးပေါ်မီးစက်များနှင့် ယာဉ်အသွားအလာမှ ထွက်သော မီးခိုးများ	• လေညစ်ညမ်းမှုများကိုထိန်းချုပ်ခြင်း၊ ယာဉ်များ၊ မီးစက်များ၊ စက်ပစ္စည်းများကို ပုံမှန်စစ်ဆေးခြင်း။ • ယာဉ်များ၊ ကွန်ပရက်ဆာ၊ မီးစက်များကို ကောင်းမွန်စွာထိန်းသိမ်းခြင်း • မီးခိုးထွက်ရှိမှုများကို စစ်ပေးသည့်အိတ်များတပ်ဆင်စေခြင်း

အုပ်စုများ	သက်ရောက်မှု အရင်းအမြစ်	လျော့ချရေးနည်းလမ်းများ
ရေအရည်အသွေး	အဝတ်အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း	• ထိခိုက်မှုလျော့ချရန်မလိုပါ။
မြေအရည်အသွေး	အင်ဂျင်ဆီများ၊ ဒီဇယ်ဆီများသိုလှောင်ခြင်းနှင့် ဖိတ်ယိုခြင်း	• ထိခိုက်မှုလျော့ချရန်မလိုပါ။
ဆူညံသံနှင့် တုန်ခါမှု	ကုန်ပစ္စည်းထုတ်လုပ်သည့်လုပ်ငန်းများမှ စက်ပစ္စည်းများမှ ဆူညံသံများထွက်ခြင်း	• ထိခိုက်မှုလျော့ချရန်မလိုပါ။
ကုန်းနေ အပင်နှင့် သတ္တဝါများ၊ ရေနေသတ္တဝါများ	အထည်ချုပ်လုပ်ငန်းလုပ်ဆောင်ခြင်း	• ထိခိုက်မှုလျော့ချရန်မလိုပါ။
မီးဘေးအန္တရာယ်	လျှပ်စစ်တပ်ဆင်ရာတွင် စနစ်တကျတပ်ဆင်မှု မရှိခြင်း ကုန်ကြမ်းပစ္စည်း စွန့်ပစ်ခြင်း၊ ဓာတုပစ္စည်း သိုလှောင်ခြင်း။	• စက်ရုံ၏မီးဘေးအန္တရာယ်ကာကွယ်ရန်အတွက် မီးသတ်ပူး၊ မီးသတ်ပိုက်၊ မီးသတ်ခေါင်း များထားရှိခြင်း။ • မီးသတ်ဆိုင်ရာစက်ပစ္စည်းကိရိယာများကိုပုံမှန်စစ်ဆေးခြင်း၊အရေးပေါ် အခြေနေအတွက် မီးသတ်ရေကန်အဆင်သင့်ထားရှိခြင်း။ • စက်ရုံအတွင်းအရေးပေါ် အချက်ပေးစနစ်များထားရှိခြင်း။ • အရေးပေါ် ထွက်ပေါက်များတစ်လျှောက်တွင် ကုန်ပစ္စည်းများပိတ်ဆို့ခြင်းမရှိအောင်ရှင်းလင်းထားရှိခြင်း။
လုပ်ငန်းခွင် ဘေးအန္တရာယ်	စက်ပစ္စည်းများလည်ပတ်ခြင်း ကြောင့် မတော်တဆထိခိုက်မှုများဖြစ်ပေါ် နိုင်ခြင်း။ ပစ္စည်းတင်ချပြုလုပ်ခြင်း၊ ဖြတ်တောက်ခြင်း၊ ရောနှောခြင်း၊ ဖိနှိပ်ခြင်း၊ ထုတ်ပိုးခြင်း။ ရေနွေးငွေ့သုံးမီးပူများကြောင့် မတော်တဆထိခိုက်မှုများဖြစ်ပေါ် နိုင်ခြင်း။	• အရေးပေါ် အခြေအနေများအတွက် စက်ပစ္စည်းကိုင်တွယ်မှုသင်တန်းပေးခြင်း၊ ကြက်ခြေနီသင်တန်းပေးခြင်း၊ မီးသတ်သင်တန်းပေးခြင်း။ • လုပ်ငန်းခွင်တွင်း အလုပ်သမားများ အလင်းရောင်ကောင်စွာရရှိစေရန်နှင့် အမြင်အာရုံမထိခိုက်စေရန် အလင်းရောင်များကို လုံလောက်စွာထားရှိခြင်း။ • အလုပ်သမားများအတွက်တစ်ကိုယ်ရေကာကွယ်ရေးသုံးပစ္စည်းများဖြစ်သည့် နားကြပ်၊ လက်အိတ်၊ ဦးထုပ်၊ မျက်မှန် များ အသုံးပြုစေခြင်း။ • လျှပ်စစ်အန္တရာယ်မဖြစ်စေရန် နှင့် ပြုပြင်ထိန်းသိမ်းမှုများ ပြုလုပ်ရန်အတွက် ဝန်ထမ်းထားရှိ၍ ပုံမှန်စစ်ဆေးခြင်း။
ကျန်းမာရေး	အရေးပေါ် မီးစက်များမှ ဆူညံသံများထွက်ပေါ် လာခြင်း။	• လုပ်သားများအတွက်ကျန်းမာရေးမထိခိုက်စေရန် ရေမြောင်းများကိုစနစ်တကျထားရှိခြင်း။ • လုပ်သားများအတွက် ရှစ်နာရီအတွင်းလက်ခံနိုင်သည့်အာမြင့်ဆုံးဆူညံမှု နှုန်းမှာ 90dB(A) ဖြစ်သည်။ အသံဆူညံမှုအမြင့်ဆုံးနေရာများတွင် နားကြပ်များ တပ်ဆင်စေခြင်း။

အုပ်စုများ	သက်ရောက်မှု အရင်းအမြစ်	လျော့ချရေးနည်းလမ်းများ
စွန့်ပစ်အစိုင်အခဲများ	ကုန်ထုတ်လုပ်သည့်နေရာမှထွက်ရှိသော ပိတ်အပိုင်းအစများ။ ကုန်ပစ္စည်းထုတ်ပိုးခြင်းမှထွက်ရှိသော အပိုင်းအစများ။ မီးဖိုချောင် လူနေဆောင်ရုံးခန်းမှ တွက်ရှိသောအမှိုက်များ။	• စက်ရုံအတွင်း အမှိုက်ပုံးများထားရှိခြင်း။ • သတ်မှတ်ထားသောနေရာတွင် အမှိုက်စို၊ အမှိုက်ခြောက်များခွဲခြားစွန့်ပစ်ခြင်း။ • အမှိုက်များကို ရန်ကုန်စည်ပင်သာယာရေးကော်မတီနှင့် ချိတ်ဆက်၍စွန့်ပစ်ခြင်း။
စွန့်ပစ်အရည်	မိလ္လာစနစ်ထားရှိခြင်း။ ရုံးခန်း၊ မီးဖိုချောင်နှင့် လူနေဆောင်များမှ စွန့်ပစ်အရည်များတွက်ရှိခြင်း။	• ဆီကန်၊ မိလ္လာကန်များ ကိုပုံမှန်စစ်ဆေးခြင်း၊ သန့်စင်ခြင်းများပြုလုပ်ခြင်းဖြင့် စွန့်ပစ်အရည်များ စိမ့်ဝင်မှုများကိုလျော့ကျစေနိုင်ခြင်း။
အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများ	မော်တော်ယာဉ်များ စက်ပစ္စည်းများ ပြုပြင်ထိန်းသိမ်းခြင်းမှ ဆီများတွက်ရှိခြင်း။	• အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်းများသိုလှောင်မှု အားထိန်းသိမ်းခြင်း စစ်ဆေးခြင်း။ • လုပ်ငန်းခွင်ကျန်းမာရေး လုံခြုံမှုနှင့်ပတ်ဂန်းကျင်ဆိုင်ရာ လိုအပ်ချက်များ နှင့်ကိုက်ညီမှုရှိစေရန် မာတုပစ္စည်းများကို စနစ်တကျစွန့်ပစ်ခြင်း။ • မာတုပစ္စည်းသိုလှောင်သည့် ပုံးခွန်များကို စနစ်တကျပြန်လည်အသုံးပြုခြင်း (သို့မဟုတ်) စနစ်တကျစွန့်ပစ်ခြင်း။ • အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများကို ရန်ကုန်မြို့တော်စည်ပင်သာယာရေး ကော်မတီ (သို့မဟုတ်) လိုင်စင်ရ အမှိုက်စွန့်ပစ်ရေးဆိုင်ရာအဖွဲ့အစည်းများ (ဥပမာ DOWA or YCDC) နှင့်ချိတ်ဆက်၍စွန့်ပစ်ခြင်း။

လုပ်ငန်းလည်ပတ်စဉ်ကာလတွင် သတ်မှတ်ချက်များမှာ အလယ်အလတ် သတ်မှတ်ချက် ၃ ခု (မီးဘေး အန္တရာယ်၊ လုပ်ငန်းခွင်ဘေးအန္တရာယ်၊ စွန့်ပစ်အစိုင်အခဲ)၊ နိမ့် သတ်မှတ်ချက် ၂ခု (လေထုအရည်အသွေး၊ စွန့်ပစ်အရည်) နှင့် အလွန်နိမ့်သတ်မှတ်ချက် ၄ခု (ရေထုညစ်ညမ်းမှု၊ ဆူညံသံ၊ ကျန်းမားရေးနှင့် အန္တရာယ်ရှိ စွန့်ပစ်အမှိုက်များနှင့် လုပ်ငန်းပိတ်သိမ်းစဉ်ကာလတွင် သတ်မှတ်ချက်များမှာ အလွန်နိမ့် ၂ခု (စွန့်ပစ်အမှိုက်နှင့် အန္တရာယ်ရှိစွန့်ပစ်အမှိုက်) နှင့် နိမ့်သတ်မှတ်ချက် ၅ခု (လေထုအရည်အသွေး၊ ရေထုညစ်ညမ်းမှု၊ မြေဆီလွှာညစ်ညမ်းမှု၊ ဆူညံသံနှင့် လုပ်ငန်းခွင် ဘေးအန္တရာယ်) တို့တွေ့ရှိရပြီး ၎င်းအားပုံနှင့်နှိုင်းယှဉ်ဖော်ပြထားပါသည်။



အဆိုပြုလုပ်ငန်း၏ ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများ နှိုင်းယှဉ်ပြပုံ

လူထုတွေ့ဆုံပွဲ အကျဉ်းချုပ်

အစီရင်ခံစာအားဆောင်ရွက်နေစဉ်ကာလအတွင်း ရန်ကုန်မြို့တွင်ကိုဗစ်ဒုတိယလှိုင်း စတင်ဖြစ်ပွားလျက်ရှိရာ ကျန်းမာရေးနှင့် အားကစားဝန်ကြီးဌာနမှလည်း Covid-19 ရောဂါပြန့်ပွားမှုအခြေအနေကို ထိန်းချုပ်နိုင်ရန်အတွက် လူ (၅) ဦး ထက်ပိုမစုရန်ညွှန်ကြားလျက်ရှိပါသည်။

အထက်ဖော်ပြပါအခြေအနေများကြောင့် သက်ဆိုင်သူများနှင့် တွေ့ဆုံဆွေးနွေးခြင်းအစီအစဉ်အား ဇွန်လ ၂၅ ရက် ၂၀၂၁ ခုနှစ်တွင် Myanwei ၏ Facebook စာမျက်နှာတွင် ဖော်ပြခဲ့၍ ဆွေးနွေးအကြံပြုချက်များကိုလည်း လက်ခံပေးလျက်ရှိပါသည်။

စီမံကိန်းဖော်ဆောင်သည့် အချိန်အတွင်း ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများ၊ လျော့ချရေး နည်းလမ်းများ၊ အစီအစဉ်များ၊ တိုင်းတာမှုများ စသည့် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်များကို လုပ်ဆောင်ရပါသည်။ Topmode (Myanmar) Co., Ltd. မှ စက်ရုံတွင် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အတွက် အဖွဲ့အစည်းဖွဲ့စည်းခြင်း၊ ပုံမှန်ဆန်းစစ်လေ့လာခြင်းများ ပြုလုပ်သွားမည်ဖြစ်ပါသည်။ ပတ်ဝန်းကျင် လေထုအရည်အသွေး၊ မိလ္လာစနစ်၊ စွန့်ပစ်အစိုင်အခဲစွန့်ပစ်မှုများကို စက်ရုံ၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် အဖွဲ့အစည်းမှ ဆန်းစစ်သွားမည်ဖြစ်ပါသည်။ အဆိုပြုစီမံကိန်းမှလူထုအကျိုးပြုလုပ်ငန်းများနှင့်အရေးပေါ် ဆောင်ရွက်ချက်များ၊ ဒေသဆိုင်ရာအကျိုးပြုလုပ်ငန်းများကို လုပ်ဆောင်သွားမည်ဖြစ်ပါသည်။

အဆိုပြုစီမံကိန်းသည် ရရှိလာသော အကျိုးအမြတ်၏ ၂% ကို လူမှုဖူလုံရေးလုပ်ငန်းများတွင် သုံးစွဲသွားမည်ဖြစ်ပါသည်။

Topmode (Myanmar) Co., Ltd. ၏ လူထုအကျိုးပြုလုပ်ငန်းများဆောင်ရွက်မည့် အစီအစဉ်

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

စက်ရုံအတွက် သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာလုပ်ဆောင်ချက်များသည် စက်ရုံသို့ကွင်းဆင်းလေ့လာခဲ့သော ကျွမ်းကျင်ပညာရှင်များမှ စက်ရုံ၏ဆောင်ရွက်ချက်များ၊ စက်ရုံဝန်ထမ်းများ၊ နယ်ပယ်ဆိုင်ရာအဖွဲ့အစည်းများ၏ အမြင်များနှင့် စက်ရုံမှသက်ဆိုင်သူများ၏ တိုင်ပင်ဆွေးနွေးအကြံပြုချက်များအပေါ် အခြေခံ၍ရေးဆွဲပြင်ဆင်ထားပါသည်။ ဖြစ်နိုင်ချေရှိသော ပတ်ဝန်းကျင်ထိခိုက်မှုများအပေါ် မူတည်၍ လိုအပ်သည့် သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲမှု လုပ်ဆောင်ချက်များမှာ အောက်ပါအတိုင်းဖြစ်ပါသည်။

၁။ လေထုညစ်ညမ်းမှုနှင့် ဖုန်မှုန့်ဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်

၂။ ဆူညံသံဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်

၃။ မီးဘေးအန္တရာယ် စီမံခန့်ခွဲမှုအစီအစဉ်

၄။ လုပ်ငန်းခွင်ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့် ကျန်းမာရေးဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်

၅။ အစိုင်အခဲစွန့်ပစ်ပစ္စည်း စီမံခန့်ခွဲမှုအစီအစဉ်

၆။ စွန့်ပစ်အရည် (ရေဆိုး) စီမံခန့်ခွဲမှုအစီအစဉ်

၇။ အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်း စီမံခန့်ခွဲမှုအစီအစဉ်

၈။ အရေးပေါ်အခြေအနေဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်

၉။ သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာ စောင့်ကြပ်ကြည့်ရှုခြင်းနှင့် အစီရင်ခံခြင်း

၁၀။ သင်ကြားပို့ချမှု အစီအစဉ်

အကျဉ်းချုပ်အားဖြင့် ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်၏ လမ်းညွှန်ချက်များ၊ ပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေ၊ နည်းဥပဒေ၊ စည်းမျဉ်းစည်းကမ်းများနှင့် ချမှတ်ထားသော မူဝါဒလမ်းညွှန်ချက်များအတိုင်း ပတ်ဝန်းကျင်ဆိုင်ရာ စီမံ ခန့်ခွဲမှု အလေ့အကျင့်များ၊ လုပ်ငန်းစဉ်များနှင့် လိုက်နာဆောင်ရွက်ကျင့်သုံးရန်တာဝန်များကို ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်တွင် ဖော်ပြရှင်းလင်းတင်ပြထားပါသည်။ စီမံကိန်းနှင့် သက်ဆိုင်သူများအား စီမံကိန်းဆိုင်ရာ အကြောင်းအရာများ

ရှင်းလင်းတင်ပြခြင်း၊ အကြံပြုချက်များနှင့် ဆွေးနွေးတင်ပြလာသည့် သဘောထား အကြံဉာဏ်များကိုရယူပြီး အစီအရင်ခံစာတွင် ဖော်ပြထားပါသည်။

Myanwei website www.myanweiconsulting.com

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

EXECUTIVE SUMMARY

Everyone wants to live in a place that's clean and healthy. That is why one of the world's primary concerns is the environment. As sad as it is, the world today is dying. The environment is slowly decaying, and it's all because of human negligence Environment Management Plan is required for ensuring sustainable development. It should not affect the surrounding environment adversely. The management plan presented. Which needs to be implemented by the proposed expansion of Topmode (Myanmar) Company Limited (Topmode). 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.

The project is new investment for manufacturing of Garment on Contract Manufacturing Process (CMP) basic company from China. The project is issued by the Yangon Region Investment Committee (YRIC) on 14 August 2020 with the Endorsement No. (YGN- 407/2020). YRIC asked 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 under the name of Topmode as a solely owned foreign investment from the China.

According to the Myanmar Environmental Conservation Law (2012), it requires that the proponents of every development project in the country submit either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) to Ministry of Natural Resources and Environmental Conservation (MONREC). As per the comments of Environmental Conservation Department (ECD), said project requires an Environmental Management Plan (EMP) to meet the environmental assessment requirements of Notification No. Yaka- 1/3/4 (EIA) (2130/2020) on 2 October 2020. Therefore, Topmode commissioned Myanwei Environmental Solutions Company Limited (Myanwei) for EMP report study.

Information of Investor

Investor Name:	Mr. Hsieh Ting-Tsai
ID No.:	352339367
Citizenship:	Taiwan

Address of Registration office:	Beach Road, Ground Floor NPE Building Vistra Corporate Services Center, APIA, Samoa

Salient Features of the Proposed Project

Type of Proposed Business	Manufacturing of Garment on CMP basic
Type of investment	100% foreign investment
Type of Share	Ordinary Share
Type of land	Industrial Land
Total land area	4.026 acres
Total building area	Three Storey Buildings (120ft × 200ft) Two Storey Buildings (160ft × 58ft), (120ft × 30ft) Two Storey Buildings (30ft × 40ft) One Storey Building (20ft × 30ft) One Storey Building (20ft × 20ft)
Land lease year	50 years
Construction period	1 years
Address	Plot No.113, Myay Taing Block No. 49, War Ta Yar Industrial Zone, Shwe Pyi Thar Township, Yangon region.
Contact person	Daw Mee Mee 09- 678587426 ygntmacc02@topmodebridal.com

Includes the scope of the study of proposed project, EMP study objective and responsibility of EMP expert team of Myanwei Environmental Solutions Company Limited and also described about of objective of Environmental Management Plan.

The brief summary of relevant national environmental legislations such as Environmental Impact Assessment Procedure (2015) and National Environmental Quality (emission) Guidelines, established by the Ministry of Natural Resources and Environmental Conservation (MONREC) and overview of current local and international environmental and social policies including related international or regional convention for the proposed project. These are as follow:

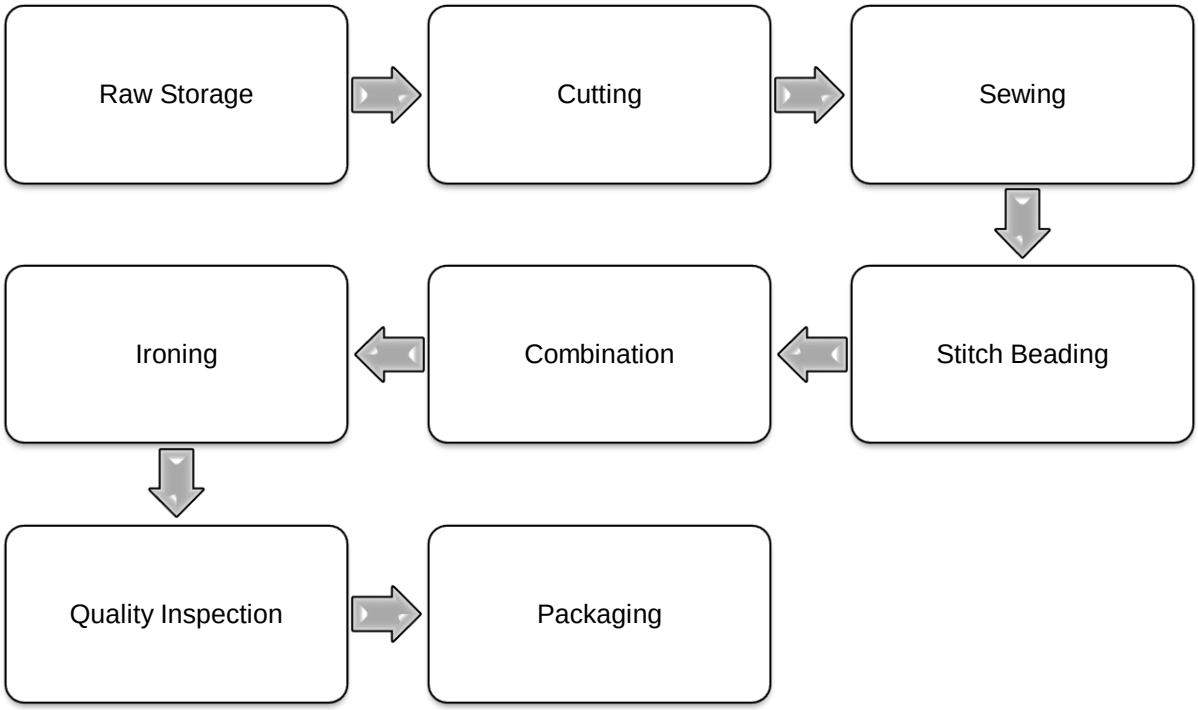
1. Constitution 2008

2. Environmental Conservation Law, 30 March 2012
3. Environmental Conservation Rules, 2014
4. Environmental Impact Assessment Procedure (December 2015)
5. National Environmental Quality (Emission) Guideline (NEQG) (December 2015)
6. National Environmental Policy of Myanmar (2019)
7. Foreign Investment Law, 2012
8. Foreign Investment Rule, 2013
9. Myanmar Investment Rule, 2017
10. Payment of Wages Law (2016)
11. Yangon City Development Committee Law (2018)
12. The Amended Law for Factories Act, 1951 (2016)
13. The Private Industrial Enterprise Law, 1990
14. The Export and Import Law (2012)
15. The Prevention of Hazard from Chemical and Related Substances Law, 2013
16. Underground Water Act
17. Myanmar Fire Brigade Law (2015)
18. The Electricity Law (2014)
19. Labor Dispute Settlement Law (28 March 2012 replacing 1929 version)
20. The Employment and Skill Development (2013)
21. The Worker's Compensation Act, 1923
22. The Payment of Wages Act, 1936
23. The Leave and Holidays Act, (1951, partially revised in 20140
24. The Minimum Wage Law (2013)
25. Public Health Law (1972)
26. Prevention and Control of Communicable Disease Law 1995 (Amendment in 2011)
27. Occupational Safety and Health Law (2019)
28. The Law on Standardization
29. လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သောဝတ္ထုပစ္စည်းများဆိုင်ရာဥပဒေ (၂၀၁၈)
30. Myanmar Insurance Law (1993)
31. The Conservation of Water Resources and River Law (2006)

And occupational health and safety guideline is referenced from International Finance Corporation (IFC) guidelines. Topmode (Myanmar) Company Limited is commitment and complied for environmental prevention and EMP.

Topmode factory is located at Plot No.113, Myay Taing Block No.49, War Ta Yar Industrial Zone, Shwe Pyi Thar Township, Yangon region. The total area of project site is 4.026 acres. Main structure is designed into office area for one building and QC department, cutting section, sewing department and iron department for other building. Transformer room, generator room and water treatment plant are separated by main factory building structure.

The main products of the Topmode factory are wedding dress, bridesmaid dress, children's clothing, live drag, coat.



Production Process

Production rate of Topmode is produced between first year of operation and (10) years operation as 20,900 to 22,990 pieces annually. It's required of work force (15) foreign technicians and 706 local employees for first year operation to (1) years operation. Moreover, the factory is installed and upgrading for operation with current 230 employees during our site survey for EMP report.



Product Photos

For environmental baseline, data were collected by onsite measurements analysis during operation phase on 20 January 2021. 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 Shwe Pyi Thar Township.

Survey Result in Proposed Project

Type	Result
Weather Condition	
Indoor temperature	29.67 °C
Humidity	47.70%
Noise level	
Operation Area	66.71 dBA
Air Quality	
PM_{10}	42.31 ($\mu g/m^3$)
$PM_{2.5}$	25.35 ($\mu g/m^3$)
SO_2	183.73 ($\mu g/m^3$)
NO_2	11.12 ($\mu g/m^3$)
CO	0.31 ($\mu g/m^3$)

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

Evaluation of Significant Impacts and Mitigation Measure on Operation Phase

Categories	Source of Impact	Impact Significance	Mitigation Measure
Air	• Dust and GHGs emission from vehicles used for transporting raw materials and final products • Emission from emergency diesel generator and vehicle movement	Low	• To control air pollution, the vehicles, generators and machineries have to check and maintain regularly. • Ensuring vehicles, compressor and generator are well maintained. • Smoke emission should be fitted with the bag filter.
Water	• Dormitory Cleaning and Kitchen	Very Low	• No Mitigation measures
Soil	• Engine oil leaks, spills at diesel	Insignificant	• No Mitigation Measure

Categories	Source of Impact	Impact Significance	Mitigation Measure
	storage and during fuel refueling.		
Noise and Vibration	• Generating noise from the production machinery	Very Low	➢ No Mitigation Measure
Flora and fauna on terrestrial and aquatic life	Operation of the garment factory	Insignificant	• No Mitigation Measure
Fire	• Poor electrical installations • Waste disposed area raw materials	Moderate	• 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.	Moderate	• 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

Categories	Source of Impact	Impact Significance	Mitigation Measure
	• Accidental cases of thermic fluid heater		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	Very Low	• 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.
Solid Waste	• Residual pieces of fabric scraps from the production lines • Waste from packaging materials • Waste from kitchen, dormitory and office.	Moderate	• 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.	Low	• Regular inspection and cleaning, oil traps, septic tank and adequate

Categories	Source of Impact	Impact Significance	Mitigation Measure
	• Domestic liquid waste disposal from office, kitchen and dormitory.		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.	Very Low	• 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)

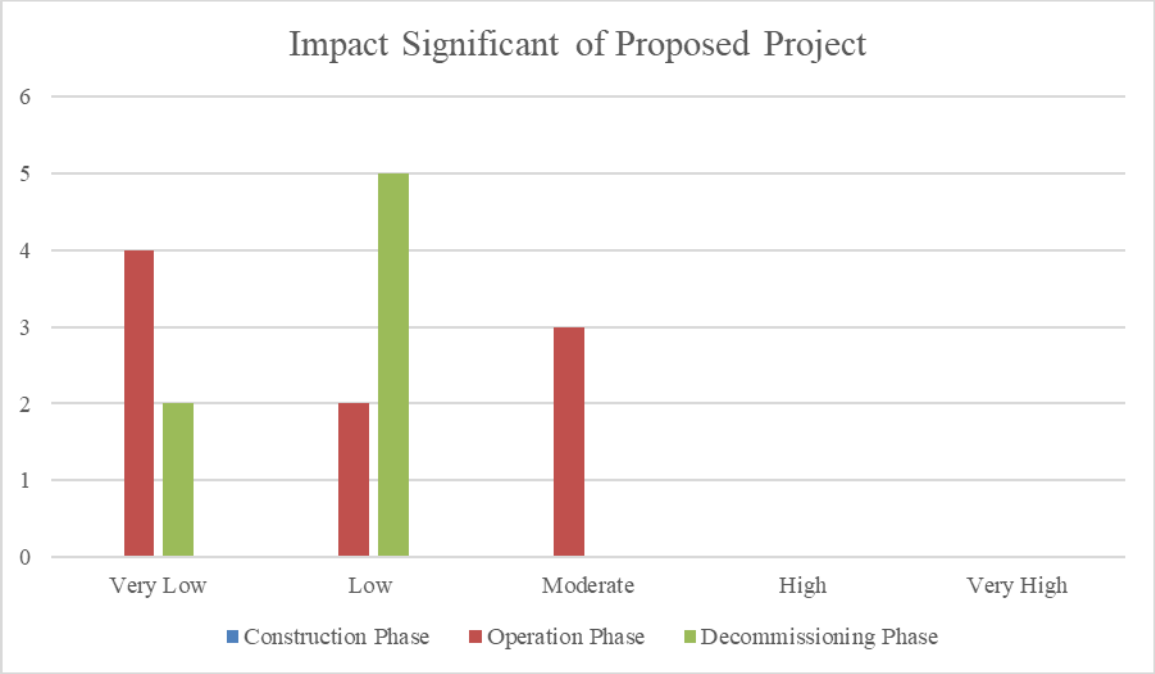
Evaluation of Significant Impacts and Mitigation Measure on Decommissioning Phase

Environmental Impact	Project Activities	Impact Significance	Mitigation Measure
Air pollution	• Demolish of buildings and related materials • Transportation of demolished materials	Low	• 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	Low	• Systematically demolish the septic tanks.

Environmental Impact	Project Activities	Impact Significance	Mitigation Measure
Soil Contamination	• Demolish of buildings and related materials • Transportation of demolished materials	Low	• Manage the spillage of oil and diesel and sewage.
Noise Pollution and Vibration	• Decommission activities • Transportation of demolished materials	Low	• 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	Very Low	• Recyclable materials and dispose to the define areas.
Hazardous waste	• Used lubricants from decommissioning vehicles and machines	Very Low	• Manage the disposal way of hazardous waste.
Occupational Health and Safety (Accidents, Injuries)	• Decommissioning activities • Transportation of demolished materials	Low	• 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.

The assessment of each impact is based on consideration of the magnitude, duration, extent and probability of activities, which are going to be carried out during operation phases. In operation phase, there are 3 moderate significance impact on environment and human (Fire, occupational health and safety and hazardous waste). 2 low significant impacts on environment and human (air and liquid waste). 4 very low significant impact on environment and human (water pollution, noise and vibration, health and hazardous waste). In decommissioning phase 2 very low significant impact on environment and human (waste disposal and hazardous waste). 5 low significant impacts on environmental and human (air, water pollution, soil contamination, noise and vibration and occupational health and safety).

Significance impacts on environmental and human and detail impact assessment for operation phases and decommissioning can be seen in above tables. All of the impacts during operation phases and decommissioning phase can be minimized by using mitigation measures and implementing Environmental Management Plan.



Comparison of Impact Significant of Proposed Project

Negative impacts and mitigation measures of the proposed factory were taken into consideration during the study. The significant sources of gas emission from emergency generator and transportation vehicles will be mitigated by using maintaining system in the operation process. Used of Generator should be housed in a suitable acoustic enclosure. The acoustic insulation should be designed to meet mandatory standards based on a 25 dB insertion loss. the appropriate water conservation plan should be implemented. Topmode also has an agreement service with YCDC for waste disposal facilities to collect the production waste, office waste and domestic waste. Monitoring should be designed and implemented by accredited professionals, as part of an occupational health and safety-monitoring program.

Public Consultation

During the preparation of this report, the second wave of Covid-19 disease become 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 declared in 25th June, 2021 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.

The Environmental Management Plan (EMP) formulated with the anticipated impacts, mitigation measures, management and monitoring plans during all phases are implemented. Topmode 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.

Topmode will contribute 2% of our Net Profit to social welfare activities that will help society and country of Myanmar.

CSR plan

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

The environmental management action for the factory has been prepared to address potential issues based upon discussion with factory management, workers, local community's view, stakeholder consultation and from the site visit of experts. The EMP is additional to and compliments the factory's safety management system. The following environmental issues that require environmental management action based upon the potential impacts of activities:

1. Air pollution/Dust Management plan
2. Noise Management Plan
3. Fire Management Plan
4. Occupational Safety and Health Management Plan
5. Solid Waste Management plan
6. Liquid Waste Management Plan

7. Hazardous Waste Management Plan
8. Emergency Management plan
9. Environmental Monitoring Schedule and Reporting
10. Capacity Building and Training Plan

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

This is recommended that;

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

Finally, the proponent should follow the comments and suggestions made by ECD after reviewing this EMP report. Once concerned authorities approve EMP, effective implementation of EMP

by the project proponent is essential. The proponent should abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

Myanwei website www.myanweiconsulting.com

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

1. INTRODUCTION

Environmental 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 Topmode (Myanmar) Company Limited (Topmode). 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. PROJECT BACKGROUND

The project is new investment for manufacturing of Garment on CMP Basis from China. The Yangon Region Investment Committee (YRIC) issues the project on 14, August 2020 with the Endorsement No. (YGN- 407/2020). The committee must issue the notification for the environmental approval and comments of the Ministry of the Natural Resources and Environmental Conservation (MONREC) on the proposed project and had approved the proposal for investment in manufacturing of Garment on CMP Basis under the name of Topmode (Myanmar) Co., Ltd. is located at Plot No. 113, Myay Taing Block No. 49, Wartayar Industrial Zone, Shwe Pyi Thar Township, Yangon Region.

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 Yangon Region Investment Committee (YRIC), said project requires an EMP to meet the environmental assessment requirements of Notification No. YaKa1/3/4 (EIA) (2130/2020) on 2 October 2020.

1.1.1. Project Proponent Profile

This is the information of project proponent from the YRIC's registration that is describing in below Table 1-1 and Table 1-2. The estimated authorized capital investment is 2.609 million US Dollar (Table 1-2). Organization chart of Topmode (Myanmar) Co., Ltd. is presented in Figure 1-1.

Table 1-1 Information of Investor

Investor Name:	MR. Hsieh Ting-Tsai
ID No:	352339367
Citizenship:	Taiwan
Address of Registration office:	Beach Road, Ground Floor NPE Building, Vistra Corporate Services Center, APIA, Samoa

Table 1-2 Salient Features of the Project

Type of Proposed Business	Manufacturing of Garment on CMP basic
Type of investment	100% foreign investment
Type of Share	Ordinary Share
Type of land	Industrial Land
Total land area	4.206acres (17021.078sq.mt)
Total building area	Five Building 120 ft × 200 ft (three storey building) (160 ft × 58 ft) (120 ft × 30 ft) (two storey building) (30 ft × 40 ft) (two storey building) (20 ft × 30 ft) (one storey building)
Land lease year	60 years
Construction period	1 years
Operation starting date	50 years investment permit
Address	Plot No. 113, Myay Taing Block No. 49, Wartayar Industrial Zone, Shwe Pyi Thar Township, Yangon Region.
Contact person	U Thae Maung 09-254327396 ygntmacc02@topmodebridal.com

Figure 1-1 Organization chart of Topmode (Myanmar) Company Limited

1.1.2. 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 floor (A), Grand Myay Nu Condo, Myay Nu Street, Sanchaung Township, 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.S 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) 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
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)	Junior Environmental Consultant, monitoring measure, document administration

Name	Qualification	Responsibility
	Certificate of Environment Management	
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

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.

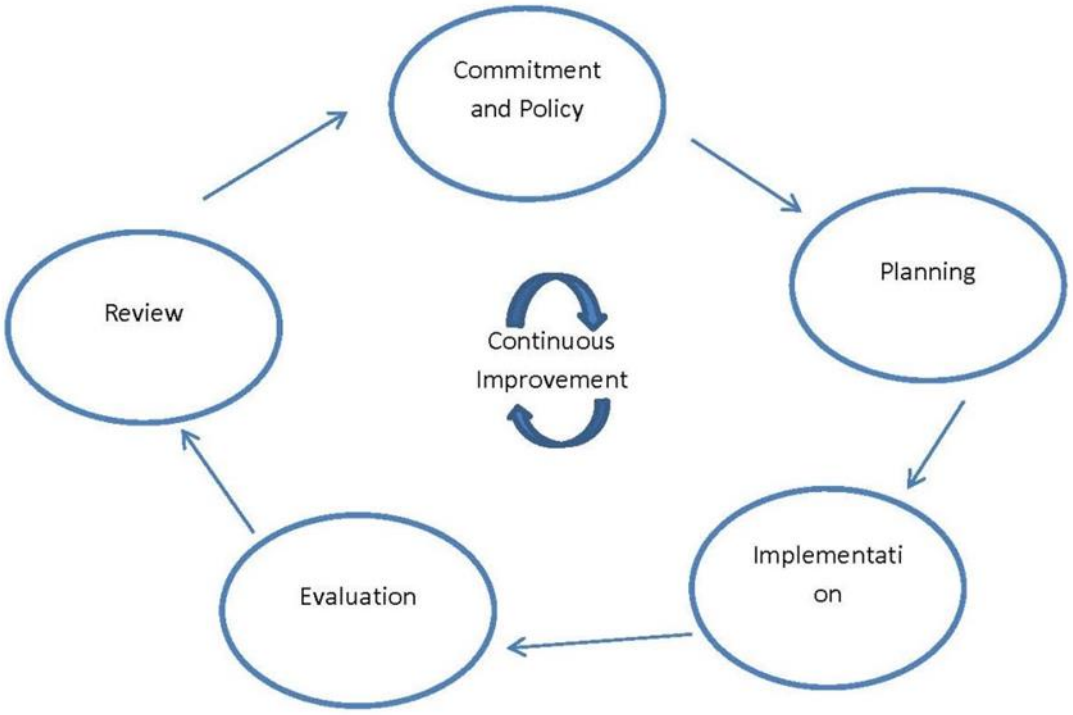


Figure 1-2 PDCA cycle

1.2.1. Institutional Requirement

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

1.2.2. 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:

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

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

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

1.2.3. 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;

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 Environmental Management Plan (EMP) is prepared for the proposed

project covers the anticipated impacts of the said project, mitigation measures, management and monitoring plans during the life of operation.

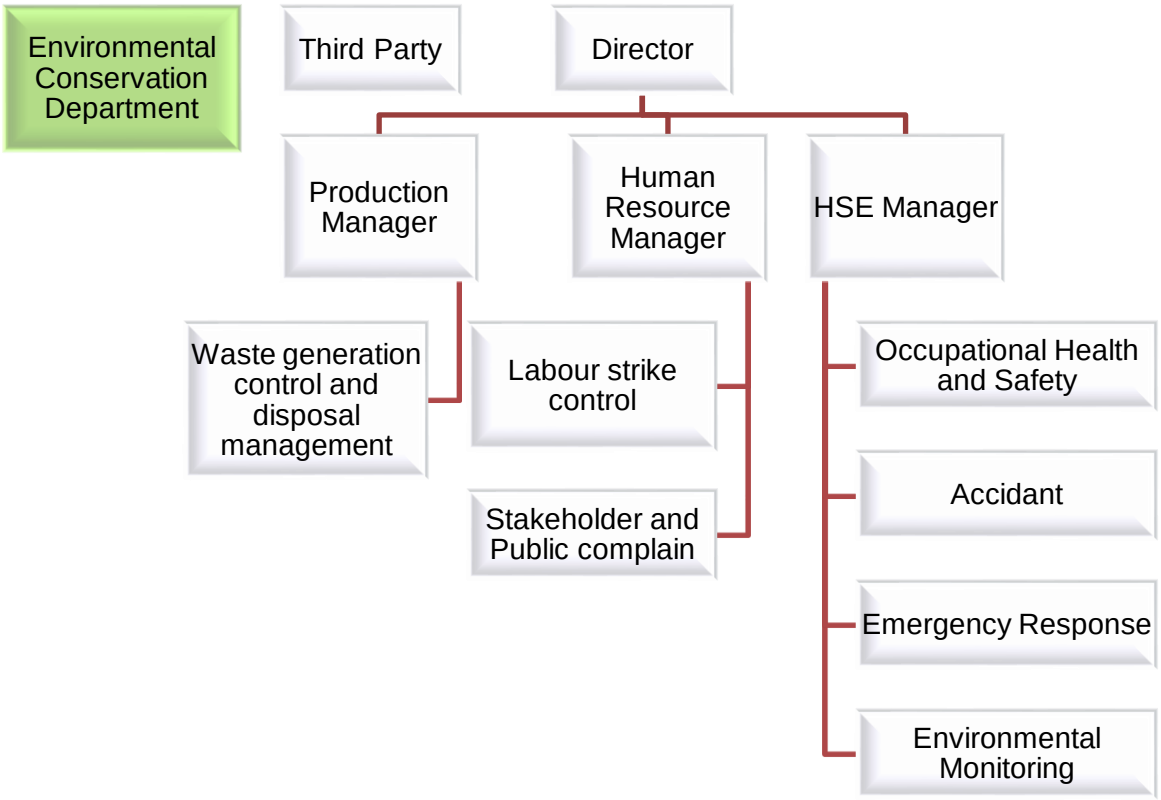


Figure 1-3 Organization Structure of Environmental Management Plan

Table 1-4 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
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.

1.2.4. 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.

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 conversation.
Section 3	c) to enable to emerge a healthy and clean environment and to enable to conserve natural and cultural heritage for the benefit of present and future generations; (d) to reclaim ecosystems as may be possible which are starting to degenerate and disappear; (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 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.	
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
လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သောဟတ္ထုပစ္စည်းများဆိုင်ရာဥပဒေ (၂၀၁၈)	
ရည်ရွယ်ချက်	လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သော ဟတ္ထုပစ္စည်းများကို စနစ်တကျပြုလုပ်ခြင်း၊ တင်သွင်းခြင်း၊ သယ်ယူခြင်း၊ သိုလှောင်ခြင်းနှင့် သုံးစွဲခြင်းတို့ပြုနိုင်ရန်၊

	ယမ်းဘီလူးနှင့် ဆက်စပ်သုံးပစ္စည်းများ အသုံးပြုသည့် လုပ်ငန်းခွင်ဘေးအန္တရာယ် ကင်းရှင်း၍ လုံခြုံမှုရှိစေရန်၊ လုပ်ငန်းခွင်သုံး ပေါက်ကွဲစေတတ်သော ဥတ္တုပစ္စည်းများ ပြုလုပ်သုံးစွဲမှုများကို စနစ်တကျ ကြီးကြပ်နိုင်ရန်။
အခန်း ၇ တားမြစ်ချက်များ အမှတ် ၁၈	လိုင်စင်ရရှိသူနှင့် ခွင့်ပြုချက်ရရှိသူ မည်သူမျှ စစ်ဆေးရေးအရာရှိချုပ် သို့မဟုတ် စစ်ဆေးရေးအရာရှိ၏ စစ်ဆေးခြင်းကို ခံယူရန် ငြင်းပယ်ခြင်းမပြုရ။
အမှတ် ၁၉ (ခ)	ပုဒ်မ ၈ အရ ကာကွယ်ရေးဌာနကောင်စီ အမှုဆောင်အဖွဲ့၏ အတည်ပြုချက်မရရှိဘဲ လုပ်ငန်းခွင် ပေါက်ကွဲစေတတ်သော ဥတ္တုပစ္စည်းများကို ဖျက်ဆီးခြင်းမပြုရ။
အမှတ် ၁၉ (ဂ)	ဤဥပဒေအရ ထုတ်ပြန်သည့် နည်းဥပဒေ၊ စည်းမျဉ်း၊ စည်းကမ်း၊ အမိန့်ကြော်ငြာစာ၊ အမိန့်နှင့် ညွှန်ကြားချက်များနှင့်အညီ ဆောင်ရွက်ရန် ပျက်ကွက်ခြင်း မရှိစေရ။
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 Return 12 (a)	Any person who has taxable proceed of sale or receipt from service within a year, shall pay due monthly tax within ten days after the end of the relevant month. Moreover, a three-monthly return shall be furnished to the relevant Township Revenue Officer within one month after the end of relevant three-month.
12 (b)	The Township Revenue Officer may intimate any person to pay due monthly tax and send three-monthly return if there is cause to consider that he has taxable proceed of sale or receipt from service within a year.
12 (c)	If it is failed to pay tax under sub-section (a) or (b), or if there is cause to consider that the tax paid is less than the tax payable, the Township Revenue Officer may, based on the information received, estimate and claim the tax payable or the additional tax payable.
12 (d)	The tax paid under sub-section (a), (b) or (c) shall be set-off from the tax due in the assessment.
12 (e)	The tax payable on goods imported under sub-section (c) of section 4 of the Law shall be collected together with the customs duties by the Customs Department in accord with the manner of collecting customs duties.

2.2. NATIONAL ENVIRONMENTAL QUALITY (EMISSION) GUIDELINES

As specified in the EIA Procedure, all projects are obliged to use, comply with and refer to applicable national guidelines or standards or international standards adopted by the Ministry. As

specified in the EIA Procedure, following project approval a project shall commence implementation strictly in accordance with the project EMP and any additional requirements set out in the project ECC, which will encompass conditions relating to emissions. While these Guidelines generally apply to all projects subject to the EIA Procedure, it is the prerogative of the Ministry to decide how the Guidelines should be applied to existing projects as referred to in the EIA Procedure.

According to the Environmental Conservation Law, 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.

2.2.1. General Guidelines

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

2.2.1.1. Air emission

Projects with significant sources of air emissions, and potential for significant impacts to ambient air quality, should prevent or minimize impacts by ensuring that: (i) emissions do not result in concentrations that reach or exceed national ambient quality guidelines and standards, or in their absence current World Health Organization (WHO) Air Quality 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 Air Quality Guideline (NEQG)

Parameter	Averaging Period	Guideline Value (µg/m^3)
Nitrogen Dioxide	1-year 1-hour	40 200
Ozone	8-hour Daily	100

Particulate Matter PM_{10}[a]	1-year 24-hour	10 50
Particulate Matter $PM_{2.5}$[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

Table 2-3 Noise Quality Guideline (NEQG)

Receptor	One Hour LAeq (dBA) [a]	
	Daytime 07:00-22:00 (10:00-22:00 for Public Hoildays)	Nighttime (22:00-07:00) (22:00-10:00 for Public Hoildays)
Residential, Institutional, Educational	55	45
Industrial, Commercial	70	70

A Equivalent continuous sound level in decibels

2.2.1.2. Wastewater

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

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
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

[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.

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

2.2.2. Garment, Textile and Leather Products Manufacturing

This guideline applies to textile manufacturing using natural fibers, synthetic fibers (made entirely from chemicals), and regenerated fibers (made from natural materials by processing these materials to form a fiber structure). It does not include polymer synthesis and natural raw material production.

2.2.2.1. Effluent levels

Parameter	Unit	Guideline Value
5-day Biochemical oxygen demand	mg/l	30
Absorbable organic halogens	mg/l	1
Ammonia	mg/l	10
Cadmium	mg/l	0.02
Chemical oxygen demand	mg/l	160
Chromium (hexavalent)	mg/l	0.1
Chromium (total)	mg/l	0.5
Cobalt		0.5
Color		7 (436 nm[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

2.2.2.2. 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

2.2.3. 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 2-4shows the contents of the section of Community Health and Safety.

Table 2-4 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 of Project Infrastructure	Reduction of potential hazards is best accomplished during the design phase when the structural design, layout and site modifications can be adapted more easily. The following issues should be considered and incorporated as appropriate into the planning, siting, and design phases of a project (1) inclusion of buffer strips or other methods of physical separation around project sites to protect the public from major hazards associated with hazardous materials incidents or process failure (2) incorporation of siting and safety engineering criteria to prevent failures due to natural risks posed by earthquakes, tsunamis, wind, flooding, landslides and fire, and (3) application of locally regulated or internationally recognized building codes, standards and regulations, and mitigation measures.
Traffic Safety	Traffic safety should be promoted by all project personnel during displacement to and from the workplace, and during operation of project equipment on private or public roads. Prevention and control of traffic related injuries and fatalities should include the adoption of safety measures that are protective of project workers and of road users, including those who are most vulnerable to road traffic accidents.

Contents	Brief Description
Transport of Hazardous Materials	Projects should have procedures in place that ensure compliance with local laws and international requirements applicable to the transport of hazardous materials.
Disease Prevention	Recommended interventions against the communicable diseases at the project level include (1) providing surveillance and active screening and treatment of workers, (2) preventing illness among workers in local communities by undertaking health awareness and education initiatives, training health workers in disease treatment and conducting immunization programs for workers, and (3) providing treatment through standard case management in on-site or community health care facilities.
Emergency preparedness and Response	All projects should have an Emergency preparedness and Response Plan that is commensurate with the risks of the facility and that includes the following basic elements: (1) Administration (policy, purpose, distribution, definitions, etc.) (2) Organization of emergency areas (command centers, medical stations, etc. (3) Roles and responsibilities, (4) Communication systems, (5) Emergency response procedures, (6) Emergency resources, (7) Training and updating, (8) Checklists (role and action list and equipment checklist), and (9) Business Continuity and Contingency.

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

2.3. INSTITUTIONAL ARRANGEMENT

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

2.4. COMMITMENT OF TOPMODE (MYANMAR) COMPANY LIMITED

Topmode (Myanmar) Company Limited shall be responsible for the preservation of the environment at and around the area of project site. In addition to this, it shall carry out as per instructions made by Ministry of Natural Resources and Environmental Conservation (MONREC) in which to conduct

an EMP which describe the measure to be taken for preventing, mitigation and monitoring significant environment impacts resulting from the implementation and operation of proposed project or business or activity has to be prepared and submitted and to perform activities in accordance with this EMP and be abided by the environment policy, Environmental Conservation Law and other environmental related rules and procedures.

a) The accuracy and completeness of the EMP,

b) That the EMP has been prepared in strict compliance with applicable laws including this Procedure

c) That the Project will at all times comply fully with the commitments, mitigation measures, and plans in the EMP Report.

Topmode (Myanmar) Company Limited shall be responsible for the environmental assessment of factory development as follows:

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

3. PROJECT DESCRIPTION

3.1. LOCATION

Topmode (Myanmar) Company Limited is located at latitude 16°58'54.21"N and longitude 96°2'53.04"E and Plot No. 113, Myay Taing Block No. 49, Wartayar Industrial Zone, Shwe Pyi Thar Township, Yangon Region. Location map is as shown in Figure 3-1.

3.2. SITE DESCRIPTION OF THE PROJECT SITE

The total area of project site is 4.206 acres. Main factory building is designed into production area, warehouse and canteen for two story building and two-story buildings for office and another accessories department. One dormitory also has in the area of the project site for three story buildings. Transformer room and generator room are separated by beside of main factory building. The adjacent condition map of the factory has been shown in Figure 3-2 and the factory layout plan can be seen in Figure 3-3.

3.3. PROJECT IMPLEMENTATION

The factory designed area includes, utilities of transformer room, warehouse, dormitory and general utility room, firefighting pump room and water tank, car parking shelter, offices and canteen facilities etc. Number of currently people 232 employees working at Topmode'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 20,900 – 22,990 pieces.

Decommissioning phase; the proposed project investment duration is **50 years.**

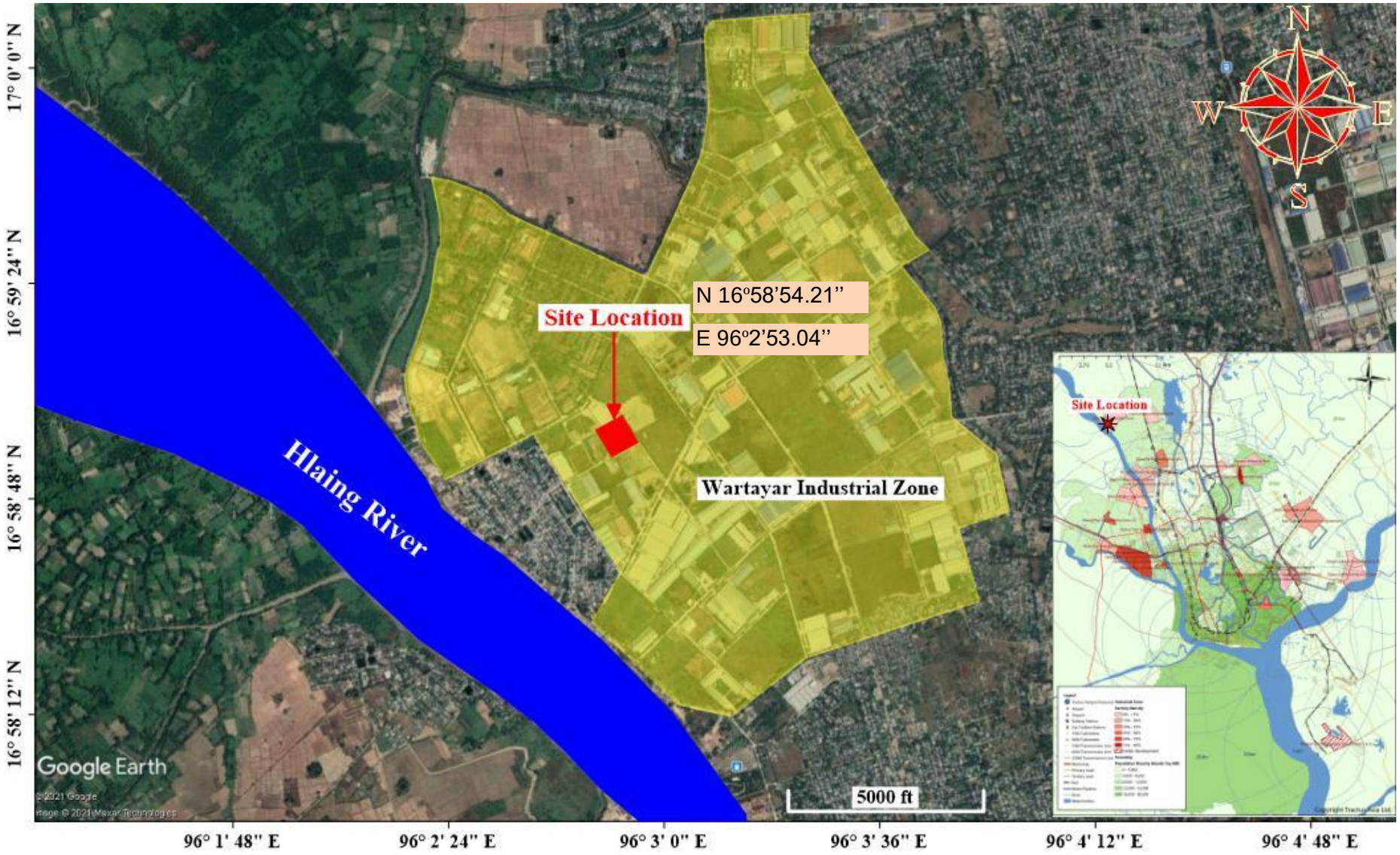


Figure 3-1 Location map

Figure 3-2 Adjacent condition map

Figure 3-3 Factory Layout Map

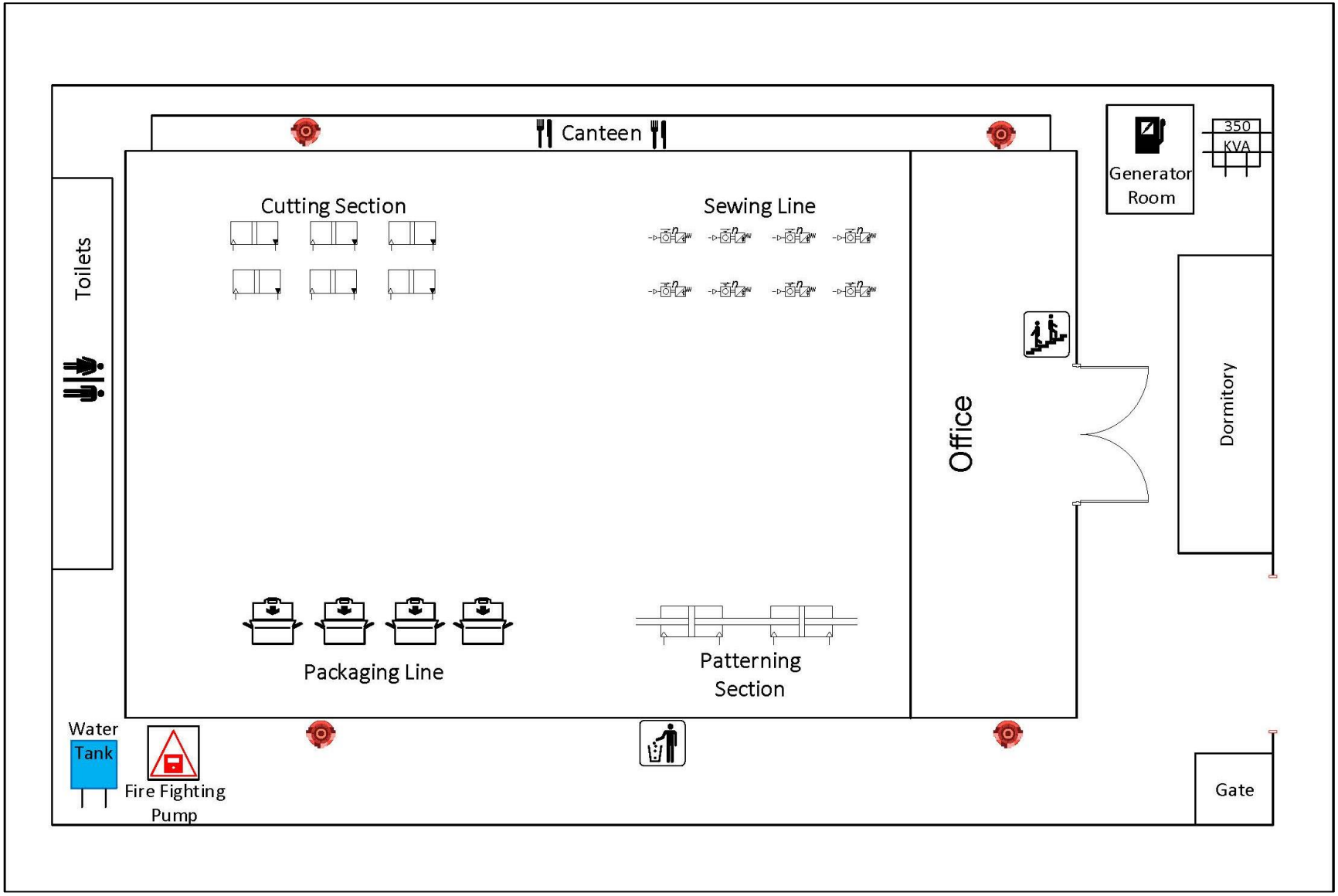


Figure 3-4 Factory Layout Drawing

3.4. PRODUCTION PROCESS

Cutting-Making-Packaging (CMP) is a production system in which raw materials including fabrics and silk are imported and then processed into finished product, packaged and exported. The method used to create Garment will vary between different brands, but the process of manufacturing Garment usually starts from creating the body of the Garment. It the Garment is high fashion and hand-made, the manufacturing will choose a piece of leather, which is consistent in color, and use it to cut out five basic sections of the Garment the front, the back, the sides and the bottom.

To cut out the parts and to ensure that all Garment have the same size, the artisan will use special patterns. If the material used to create the Garment has patterns on it, the high fashion manufacture will cut each of the sections in such a way, which allows matching the patterns on the seams. Process flow diagram of Topmode described are in Figure 3-5.

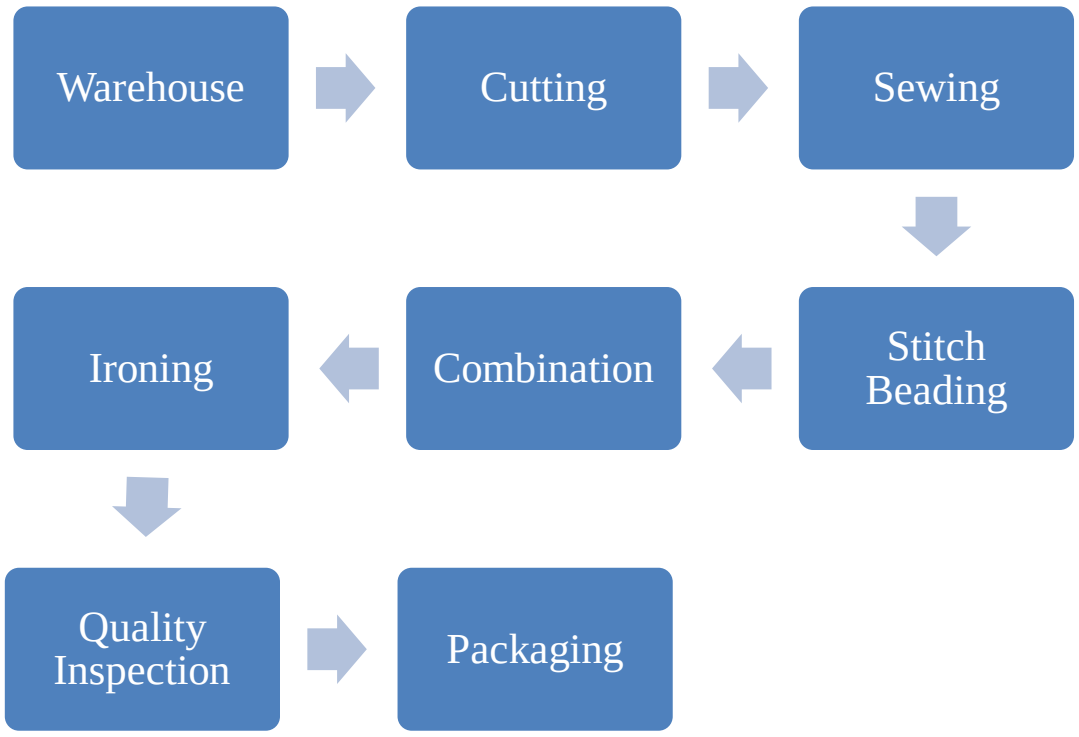


Figure 3-5 Process Flow Diagram

Warehouse

Cutting Section

Sewing Section

Stitch Beading

Combination

Ironing

Quality Inspection

Packaging

Figure 3-6 Production Process Photos

3.4.1. Products

The product of the Topmode factory is Wedding Dress, Bridesmaid Dress, Children's Clothing, Live Drag, Coat, Shawl, Cloak, Veil, Sleeve, Belt and Shoulder Strap. Table 3-1 is described in annual production rate.

Table 3-1 Annual Production Rate

No.	Description	Unit	Year-1-5	Year-6-10
1	Wedding Dress	Pcs	15,000	16,500
2	Bridesmaid Dress	Pcs	2,000	2,200
3	Children's Clothing	Pcs	2,000	2,200
4	Live Drag	Pcs	200	220
5	Coat	Pcs	200	220
6	Shawl	Set	200	220
7	Cloak	Pcs	200	220
8	Veil	Pcs	200	220
9	Sleeve	Pcs	200	220
10	Belt	Pcs	500	550
11	Shoulder Strap	Pcs	200	220

Figure 3-7 Products Photo

3.5. UTILITIES

3.5.1. Raw Material

The proposed project intends to manufacture the Garment on CMP basic and to export 100% of the finished products. Perfect Trading Limited agrees to supply to ready-made product and pay CMP charges to Topmode. Raw Materials, which include Satin, Lining, Sequins, Bra Cups, Ribbon, Zipper and Hanging Loop etc. are imported from China. Raw materials are stored in warehouse separately. Raw materials require for a piece of product is described in Table 3-2.

Figure 3-8 Raw Storage Photo

Table 3-2 List of Raw Material Requirement (Annually)

No	Particular	Unit	Year – 1-5	Year – 6-10
1	Satin	Yard	46,140	50,754

No	Particular	Unit	Year – 1-5	Year – 6-10
2	Lining	Yard	130,120	143,132
3	ORGANZA (ORG)	Yard	59,840	65,824
4	Tulle	Yard	427,650	470,415
5	Interlining/ Shapewell	Yard	17,540	19,294
6	Overlace	Yard	29,950	32,945
7	Lace Motif	Pcs	510,200	561,220
8	Scallop Lace/ Lace/ Trim	Yard	47,200	51,920
9	Beads	Kg	2,740	3,014
10	Claw Crystal	Grain	2,918,300	3,210,130
11	Sequins	Kg	119	131
12	Horse Hair	Yard	161,600	177,760
13	Bra Cups	Pair	15,000	16,500
14	Elastic Band	Yard	4,400	4,840
15	Ribbon	Yard	24,440	26,884
16	Zipper	Pcs	19,200	21,120
17	Hanging Loop	Yard	38,180	41,998
18	Button	Pcs	159,600	175,560
19	Cloth Collar Hook	Pair	255	281
20	Hook & Eye	Pair	9,500	10,450
21	Button Loop	Yard	5,390	5,929
22	Iron Hook	Pcs	1,005	1,106
23	Boning	Yard	59,420	65,362
24	Clear Nylon Thread	Pcs	1,500	1,650
25	Sewing Thread	Pcs	3,000	3,300
26	Feather	Yard	105	116
27	Nylon Rope	Yard	60	66
28	Hair Comb	Pcs	455	501
29	Label	Pcs	30,000	33,000

No	Particular	Unit	Year – 1-5	Year – 6-10
30	Care Label	Pcs	60,000	66,000
31	Hangtag	Pcs	22,500	24,750
32	Packaging Plastic Bags	Kg	3,000	3,300
33	Plastic Hangers	Pcs	30,000	33,000
34	Dye	Bottle	15	17
35	Mannequin	Pcs	60	66
36	Yardstick	Pcs	45	50
37	Plotter Paper	Roll	6,495	7,145
38	Pattern Paper	Roll	150	165
39	Carton	Pcs	1,995	2,195
40	Sealing Tape	Roll	1,500	1,650
41	Jelly Tape	Kg	15	17
42	PVC Packing Belt	Roll	210	231
43	Magic Tape	Kg	255	281
44	Photo Glue	Box	180	198
45	Printer Ribbon	Roll	30	33
46	Ink Cleaner	Pcs	30	33

3.5.2. Machinery and equipment

Lists of machinery and equipment required for the Topmode is following in Table 3-3.

Table 3-3 List of Machinery

Operation Stage	Machinery Name	Unit	Quantity
Cutting Section	Straight Cutter	Pcs	1
	Multi-Layer Intelligent Cropping System	Pcs	2
	Manual Crop Pernergating Machine (Cut Knife)	Pcs	12
	Cloth Machine	Pcs	1
	Breaker	Pcs	6
Sewing Section	Automatic Tangent Sewing Machine	Pcs	150

Operation Stage	Machinery Name	Unit	Quantity
	Automatic Tangent Sewing Machine	Pcs	3
	Single-Needle Differential Movement Up and Down Cloth Sewing Machine	Pcs	2
	High-Speed Oil Return Bag Sewing Machine	Pcs	6
	The Torture Machine	Pcs	1
Ironing Section	Electrical Steam Boiler	Pcs	2
	Electrical Steam Boiler	Pcs	1
	Wet Bridge Hot Table	Pcs	7
	Pumping the Under-Draining Hot Table	Pcs	1
	Bevel Flat Hot Table	Pcs	1
	Iron	Pcs	8
Other Accessories	Water Dispenser	Pcs	10
	Hand-Pushed Hydraulic Forklift	Pcs	2
	Industrial Dehydrator	Pcs	1
	Double Motor High-Top Packer	Pcs	1
	Air Conditioning	Pcs	70
	Generator JK-CY-220	Pcs	1
	Generator JK-CS-668	Pcs	1

3.5.3. Human Resource

The proposed Factory of Topmode has the employees more than 97 % are local people, who manage the company by their dynamic, enthusiastic, experienced, and cooperative skills. Currently, one shift (8 hours + overtime 2 hours) of production is running or operating. Human resource required by foreign experts/technicians and local persons for administrative and production process are about 230 persons. Among these there are 8 of foreign persons. The working day of the factory is at least 262 days per year.

Table 3-4 Employment List

No.	Particular	Local			Foreign		
		Year 1	Year 2	Year 3-10	Year 1	Year 2	Year 3-10
1.	HR Manager	2	2	2	-	-	-
2.	Network Manager	2	2	2	-	-	-
3.	Fire Safety Officer	1	1	1	-	-	-
4.	Financial Officer	4	4	4	-	-	-
5.	Custom Officer	2	2	2	-	-	-
6.	Production Assistant	8	8	8	-	-	-
7.	Quality Inspector	30	30	30	-	-	-
8.	Translator	15	15	15	-	-	-
9.	Warehouse Staff	15	15	15	-	-	-
10.	General Worker	600	700	800	-	-	-
11.	Electrician	1	1	1	-	-	-
12.	Driver	3	3	3	-	-	-
13.	Front Desk Staff	1	1	1	-	-	-
14.	Cafeteria Staff	10	10	10	-	-	-
15.	Cleaner	6	6	6	-	-	-
16.	Security Staff	6	6	6	-	-	-
17.	Factory Manager	-	-	-	1	1	1
18.	Production Manager	-	-	-	1	1	1
19.	Financial Manager	-	-	-	1	1	1
20.	Sampling Technicians	-	-	-	2	1	1
21.	Patterning Technicians	-	-	-	2	2	2
22.	Mechanic Technician	-	-	-	2	1	1
23	Bridal Consultant	-	-	-	2	1	1
24.	Dress Designer	-	-	-	2	1	1
25.	Quality Control	-	-	-	2	1	1
		706			15		
		721					

3.5.4. Water

Shwe Pyi Thar Township has no centralized water supply system and the factory gets water from the tube wells installed inside the factory compound. Main source of water supply will be provided

by two tubes well water (ground water 100ft deep and 300ft deep) in which ground water is pumped (by using 5 inches PVC pipe and 2 inches PVC pipe) in the storage tanks 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. Drinking water will be provided by using water filtration process. Figure 3-9 is described by water storage tank and drinking water supply for Topmode.

During operation, the water will be pumped from the groundwater, the water is stored in the underground storage tank (concrete – 84950.54 liters) and then pumped into the overhead steel tank (10 tons). The factory also has a water storage concrete tank (60,000 gallons) for firefighting. The Ro water treatment system and three water filters area installed and water is treated to meet requirements for factory use. Two pumps and distribution pipes are installed to supply water to water ventilation cooling system. The estimated water used for processes 10,000 gallons per day. By comparing daily water requirement with storage capacity of the tanks, the factory has sufficient water for daily use.

Figure 3-9 Drinking Water Supply

3.5.5. Electricity and Fuel Requirement

The proposed project is intended to get required electricity supply form City Electricity Supply Board and distributed by 200 kVA and 800 kVA Transformers. Emergency use of energy from generators 700 kVA will be kept as the emergency generator if normal electricity outage. The proposed project of electricity usage is 37,000 units in a month. Electricity distribution room is shown in the Figure 3-10.

Required petrol and diesel for vehicles and generator are purchased from the nearest petrol station. Fuel requirement is about 350 gallons per month. To handle the leakage and spillage of the diesel, an interception with is kept stainless steel the tank.

Figure 3-10 Electricity System

3.5.6. Electroni Steam Boiler

Topmode use the two electrical steam boilers for garment ironing. The water usage for electronic steam boiler is two gallons per day. Steam Boiler uses are only a small amount of wastewater and is discharged only within the drainage in the factory.

Table 3-5 Specification of Both of Electrical Steam Boiler

Type	Unit	LND0.065-.0.7
Output Power	KW	48
Rated Capacity	t/h	0.065
Rated Steam Temperature	°C	170
Rated Steam Pressure	Mpa	0.7
Volume	L	29
Power Supply	V	380
Weight	Kg	150
Dimension mm LxWxH		700 × 450 × 1210
Use for Electric Steam iron	Pcs	8-11
Use for Steam Iron	Pcs	14-18

Figure 3-11 Electronic Steam Boiler

3.6. FACILITY

3.6.1. Fire Hazards Protect Facility

Fire extinguishers, fire hose reels, fire hydrants and fire sprinkler system 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 with the dimension of 30m x 7m 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

3.6.2. 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 3-13. 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 Shwe Pyi Thar's municipal service to be carried out for disposing of these septic tank wastes. To mitigate the impact on water, the drainages around the compound area of the factory have to maintain and clean regularly. Spillage and leakages of oil and grease should also be minimized.

Figure 3-13 Drainage and Toilet Facility

3.6.3. Solid Waste Management Facility

The factory provides separate garment bins at each building. All of the solid wastes will be collected separately in garment 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 Shwe Pyi Thar's municipal service.

Figure 3-14 Waste Storage Photos

3.7. WASTE GENERATION

The project will be generated solid waste, liquid waste and hazardous waste from the operation of the Topmode. Detail description of waste generation and waste amount are shown in Table 3-6.

Table 3-6 Waste Generation and Waste Amount

Wastes		Type of wastes	Estimated waste amount	Source of generation
Solid waste	Re-usable	Disposed packaging materials, paper or plastic wrapping	550 kg / week	Materials store and supply packaging
	Non-re-usable	Food residues, domestic waste	85 kg / day*	Canteen, Kitchens, Dormitory
Liquid waste		Sanitary discharge water	3.65 m^3 /day*	Toilet facility, kitchen and canteen
Hazardous waste		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 m^3 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 Shwe Pyi Thar 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 and ambient air quality samples; as well as noise measurements at immediate surrounding areas. The data is presented below.

4.2.2. Temperature and Humidity

The weather condition during 20, January, 2021 shows the average temperature of 29.67°C while the average humidity is 47.70 % and its cloudy day. There were partly cloudy on the day between 11:00 am and 3:00 pm and the wind speed is 15 to 25 km/h SW direction.

Table 4-1 Relative Humidity and Temperature Measure

Date and Time	Description	Result value	Environmental parameter air station guideline
20 January 2021 (11:00 am to 3:00 pm)	Relative Humidity RH %	47.70 (%)	Present condition
	Temperature	29.67 °C	Present condition

Figure 4-1 Temperature and Humidity Measurement in Operation Area of the factory

4.2.3. Air Quality

To determine the existing baseline ambient air quality status within the project site on 20 January 2021, 24-hours of working period air pollutants level, which include dust (PM_{10} and $PM_{2.5}$). 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°58'50"N and longitude 96°02'55"E.

It was observed that the air quality 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.

Table 4-6 Observed Air Quality Results (Latitude 16°58'50"N and Longitude 96°02'55"E.)

Parameters	Observed value	Guideline value	Unit	Organization	Period
PM_{10}	**42.31**	50	µg/m^3	NEQG	24 hrs
$PM_{2.5}$	**25.35**	25	µg/m^3	NEQG	24 hrs
SO_2	**183.73**	500	(µg/m^3)	NEQG	10 min
NO_2	**11.12**	200	(µg/m^3)	NEQG	1 hr
CO	**0.31**	35	(µg/m^3)	ACGIH	24 hrs

NEQ = National Environmental Quality (Emission) Guideline]

Figure 4-2 Air Quality Measurement at the Project Site

4.2.4. Noise

The Noise level was measured by using Digital Sound Level Meter for working hours on 20 January 2021. The average noise level in the project site area is presented in Table 4-2 compared with NEQ guideline. However, according to the Noise source monitoring at operation area (inside the production sector) of noise level is exceeding the acceptable level of National Environmental Quality (Emission) Guideline.

Table 4-2 Noise Level Measurement Result

Date and Time	Location	GPS Location	Result value	Guideline
20 January 2021 (11:00 am to 3:00 pm)	Operation area	16°58'50"N 96°02'55"E.	**66.71 dBA**	70 dBA

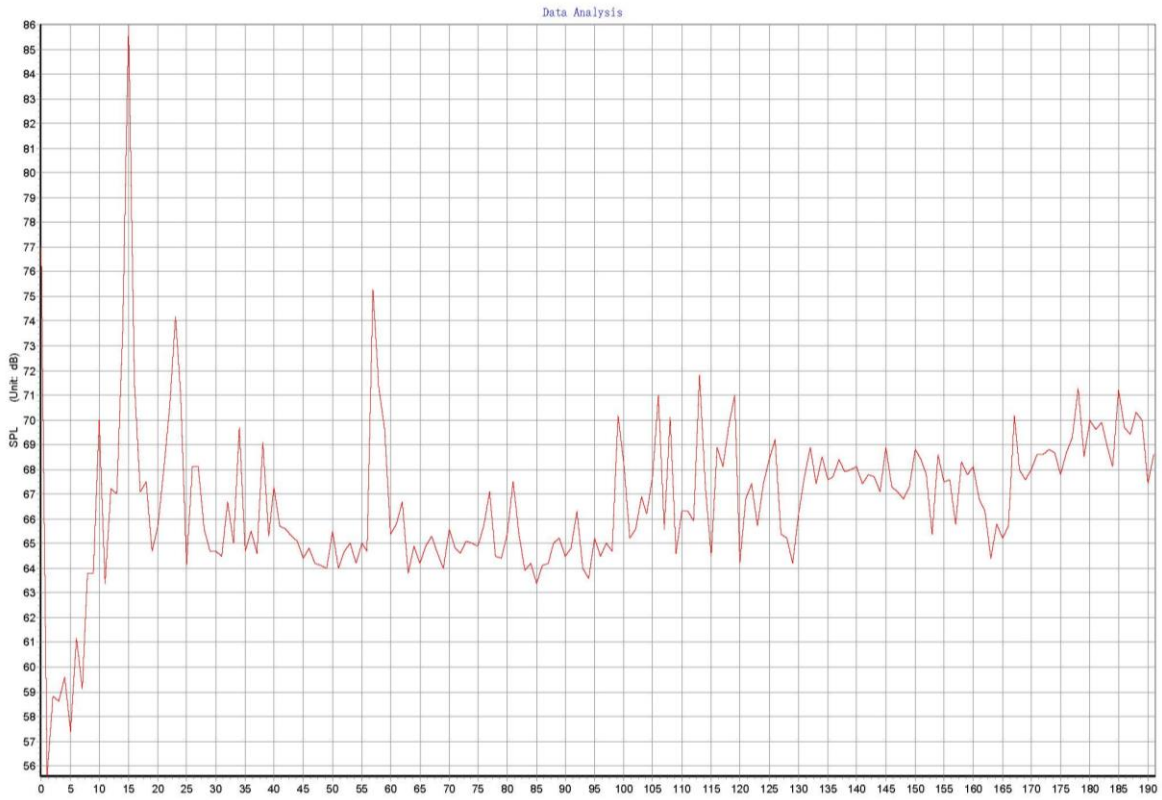


Figure 4-3 Noise Level Result Graph

Figure 4-4 Sound Level Measurement Photos

4.2.5. Light

Activities of the workers in the manufacturing of garment factory are highly dependent on the quality of light. Therefore, the consultant conducted the light measurement in the manufacturing of garment factory is presented in Table 4-3. The illustrates the recommended illumination and limiting

glare index applicable to typical works (fairly severe to very severe tasks) in manufacturing of garment factory is provided.

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 manufacturing of garment factory, like the inspection points (on-floor and in stores), sampling, and the finishing section, as these areas are crucial for the quality of the production. The tasks involved in these areas require high levels of worker focus and accurate lighting to ensure lower errors and defects passing on to the next stage.

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

Table 4-3 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

Figure 4-5 Light Quality Measurement

Table 4-4 Result of Light Measurement

No	Measure area	Unit	Measure value	Standard	Type of Light
1	Warehouse	Lux	**308**	1000	LED tube light
2	Cutting Section	Lux	**1084**	1300 - 2000	LED tube light
3	Beading Section	Lux	**888**	1300 - 2000	LED tube light
4	Sewing Section	Lux	**1010**	600	LED tube light
5	Ironing Section	Lux	**920**	900	LED tube light
6	Quality Control	Lux	**854**	600	LED tube light
7	Packing	Lux	**284**	900	LED tube light

4.3. PHYSICAL COMPONENT (SECONDARY DATA)

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 convergence on the Yangon and Shwe Pyi Thar River region about 34 km away from the Gulf of Martaban. The proposed project area is situated at Thardukan Industrial Zone, Shwe Pyi Thar Township, and its topographic condition is flat. The proposed project site is primarily agricultural land, but now is initiated into the industrial zone area.

4.3.1. 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 4-6.

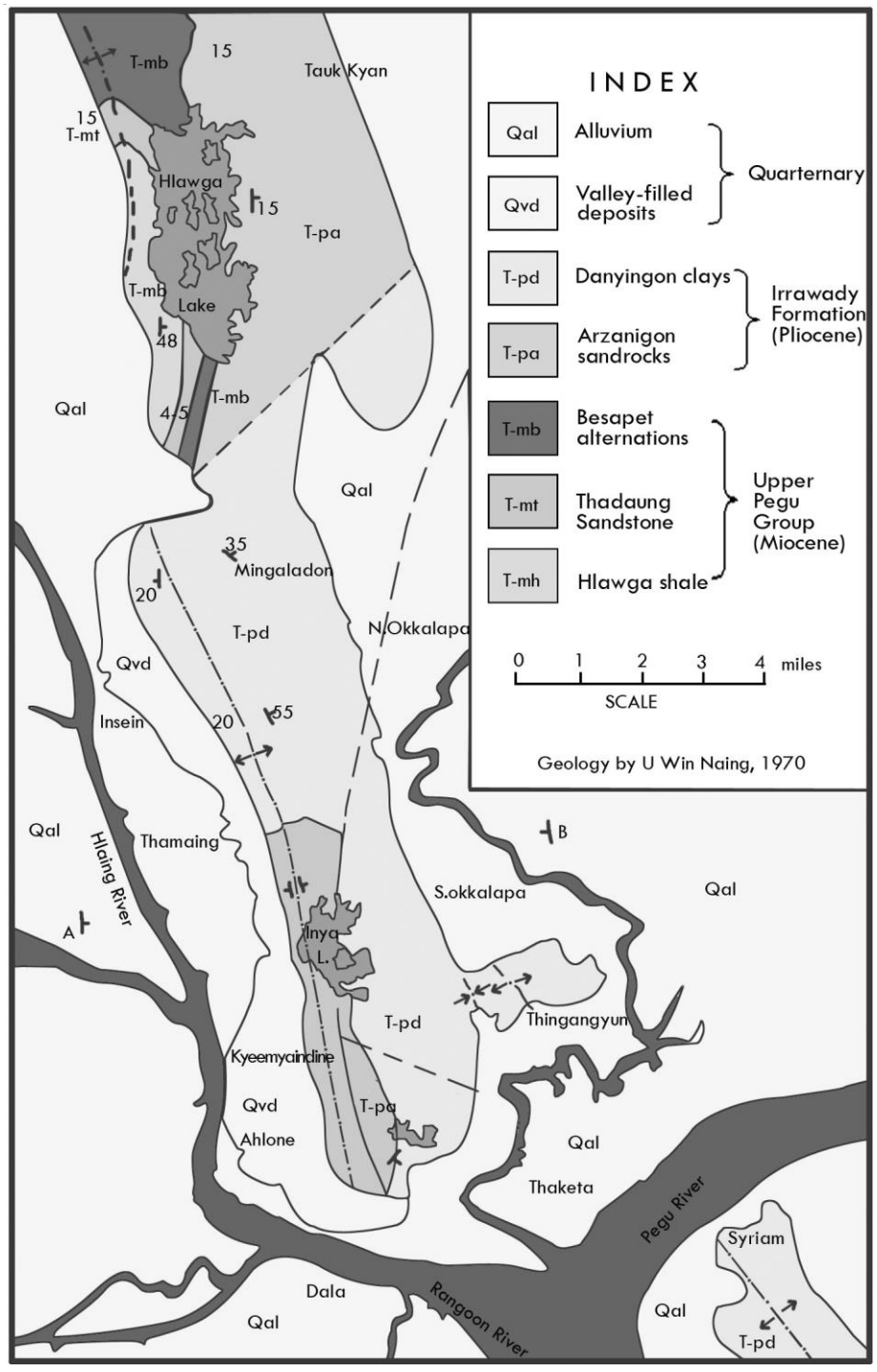


Figure 4-6 Geological Map of Yangon Region

4.3.2. 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).

4.3.3. Soil

The underlying soil type at the Project Site and its surroundings is characterized as the Meadow and Meadow Alluvial Soil. Meadow Soil is soil which occurs near the river plains exposed to occasional tidal floods, is non-carbonate and usually contains a large amount of salt. Both materials mainly comprise silty clay loam and neutral soil rich in plant nutrient. The upper layers (approximately 0 to 7 m) of the soil at the Project Site comprise largely of cohesive layers with traces of sand and gravel, followed by sand layers with low silt content and trace gravel from 7 to 35 m. The lower layers comprise denser silt layer with traces of sand and gravel from approximately 57 to 70 m. Standard Penetration Test (SPT) results obtained from testing at the Project Site indicate that the soil strength generally increases with depth. The STP results showed that the current soil quality can accommodate the construction of the Project. [2]

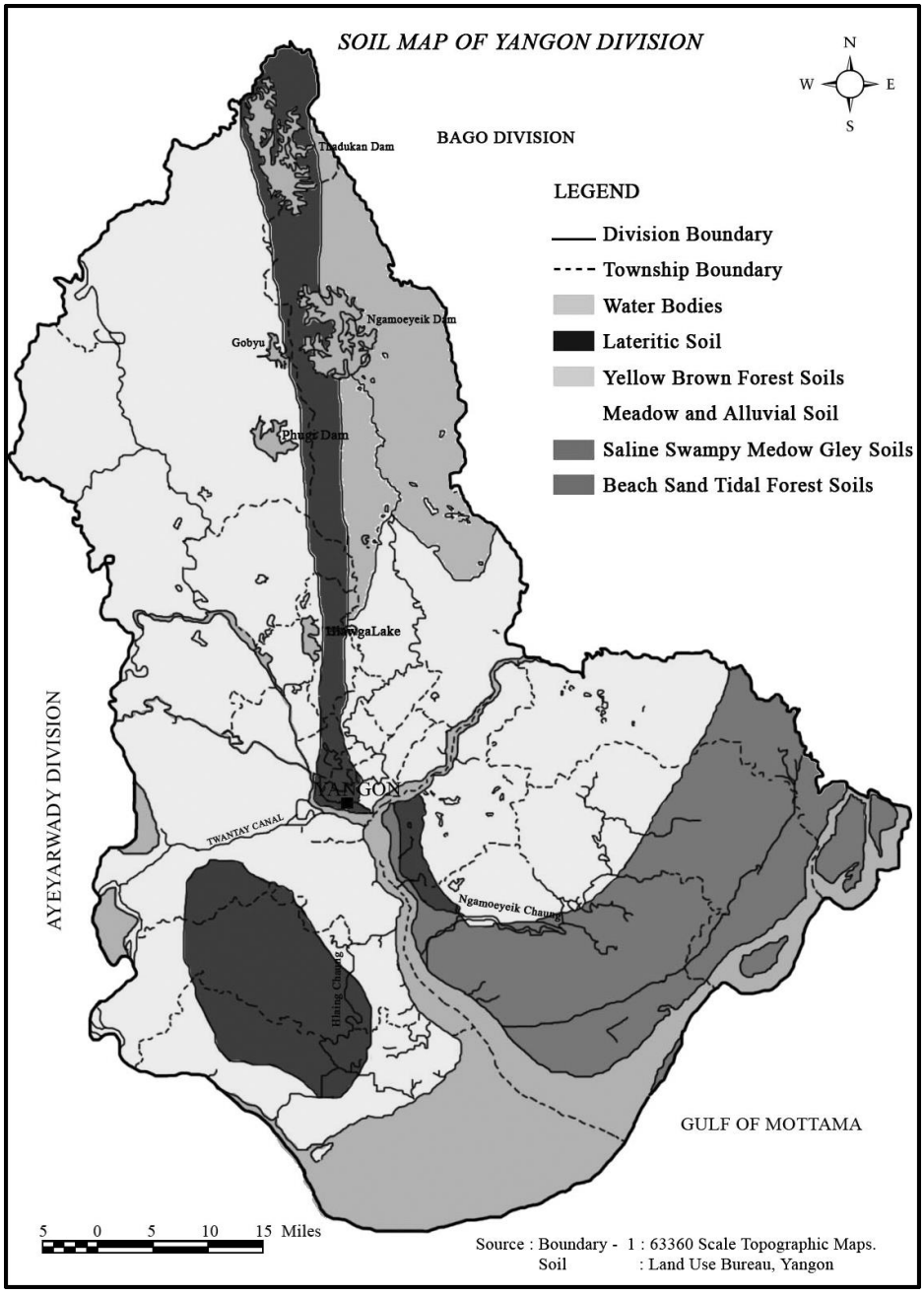


Figure 4-7 Soil Map of Yangon (Source: Land use of Bureau of Yangon)

4.3.4. 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 Shwe Pyi Thar River (the estuary) lies within the Yangon Division. The Pazundaung Creek and Shwe Pyi Thar River joins the Yangon River and from there, flow towards the Southwestern direction into Andaman Sea.

4.3.5. Climate and Meteorology

4.3.5.1. 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]

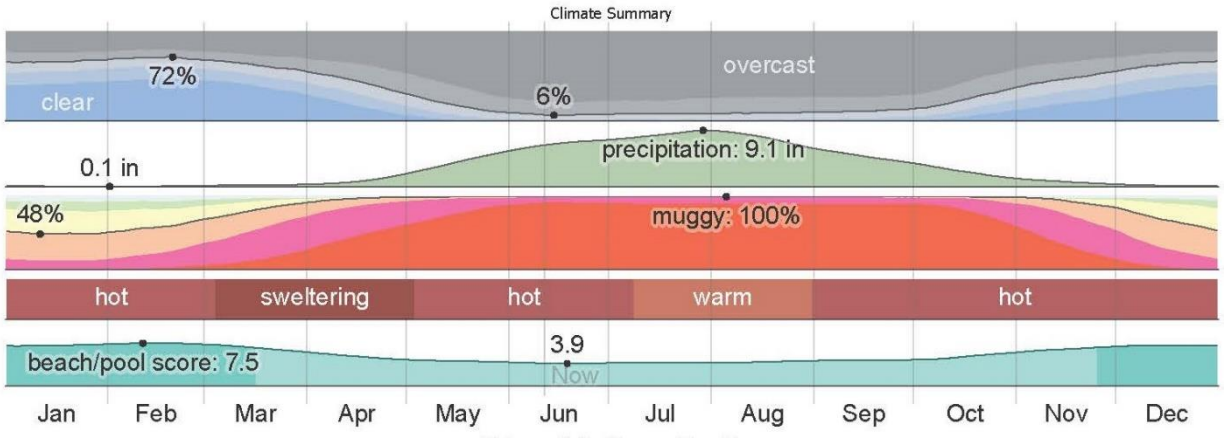


Figure 4-8 Climate Summary of Yangon Region

4.3.5.2. 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.

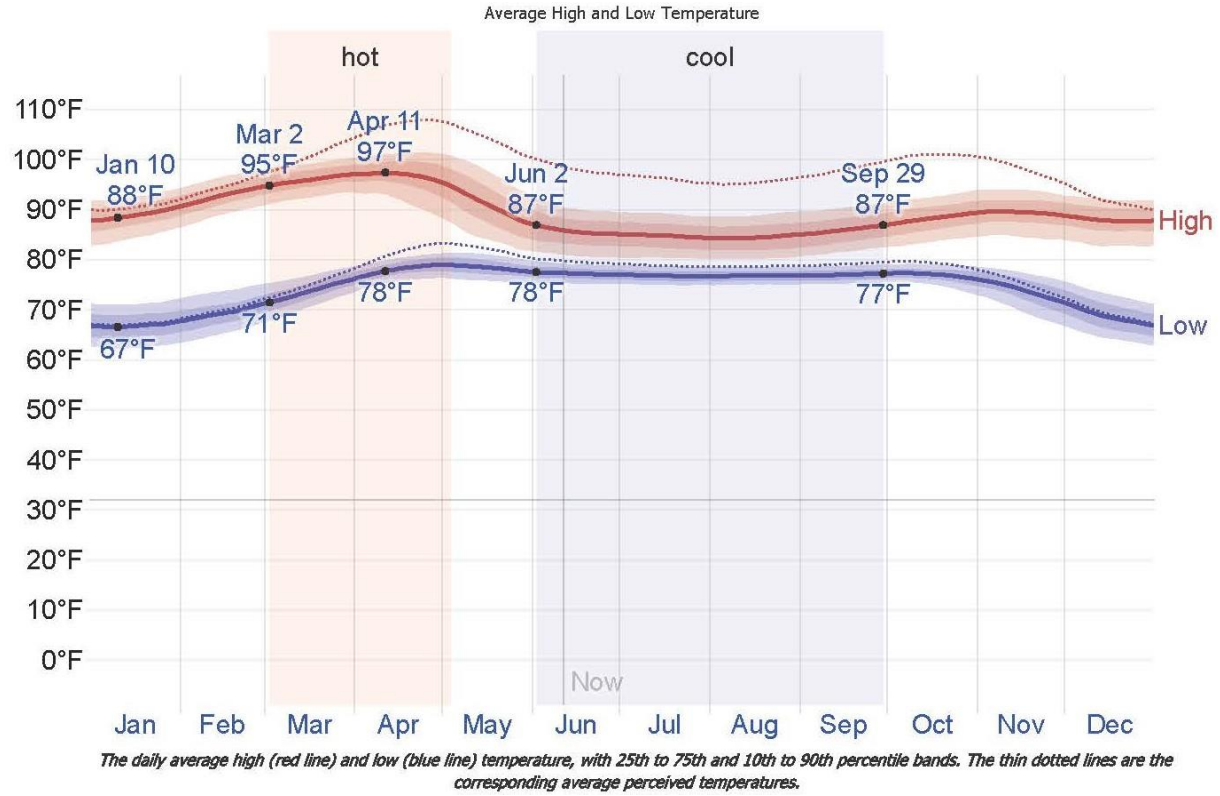


Figure 4-9 Average Temperature of Yangon Region

4.3.5.3. 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.

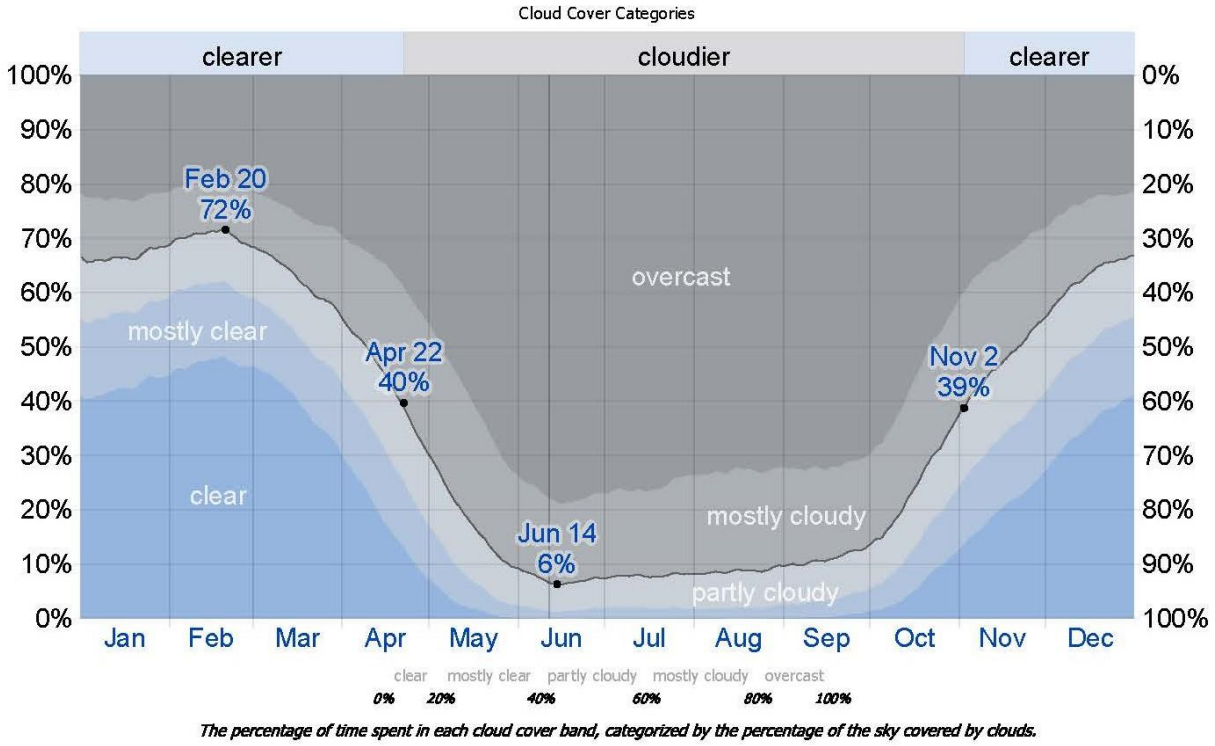


Figure 4-10 Cloud Cover Categories

4.3.5.4. 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.

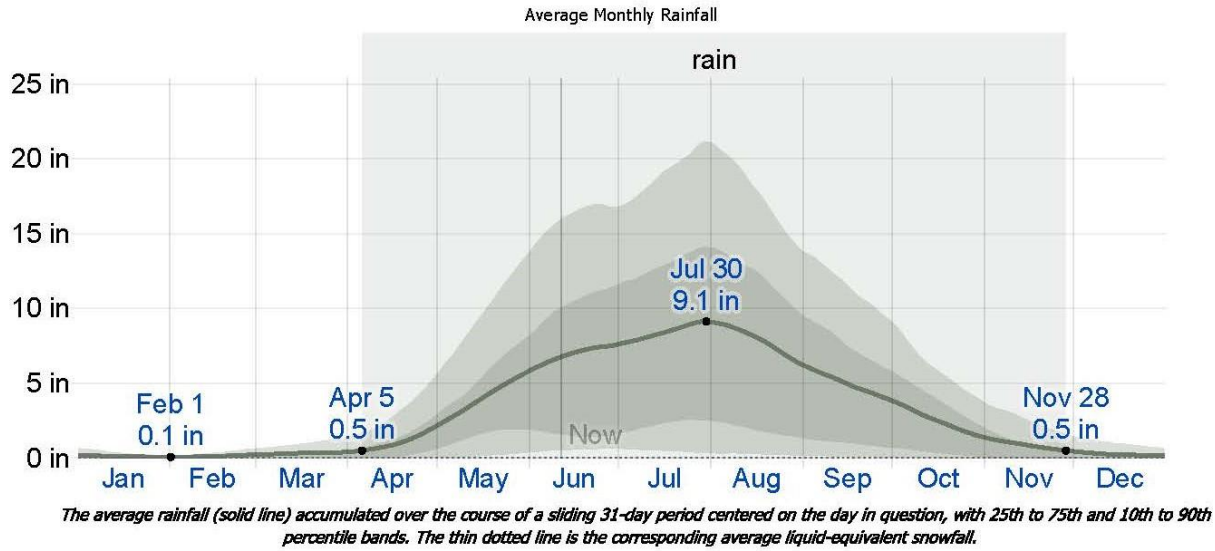


Figure 4-11 Average Monthly Rainfall at Yangon Region

Table 4-5 Annual Rainfall and Temperature

Year	Rainfall		Temperature	
	Raining day	Rainfall value	Summer season Max (°C)	Winter season Min (°C)
2015-2016	102	79.20	45°C	15°C
2016-2017	101	138.85	42°C	18°C
2017-2018	123	134.53	40°C	12.5°C
2018-2019	112	122.35	45°C	15°C

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

4.3.5.5. 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.

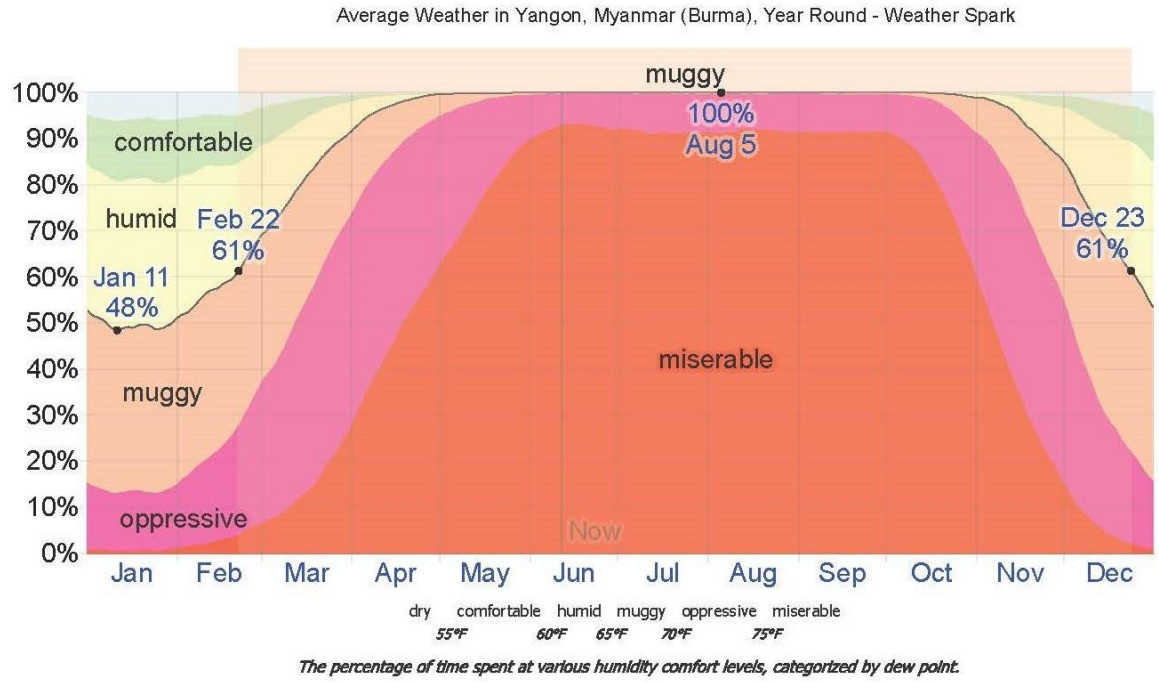


Figure 4-12 Humidity of Yangon

4.3.5.6. 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.

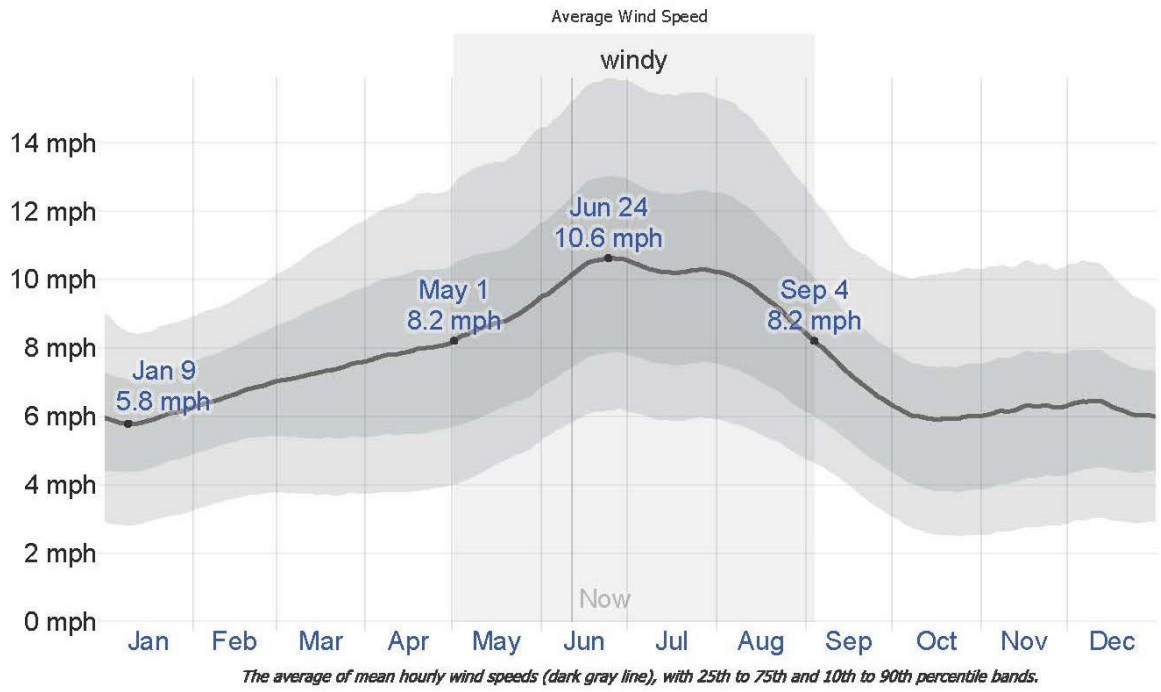


Figure 4-13 Average Wind Speed in Yangon

4.4. BIOLOGICAL COMPONENT (SECONDERY DATA)

The project area is near the Ya Khaing Yoe Village area of Shwe Pyi Thar Township. Therefore, the proposed project site is not located in or near a sensitive ecosystem in the Yangon Region. The proposed project activities are not affected to the changes of ecosystem in the Yangon Region.

Ecological Resources	Existing condition
Fisheries, aquatic biology	The nearest river is Hlaing River. Fresh water fish species are residing in the river
Wildlife	Non existence
Forests	Non existence
Rare or endangered species	Non existence
Protected areas	Non existence
Coastal resources	A few mangrove species observed at the river bank of Hlaing River

4.5. SOCIO-ECONOMIC COMPONENT

4.5.1. Population

Topmode (Myanmar) factory is located across Shwe Pyi Thar Township in Yangon Region. In 2019, there are about people 277,033 in Shwe Pyi Thar Township as shown in Table 4-6. [1]

Table 4-6 Population of Males and Females at Shwe Pyi Thar Township (2019)

Item	Older 18 year			Younger 18 year			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Urban	32,542	33,564	66,106	78,474	91,234	169,708	111,016	124,798	235,814
Rural	5,479	5,587	11,066	14,092	16,061	30,153	19,571	21,648	41,219
Total	38,021	39,151	77,072	92,566	107,295	339,416	130,587	146,446	277,033

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

4.5.2. Religion

The different kinds of religion present in Shwe Pyi Thar Township are shown in Table 4-7. More than 90% of the people living in the township are Buddhists. [1]

Table 4-7 Religion in Shwe Pyi Thar Township (2019)

Township	Buddhist	Christian	Hindu	Muslim	Other	Total
Shwe Pyi Thar	261,753	7,101	2,716	5,263	200	277,033

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

4.5.3. Local Economy

Among regional towns, Shwe Pyi Thar 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 agriculture. Services and facilities available include:

- Store
- Gold Shop
- Electrical Store
- Mobile/Service Store
- Book Shop
- Pharmacy

- Restaurants
- Tea Shop
- Hardware Store
- Agricultural Shop
- Construction Material Shop
- Services
- Rice Shop
- Fashion Shop
- Pagoda & Monastery Donation Accessories Shop

4.5.4. Public Infrastructure and Access

4.5.4.1. Communication and Transportation

Major transportation route in Shwe Pyi Thar Township are railway, port, and car road as presented in Table 4-8. [1]

Table 4-8 Transportation Route

Categories	Township		Distance
	From	to	
Railway (Yangon-Pyay railway)	Hlwaga	1 ward	4/2
Inland water way	18 wards	Hlwaga	4.2
Bus line (39, 40, 42, 44, 65, 69, 72, 73, 74, 77)	Hlwaga	Downtown area	
Car (No 4. Main road)	1 ward	Hlwaga	

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

4.5.4.2. Electricity

The electricity demand of Shwe Pyi Thar 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 in Yangon Region i.e., basic education primary school (B.E.P.S.), monastery teaching school, basic education middle school (B.E.M.S), basic education high school (B.E.H.S) and university, in the Shwe Pyi Thar Township. The name and located village tract/ ward of schools are described in Table 4-10. [1]

Table 4-9 List of major school in Shwe Pyi Thar Township

No.	Name of School	Location
1	Computer University Yangon	Kyaung Gone Village Tract
2	BEHS (1)	No 6. Ward
3	BEHS (2)	Hlawga Village Tract
4	BEHS (3)	No 8. Ward
5	BEHS (4)	Zee Gone Village Tract
6	BEMS (Branch) (2)	No 19. Ward
7	BEMS (Branch) (3)	No 5. Ward
8	BEMS (Branch) (4)	No 9. Ward
9	BEMS (Branch) (8)	No 23. Ward
10	BEMS (1)	Hlawga Village
11	BEMS (5)	No 15. Ward
12	BEMS (6)	No 17. Ward
13	BEMS (7)	No 9. Ward
14	BEMS (9)	No 11. Ward
15	BEMS (10)	No 14. Ward
16	BEPS (1-43)	Shwe Pyi Thar Township

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

The diseases of high prevalence reported in 2013 are Tuberculosis (TB), followed by Diarrhea, TB and snakebites. With reference to the Township Health Profile 2014 of Shwe Pyi Thar Township, no accidental work injuries reported to the township hospital in 2013. The common diseases are shown in Table 4-10.

Table 4-10 Common Diseases in the Shwe Pyi Thar Township

Diseases	Shwe Pyi Thar Township	
	Morbidity	Mortality
Malaria (Per 100000P)	3.2	-
ARI (Per 100000<5Children)	681	-
Diarrhea (Per 100000P)	126	-
TB (Sputum+) (Per 10000P)	152	-

Table 4-11 Lists of hospital in the Shwe Pyi Thar Township

Hospital	Beds/Services	Responsible
Township Hospital	25	Government

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

4.6. CULTURAL AND VISUAL COMPONEMTS

Shwe Pyi Thar 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 Shwe Pyi Thar 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.

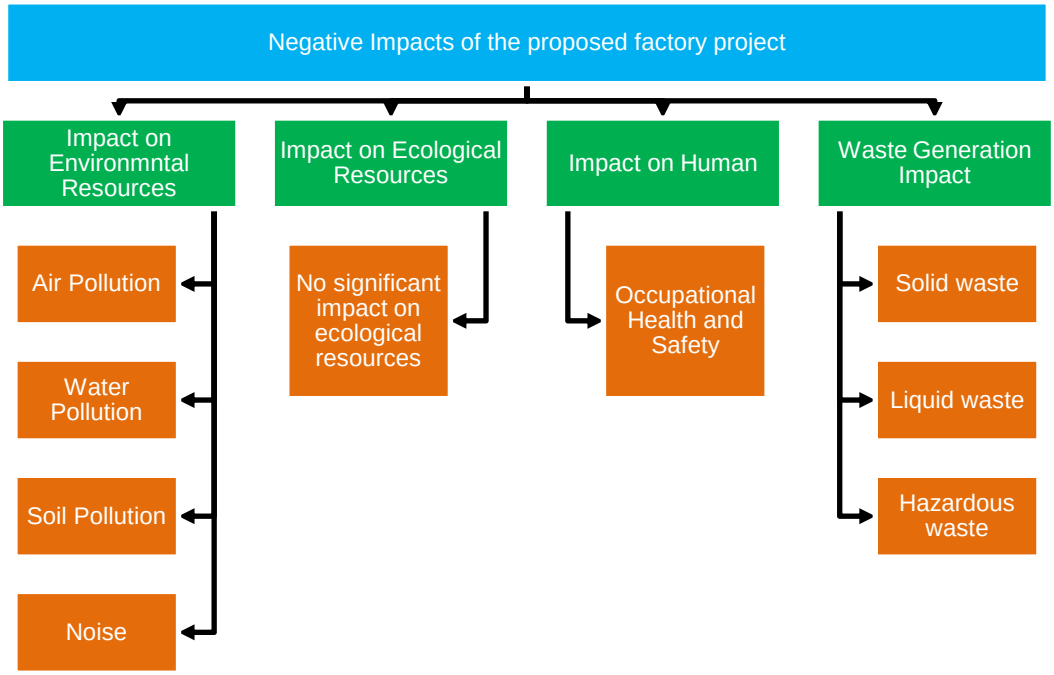


Figure 5-1 Potential negative impact affect from proposed factory project

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	Very high and will result in permanent changes on

				working environment	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 50 years. The term of the Lease shall be initial 50 years commencing from the date of signing of the Lease Agreement between Local owner and Topmode (Myanmar) Co., Ltd. for proposed project site for 17021.078 m^2 of

land. The project of land and building will be restitution to land owner after close the operation. Therefore, the assessment study cannot be needed 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	2	4	2	3	24	Low	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. Smoke emission should be fitted with the bag filter.
Water	Dormitory Cleaning and Kitchen	2	4	2	1	8	Very Low	The factory not generated wastewater from production process on CMP basic	No Mitigation measures
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	No Mitigation Measure

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
								due to the oil spillage at this area is insignificant.	
Noise and Vibration	Generating noise from the production machinery	2	4	2	1	8	Very Low	The factory not operate heavy machinery the major noise source of CMP basic operation activities such as cutting, stitching/finishing and packaging by respective machines. There is insignificant impact on surrounding environment.	No Mitigation Measure
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									

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
Fire	Poor electrical installations Waste disposed area raw materials	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. Unloading, cutting, and packaging activities. Accidental cases of thermic fluid heater	3	4	1	4	32	Moderate	Accident in workplace (physical injuries or even death) can occur during operation.	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

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

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
Waste Generation Impact									
Solid Waste	Residual pieces of fabric scraps from the production lines Waste from packaging materials Waste from kitchen, dormitory and office.	3	4	1	4	32	Moderate	Surrounding environmental pollution and soil contamination	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.	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.

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

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

Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	S			
Air pollution	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.

Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	S			
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 Contamination	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 Pollution 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. 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	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

Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	S			
(Accidents, Injuries)									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.

The assessment of each impact is based on consideration of the magnitude, duration, extent and probability of activities, which are going to be carried out during operation phases. In operation phase, there are 3 moderate significance impact on environment and human (Fire occupational health and safety and hazardous waste). 2 low significant impacts on environment and human (air and liquid waste). 4 very low significant impact on environment and human (water pollution, noise and vibration, health and hazardous waste). In decommissioning phase 2 very low significant impact on environment and human (waste disposal and hazardous waste). 5 low significant impacts on environmental and human (air, water pollution, soil contamination, noise and vibration and occupational health and safety). Significance impacts on environmental and human and detail impact assessment for operation phases and decommissioning can be seen in above tables. All of the impacts during operation phases and decommissioning phase can be minimized by using mitigation measures and implementing Environmental Management Plan.

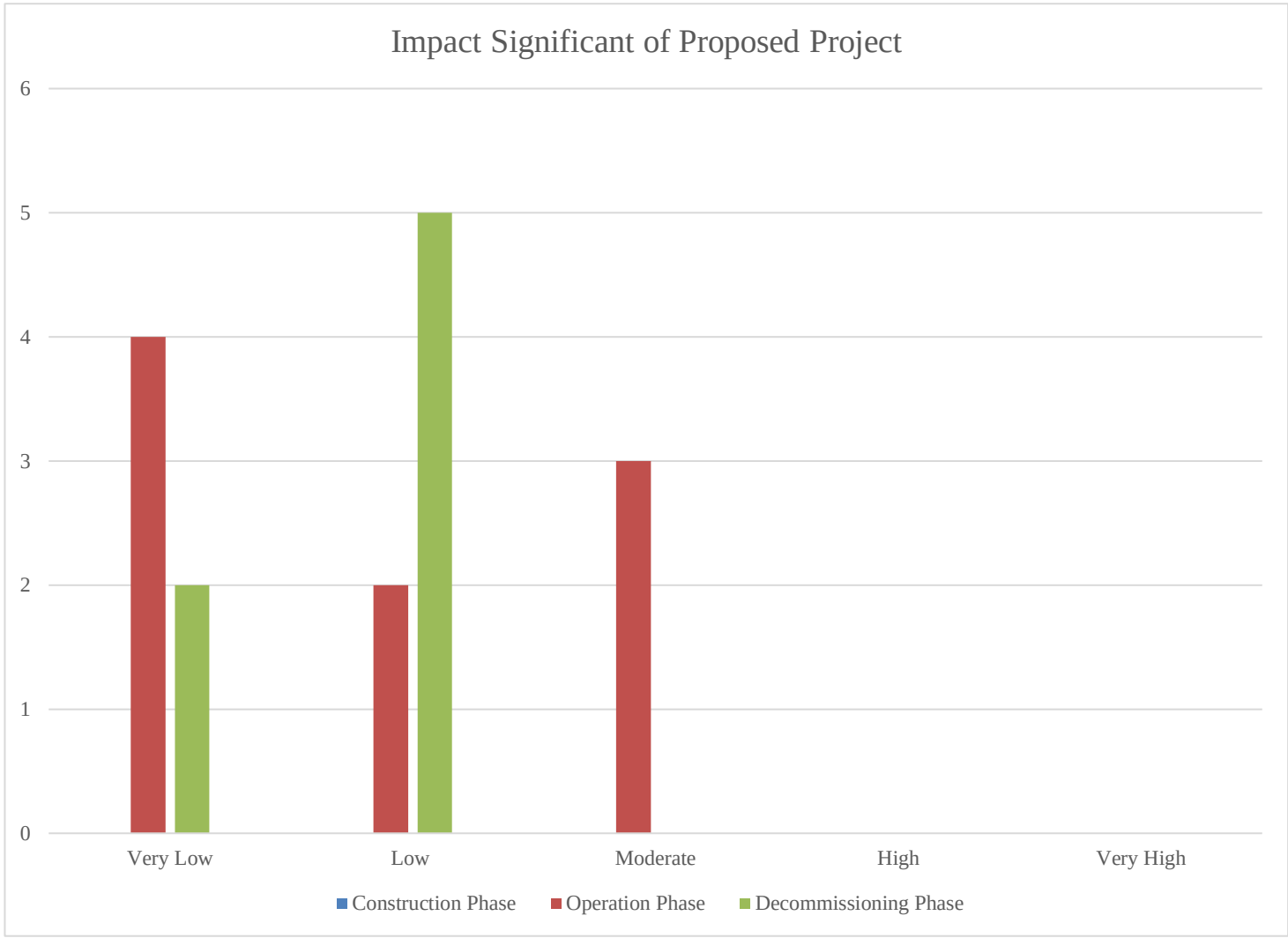


Figure 5-2 Comparison of Impact Significant of Proposed Project

6. ENVIRONMENTAL MANAGEMENT ACTION

6.1. 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;

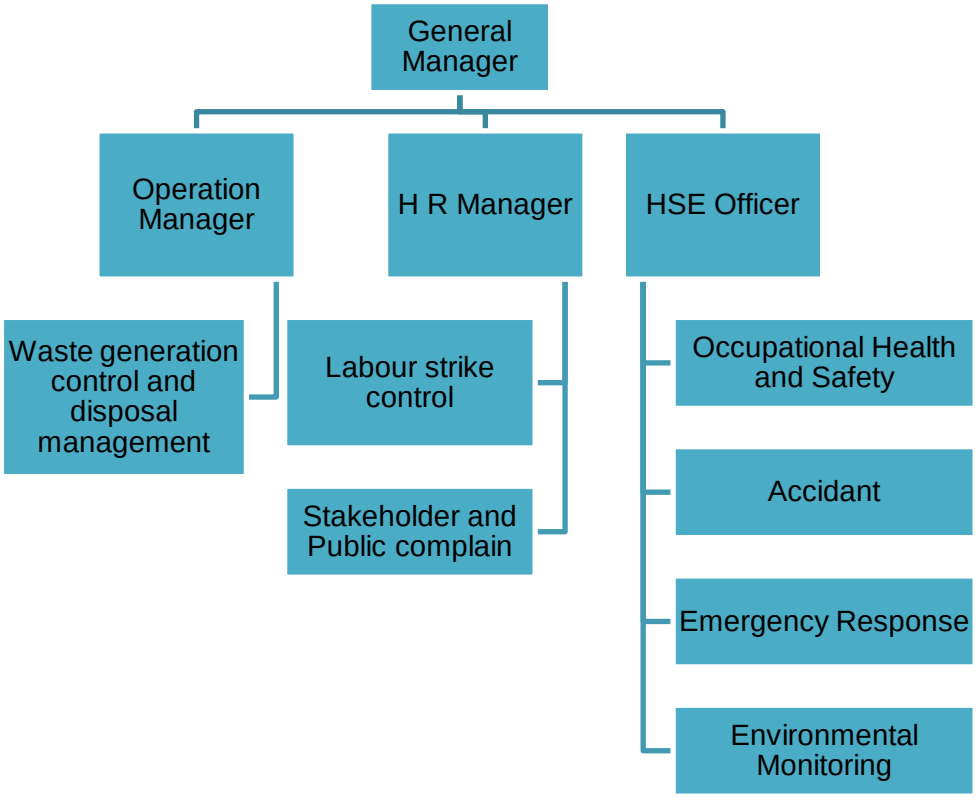


Figure 6-1 Organization Structure of Environmental Management Plan Team

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

safety management system. The following environmental issues that require Environmental Management Plans based upon the potential impacts of activities by Topmode (Myanmar) factory are as follows:

6.2. AIR POLLUTION/ DUST MANAGEMENT PLAN

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, 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

6.3. 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 Topmode (Myanmar) Co., Ltd.

6.4. 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

6.5. 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	1,500,000 Kyats per year
Responsible Person	HSE Manager, Operation Manager or Environmental Management Team of Topmode (Myanmar) Co., Ltd.

6.6. 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 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	1,000,000 Kyats per year
Responsible Person	HSE Manager, Operation Manager or Environmental Management Team

6.7. 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 and 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

6.8. 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 2,000,000 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

Table 6-1 Emergency Contact

Department	Location	Phone Number
Shwe Pyi Thar Hospital	Nawarat Street	09-750398589
Shwe Pyi Thar Police Station	Lower Mingalardon Road	01-610664
Shwe Pyi Thar Fire Station	Bayintnaung Road	01-666912

6.9. ENVIRONMENTAL MONITORING SCHEDULE AND REPORTING

The EMop cell members responsible may conduct daily, weekly or monthly general inspections of the project area and facilities. The objective is to identify non-compliances to EMoP is provided the environmental monitoring schedule for Topmode (Myanmar) 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 6-2 Environmental Monitoring Process

Issues	Parameter	Frequency	Area to be monitored	Coordinates	Monitoring coast	Responsible Organization
Operation Phase						
Common	Monitoring of mitigation measures	Yearly	The project		**4,500,000 kyats/ Year**	Environmental Management Team's Topmode (Myanmar) Co., Ltd..
Air quality	SO_2, NO_2, CO, $PM_{2.5}$, PM_{10}	Biannually monitoring and reporting to ECD	Outdoor of proposed project	N 16°58'54.94" E 96°2'52.69"	1,000,000 Kyats/ Year	Environmental Management Team's Topmode (Myanmar) Co., Ltd..
			Indoor of proposed project	N 16°58'54.19" E 96°2'53.05"		
Noise	Noise level in decibel (dBA)	Biannually monitoring and reporting to ECD	Operation Area	N 16°58'53.85" E 96°2'52.55"	500,000 kyats/ Year	Environmental Management Team's Topmode (Myanmar) Co., Ltd..
Waste Generation	Solid waste, Liquid waste and Hazardous waste	Weekly	Recycle house and waste house and at the factory office	N 16°58'54.21" E 96°2'53.04"	840,000 kyats/ Year	Environmental Management Team's Topmode (Myanmar) Co., Ltd..
Fire Hazardous	Visual inspection, firefighting equipment	Monthly	At the factory	N 16°58'54.21" E 96°2'53.04"	600,000 kyats/Year	Environmental Management Team's Topmode (Myanmar) Co., Ltd..

Issues	Parameter	Frequency	Area to be monitored	Coordinates	Monitoring coast	Responsible Organization
Light intensity	Illuminance	Monthly	At the production line (especially cutting and QC)	N 16°58'53.85" E 96°2'52.55"	200,000 kyats/ Year	Environmental Management Team's Topmode (Myanmar) Co., Ltd..
Decommissioning Phase						
Air quality	SO_2, NO_2, CO, $PM_{2.5}$, PM_{10}	One time during this phase	One point in the production area	N 16°58'54.94" E 96°2'52.69"	500,000kyats	Land Owner and Project Owner
Noise	Noise level in decibel (dBA)	One time during this phase	One points in demolishing area	N 16°58'53.85" E 96°2'52.55"	150,000 kyats	Land Owner and Project Owner
Rehabilitation	Recovering and Revegetation		All Decommissioning area	At the Project Site	Estimate (16) Million end of the Project	Land Owner and Project Owner

6.10. 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 handing all foreseeable emergencies in the workplace and must provide the following;

6.10.1. Health and Safety Training Plan for Worker

Health and Safety Training plan currently used and provided in Topmode (Myanmar) 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 6-3 Training Plan Used in Topmode (Myanmar) 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

6.11. 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 Topmode (Myanmar) Co., Ltd. representative from Wartayar Industrial Zone and representative from General Administration Department (Shwe Pyi Thar 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 6-2) show steps of Grievance Redress Mechanism of Proposed Factory Project.

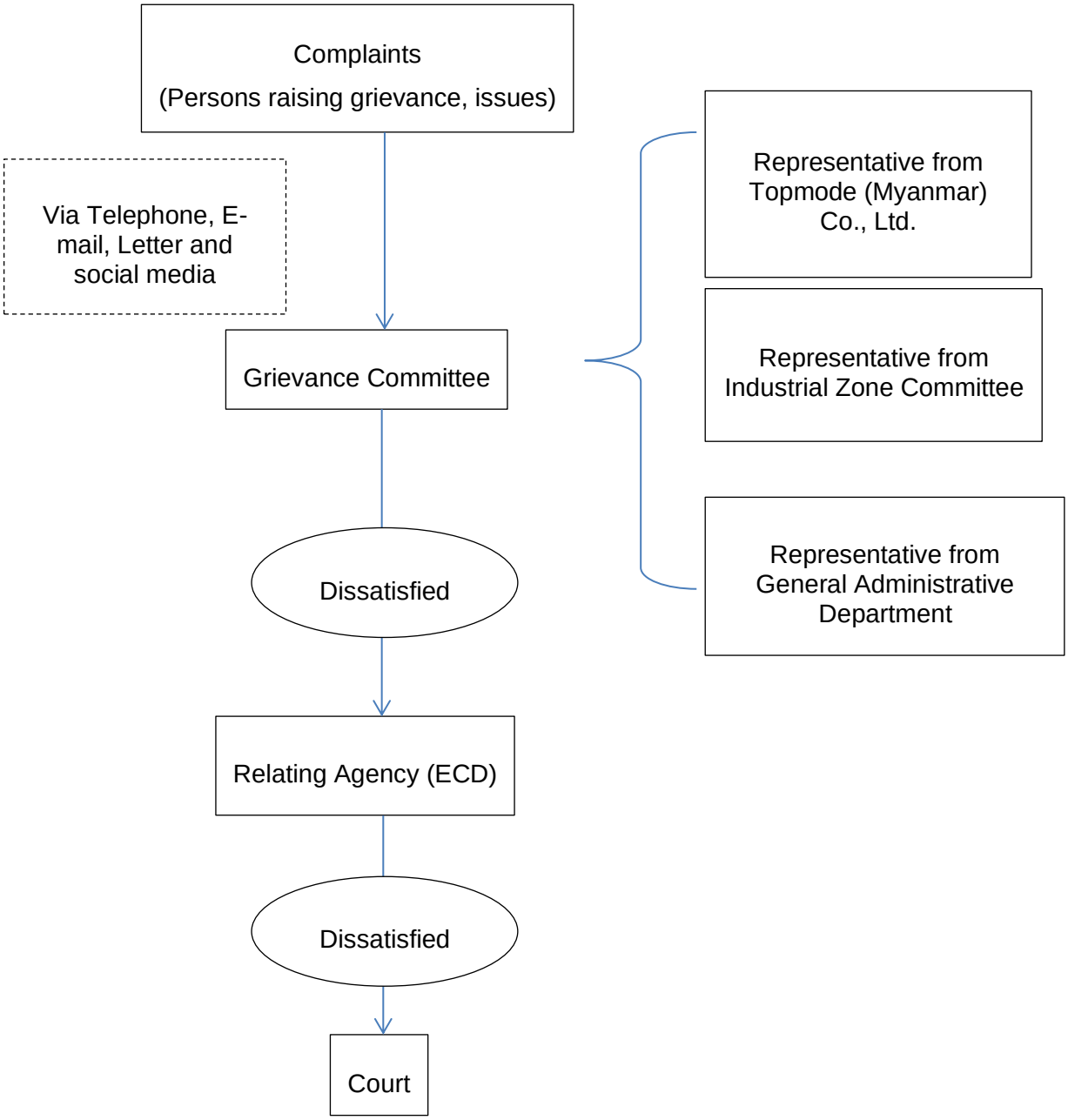


Figure 6-2 Grievance Redress Mechanism Flow Diagram

6.12. 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 Topmode (Myanmar) Co., Ltd. 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.

Topmode (Myanmar) 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 6-4 CSR plan at Topmode (Myanmar) Co., Ltd.

Area	Priority item	Contribution (%)	Detail Targets
Health	Healthcare for employees and their family	0.5 %	One of our main concerns 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.
Education	Raising awareness education level and human right	0.5%	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.
Community development	Donation to Local community	1 %	Donate to local charities with a worthy cause Actively participate in community events Encourage staff to participate, and to form a community engagement team to actively support community events Embedding understanding and consciousness about human rights issues among the employees Development of sexual harassment and power harassmentⅱ (workplace bullying & harassment) prevention efforts

7. PUBLIC CONSULTATION

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 purposes:

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 Solution Company Limited Facebook page (https://drive.google.com/file/d/1MJE5QQIKOIS5HiyTu71VhIYXYXmqTZhM/view?usp=drivesdk) declared om 25st June 2021. 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 (Annex H) which is prepared in Myanmar language includes as follows;

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

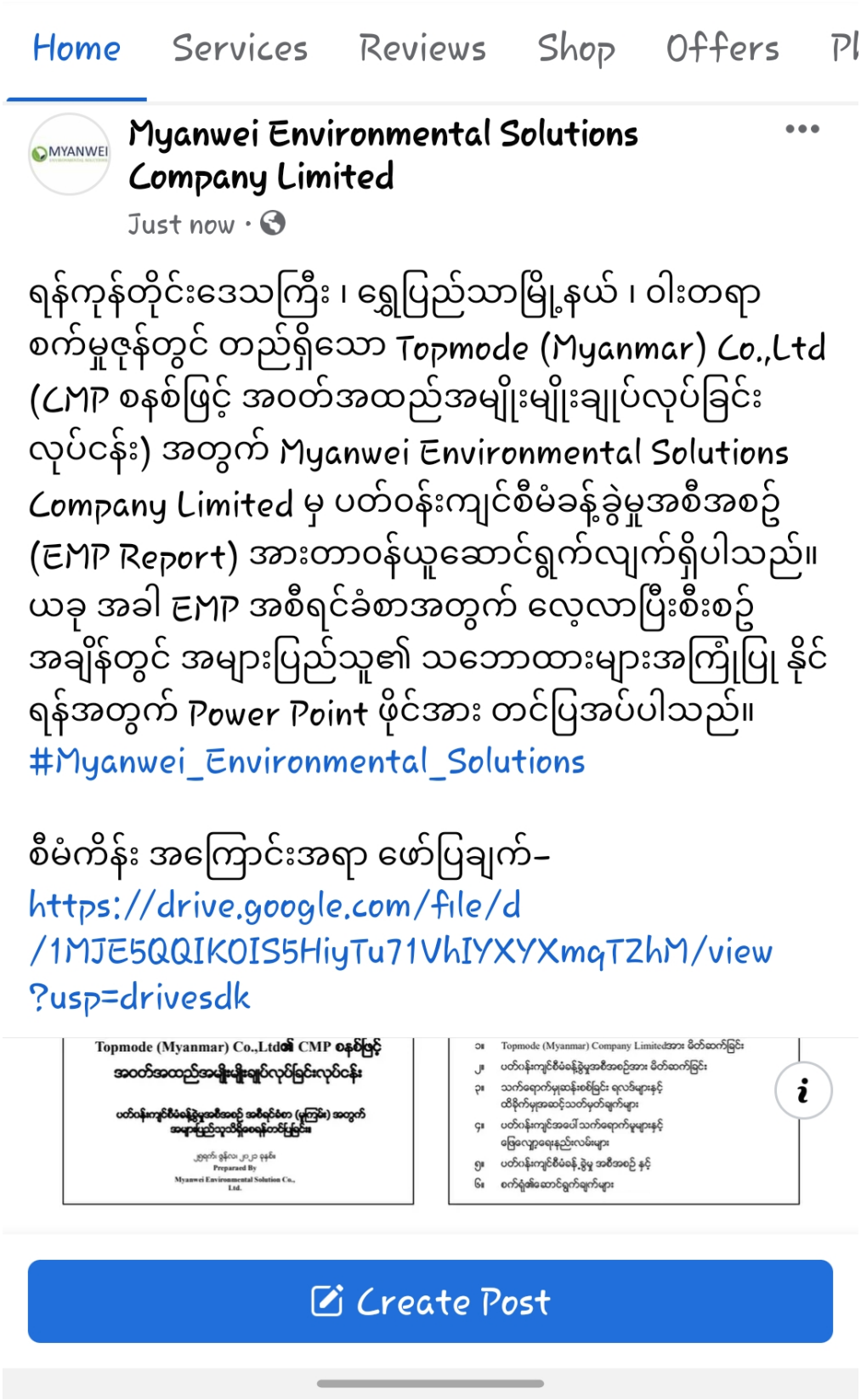


Figure 7-1 Announcement Post of Proposed Project at Social Media

8. CONCLUSION AND RECOMMENDATION

Environmental Management Plan (EMP) has been prepared for Topmode (Myanmar) Co., Ltd. which is located Plot No. 113, Myay Taing Block No.49, Wartayar Industrial Zone, Shwe Pyi Thar 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 manufacturing of Garment factory.

Topmode (Myanmar) Co., Ltd. are 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 manufacturing of Garment factory.

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.

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
- 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 (Shwe Pyi Thar Township), Shwe Pyi Thar Township Data (2019).

[2] Ministry of Natural Resources and Environmental Conversation (MONREC), "Environmental Impact Assessment Procedure" December 2015.

[3] Ministry of Natural Resources and Environmental Conversation (MONREC), "National Environmental Quality (Emission) Guidelines" December 2015.

[4] Specifications for accident prevention signs and tags, regulations (standards 29-CFR), Occupational Safety and Health Administration.

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

Annex A

Topmode (Myanmar) Co., Ltd.

ပုံစံ (၅-ခ)

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်

ရန်ကုန်တိုင်းဒေသကြီးရင်းနှီးမြှုပ်နှံမှုကော်မတီ

အတည်ပြုမိန့်

အတည်ပြုမိန့်အမှတ် ရကတ-၄၀၇/၂၀၂၀ ၂၀၂၀ ပြည့်နှစ် သြဂုတ်လ ၁၄ ရက်

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

(၁) **ရင်းနှီးမြှုပ်နှံသူ/ကမကထပြုသူအမည်** MR.HSIEH TING TSAI

(၂) **နိုင်ငံသား** TAIWANESE

(၃) **နေရပ်လိပ်စာ** NO.5, ROOM 2B29, XINYI ROAD, SECTION 5, TAIPEI, TAIWAN

(၄) **ပင်မအဖွဲ့အစည်းအမည်နှင့်လိပ်စာ** PERFECT TRADING LTD, BEACH ROAD, GROUND FLOOR NPE BUILDING, VISTRA CORPORATE SERVICES CENTRE, APIA, SAMOA

(၅) **ဖွဲ့စည်းရာအရပ်** SAMOA

(၆) **ရင်းနှီးမြှုပ်နှံသည့်လုပ်ငန်းအမျိုးအစား** CMP စနစ်ဖြင့် အဝတ်အထည် အမျိုးမျိုး ထုတ်လုပ်ခြင်း လုပ်ငန်း

(၇) **ရင်းနှီးမြှုပ်နှံသည့်အရပ်ဒေသ(များ)** မြေကွက်အမှတ်-၁၁၃၊ မြေတိုင်းရပ်ကွက်-၄၉၊ ဝါးတရာ စက်မှုဇုန်၊ ရွှေပြည်သာမြို့နယ်၊ ရန်ကုန်တိုင်း ဒေသကြီး

(၈) **နိုင်ငံခြားမတည်ငွေရင်း ပမာဏ** အမေရိကန်ဒေါ်လာ ၂.၆၀၉ သန်း

(၉) **နိုင်ငံခြားမတည်ငွေရင်းယူဆောင်လာရမည့်ကာလ** အတည်ပြုမိန့် ရရှိသည့် နေ့မှ ၁ နှစ်အတွင်း

(၁၀) **စုစုပေါင်း မတည်ငွေရင်းပမာဏ(ကျပ်)** အမေရိကန်ဒေါ်လာ ၂.၆၀၉ သန်း နှင့် ညီမျှသော မြန်မာကျပ်ငွေ

(၁၁) **တည်ဆောက်မှုကာလ** ၁ နှစ်

(၁၂) **ရင်းနှီးမြှုပ်နှံမှုခွင့်ပြုသည့်သက်တမ်း** ၅၀ နှစ်

(၁၃) ရင်းနှီးမြှုပ်နှံမှုပုံစံ ရာခိုင်နှုန်းပြည့်နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု

(၁၄) **မြန်မာနိုင်ငံတွင်ဖွဲ့စည်းမည့်ကုမ္ပဏီအမည်** TOPMODE (MYANMAR) COMPANY LIMITED

YRIC 4072020

(ဖြိုးမင်းသိန်း)

ဒုတိယ ညွှန်ကြား

Form (5-B)

THE REPUBLIC OF THE UNION OF MYANMAR

Yangon Region Investment Committee

ENDORSEMENT

ENDORSEMENT NO. YGN –407/2020 DATE 14 AUGUST 2020

THIS ENDORSEMENT IS ISSUED BY YANGON REGION INVESTMENT COMMITTEE IN ACCORDANCE WITH SECTION 25(D) OF THE MYANMAR INVESTMENT LAW–

(1) **NAME OF INVESTOR** MR.HSIEH TING TSAI

(2) **CITIZENSHIP** TAIWANESE

(3) **RESIDENCE ADDRESS** NO.5, ROOM 2B29, XINYI ROAD, SECTION 5, TAIPEI, TAIWAN

(4) **NAME AND ADDRESS OF PRINCIPAL ORGANIZATION** PERFECT TRADING LTD, BEACH ROAD, GROUND FLOOR NPE BUILDING, VISTRA CORPORATE SERVICES CENTRE, APIA, SAMOA

(5) **PLACE OF INCORPORATION** SAMOA

(6) TYPE OF BUSINESS MANUFACTURING OF VARIOUS KINDS OF GARMENT ON CMP BASIS

(7) **PLACE(S) OF INVESTMENT PROJECT** PLOT NO.113 , MYAY TAING BLOCK NO. 49 , WAR TA YAR INDUSTRIAL ZONE, SHWE PYI THAR TOWNSHIP, YANGON REGION

(8) **FOREIGN CAPITAL AMOUNT** US$ 2.609 MILLION

(9) **PERIOD FOR FOREIGN CAPITAL TO BE BROUGHT IN** WITHIN 1 YEAR FROM THE DATE OF ISSUANCE OF ENDORSEMENT

(10) **TOTAL AMOUNT OF CAPITAL (KYAT)** EQUIVALENT IN KYAT OF US$ 2.609 MILLION

(11) **CONSTRUCTION/ PREPARATION PERIOD** 1 YEAR

(12) **VALIDITY OF ENDORSEMENT** 50 YEARS

(13) **FORM OF INVESTMENT** WHOLLY FOREIGN OWNED

(14) **NAME OF COMPANY INCORPORATED IN MYANMAR** TOPMODE (MYANMAR) COMPANY LIMITED

YRIC 4072020

14/8/2020

(PHYO MIN THEIN)

CHAIRMAN

Confidential

Republic of the Union of Myanmar ★ Yangon Region Investment Committee ★ No. 2099-Kha Date 14.8.2020

THE REPUBLIC OF THE UNION OF MYANMAR

YANGON REGION INVESTMENT COMMITTEE

Plot No. 49, Seinlae May Street,

Kabar Aye Pagoda Road, Yankin Township, Yangon

Tel : 01- 658263 Our ref : YRIC -1 /E-407 / 2020(2099-Kha)

Fax: 01- 658264 Date : 14 August 2020

Subject: Decision of the Yangon Region Investment Committee regarding an Endorsement for Manufacturing of various kinds of Garment on CMP Basis under the name of Topmode (Myanmar) Company Limited

Reference: Topmode (Myanmar) Company Limited's letter dated 7-7-2020

1. The Yangon Region Investment Committee, at its (13/2020) meeting held on 12/8/2020, approved the Endorsement for investment for Manufacturing of various kinds of Garment on CMP Basis under the name of Perfect Trading Ltd (100%) from Samoa as a Wholly Foreign Owned investment in accordance with the Myanmar Investment Law and Rules.

2. The terms and conditions of the Endorsement are as follows:

(a) The term of an Endorsed project shall be initial fifty (50) years shall be extendable for a period of five (5) years, and a further consecutive period of five(5) years commencing from the date of the issuance of the Endorsement by the Yangon Region Investment Committee.

(b) The term of the land and building Lease Agreement shall be an fifty (50) years commencing from the date of the agreement between U Aung Myat Htwe and Topmode (Myanmar) Company Limited(Lessee) by mutual agreement between the Lessor and the

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Lessee subject to the approval of the Yangon Region Investment Committee.

(c) The annual rent for land and building shall be USD 53511.6 (United States Dollar fifty-three thousand, five hundred and eleven and six cents only) for the total area of the land measuring 4.206 acres.

(d) Topmode (Myanmar) Company Limited may submit an application form for the right to use land under Chapter XII and exemptions and reliefs under Sections 75, 77 and 78 of the Chapter XVIII of Myanmar Investment Law.

(e) Topmode (Myanmar) Company Limited shall use its best efforts to achieve a timely realization of the work stated in the Endorsement application.

(f) Topmode (Myanmar) Company Limited shall obey and respect the responsibilities of investors under Section 65 of Myanmar Investment Law and Chapter XX of Myanmar Investment Rules.

(g) Topmode (Myanmar) Company Limited shall carry out of prevention, mitigation and monitoring of significant environmental impacts according to the type of investment activities in accordance with the relevant laws, rules, regulations and procedures.

(h) Topmode (Myanmar) Company Limited shall abide by the Fire Services Department's rules, regulations, directives and instructions. Moreover, Topmode (Myanmar) Company Limited shall undertake fire prevention measure such as the appropriate

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placement of water storage tank, fire hooks, sand bags, and fire extinguishers , and training will be provided to all employees regarding the use of fire fighting equipment. Hi Topmode (Myanmar) Company Limited shall also appoint a specific individual who shall be called the fire Safety Officer (FSO) who shall be designated responsible for on-site safety and coordination within the organization.

(i) Topmode (Myanmar) Company Limited shall submit to the Myanmar Investment Commission any sublease, mortgage, transfer of shares or transfer of the business to any person during the investment period in accordance with Section 72 of Myanmar Investment Law and Rule 191 of Myanmar Investment Rules.

(j) Topmode (Myanmar) Company Limited shall submit an annual report in the prescribed form to the Myanmar Investment Commission within three months of the end of the financial year in accordance with Rule 196 of Myanmar Investment Rules and shall disclose a summary of the report on its website or the Myanmar Investment Commission's website.

(k) Topmode (Myanmar) Company Limited must, during the operation period under the Endorsement of the Yangon Region Investment Committee, submit its operating report quarterly in the prescribed form in accordance with Rule 197 of Myanmar Investment Rules.

3. Topmode (Myanmar) Company Limited shall carry out in accordance with the laws, regulations and stipulations of relevant Union Ministries, governmental

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department and governmental organizations the obtaining of any licence, permit or registration as per Section 65(d) of Myanmar Investment Law.

4. Topmode (Myanmar) Company Limited shall submit five (5) copies of all approvals, licences, permits and similar authorizations relevant to the initial implementation of the investment and Lease Agreement to the Yangon Region Investment Committee.

14/8/2020

(Phyo Min Thein)

Chairman

Topmode (Myanmar) Company Limited

cc: 1. The Office of the Union Government

2. Ministry of office of the Union Government
3. Ministry of Home Affairs
4. Ministry of Planning, Finance and Industry
5. Ministry of Investment, Foreign Economic Relations
6. Ministry of Natural Resources and Environmental Conservation
7. Ministry of Labour, Immigration and Population
8. Ministry of Commerce
9. Central Bank of Myanmar
10. Office of the Myanmar Investment Commission
11. Chairman, CMP Enterprises Supervision Committee
12. Director General, National Archives Department
13. Director General, Customs Department

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14.Director General, Internal Revenue Department

15.Director General, Directorate of Industrial Supervision and Inspection

16. Director General, Directorate of Investment and Company Administration

17.Director General, Department of Environmental Conservation

18.Director General, Directorate of Labour

19.Director General, Department of Immigration

20.Director General, Department of Trade

21. Monitoring and Supervision Division, Directorate of Investment and Company Administration

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Annex 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

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

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

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)လ သက်တမ်းတိုးမြှင့်သည်။
For Director General
(Soe Naing, Director)
Environmental Conservation Department

REPUBLIC OF THE UNION OF MYANMAR

Ministry of Natural Resources and Environmental Conservation

CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION

(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

No. 10048 Date 07 JUL 2017

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

(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ 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

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)လသက်တမ်းတိုးမြှင့်သည်။
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 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 (1.1.2020) to (31.12.2020)
ဤလက်မှတ်အား(၁-၁-၂၀၂၀)ရက်နေ့မှ(၃၁-၁၂-၂၀၂၀)
ရက်နေ့အထိတစ်နှစ်သက်တမ်းတိုးမြှင့်သည်။
For Director General
(Soe Naing, Director)
Environmental Conservation Department

Annex C

Monitoring Results

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)9775405118, 9792528577, 9449251888; Website: www.myanweiconsulting.com

Project Name:	TOPMODE (MYANMAR) COMPANY LIMITED.
Project Location:	Plot No.113, Myay Taing Block No.49, Wartayar Industrial Zone, Shwe Pyi Thar Township, Yangon Region.
Sampling Date:	20 January, 2021
Sampling Time:	11:00 am to 3:00 pm
Sampling Condition:	-
Sampling By:	Myanwei Environmental Solution Company Limited.

Instrument	Type	Sampling Rate	Location
Uni-T (Luminometer)	UT380 Series	100 times/second	16°58'50"N 96°02'55"E

No	Measure area	Unit	Result	Standard	Remark
1	Warehouse	Lux	308	1000	Below
2	Cutting Section	Lux	1084	1300-2000	Below
3	Beading Section	Lux	888	1300-2000	Below
4	Sewing Section	Lux	1010	600	Above
5	Ironing Section	Lux	920	900	Above
6	Quality Control	Lux	854	600	Above
7	Packing	Lux	284	900	Below

IESNA Lighting Handbook

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

Department	Type of Light	Wattage of Light	Lux Level
Fabric store	Fluorescent tube light	40 W	300
Sewing floor	LED tube light	20 W (T8)	400
Cutting floor	LED tube light	22 W (T8)	1000
Finishing	LED tube light	28 W (T8)	600
Inspection points	LED tube light	28 W (T8)	900 (except 1500 at audit tables)
Sampling	LED tube light	22 W (T8)	500
Office areas	Fluorescent tube light	36 W (T)	300

LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS
COMPANY LIMITED.

Noise Result and Graph

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)9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting.com

Project Name:	TOPMODE (MYANMAR) COMPANY LIMITED.
Project Location:	Plot No.113, Myay Taing Block No.49, Wartayar Industrial Zone, Shwe Pyi Thar Towhship, Yangon Region.
Sampling Date:	20 January, 2021
Sampling Time:	11:00 am To 3:00 pm
Sampling Condition:	-
Sampling By:	Myanwei Environmental Solution Company Limited.

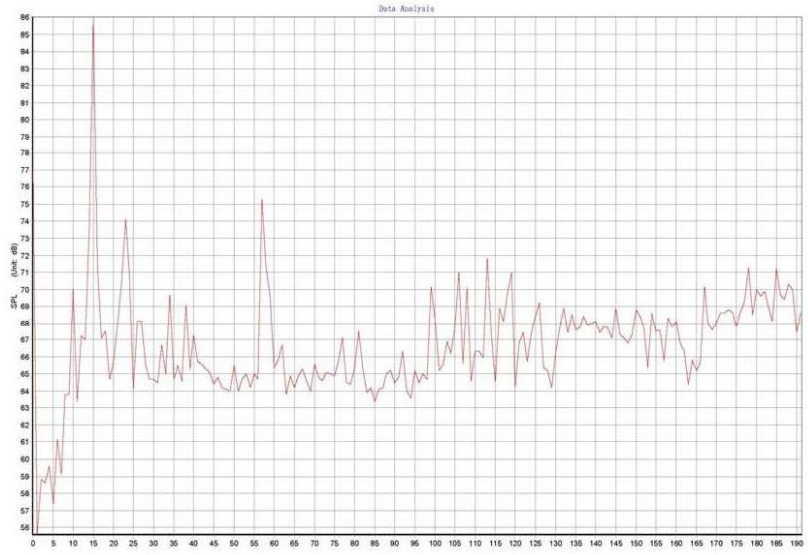
Instrument	Type	Sampling Rate	Location
Digital Sound Level Meter	GM 1356 USB	30 -130 dB	16°58'50"N 96°02'55"E

No	Place	Unit	Result	Standard	Remark
1	Operation Area	dBA	66.71	70 dBA	Normal

National Environmental Quality (Emission) Guideline

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

LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED.



Air 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)9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting.com

Project Name:	TOPMODE (MYANMAR) COMPANY LIMITED.
Project Location:	Plot No.113, Myay Taing Block No.49, Wartayar Industrial Zone, Shwe Pyi Thar Township, Yangon Region.
Sampling Date:	20 January, 2021
Sampling Time:	11:00 am to 3:00 pm
Sampling Condition:	-
Sampling By:	Myanwei Environmental Solution Company Limited.

Instrument	Type	Sampling Rate	Location
OCEANUS-AQM-09	PM, NO_2, SO_2, CO Detector	0-999.9 (µg/M^3)	Operation Area (Outdoor)

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)
NO_2[a]	1-year 1-hour	40 200	(µg/M^3)
SO_2[a]	24-hour 10-min	20 500	(µg/M^3)
CO[b]	15-min 30-min 1-hour 8-hour	100 60 30 10	(µg/M^3)

a. Values from air quality guidelines-global update 2005: particulate matter, ozone, nitrogen dioxide and sulfur dioxide.
b. Values from air quality guidelines for Europe, 2nd edition.

Monitoring Result

Location	GPS Value	Parameters	Observed Value	Unit	Guideline Value
Production Area	16°58'50"N 96°02'55"E	PM10	42.31	µg/m3	50
		PM2.5	25.35	µg/m3	25
		SO_2	183.73	µg/m3	500
		NO_2	11.12	µg/m3	200
		CO	0.31	µg/m3	35

LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED.

Annex D

Fire Certificate & Training Photo

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်

ပြည်ထဲရေးဝန်ကြီးဌာန

မီးသတ်ဦးစီးဌာန

မီးဘေးလုံခြုံရေးစစ်ဆေးထောက်ခံချက်

အမှတ်စဉ်(၂၆၆၄)

၁။ ရန်ကုန် တိုင်းဒေသကြီး/ပြည်နယ်၊ ရွှေပြည်သာ မြို့နယ်၊ (၂၃)ရပ်ကွက်၊ ၀၊းတစ်ရာစက်မှုဇုန် ရပ်ကွက်/ကျေးရွာ၊ ဝန်ဆောင်မှု လမ်း၊ အမှတ် (၁၁၃) ရှိပိုင်ရှင် ဦး/ဒေါ် ဦးအောင်မြတ်ထွေး ၏ RCC(၃)ထပ်(အထည်ချုပ်စက်ရုံ+ရုံး)၊ RCC(၂)ထပ်(ရုံး+ဝန်ထမ်းအိပ်ဆောင်) အဆောက်အဦအတွက် ဤဌာန၏ (၈-၃-၂၀၁၇ / ၅-၁၂-၂၀၁၇) ရက်စွဲပါစာအမှတ်၊ ၀၉၉ / ၁၀၀ / ၅၂ / ဦး ၁ / ၎၄၄ / ၁၀၀ / ၅၂ / ဦး ၁ ဖြင့်သတ်မှတ်ပေးထားသည့် မီးဘေးလုံခြုံရေးဆိုင်ရာ ပြဋ္ဌာန်းချက်များအား(၃၁-၅-၂၀၂၀)ရက်နေ့တွင်စစ်ဆေးသည့်အခါ ပြည့်စုံစွာ ဆောင်ရွက်ထားကြောင်း စစ်ဆေးတွေ့ရှိရသည်။

၂။ ဤထောက်ခံချက်သည် စစ်ဆေးသည့်နေ့မှစ၍ (၃)နှစ်အထိသာ အကျုံးဝင်သည်။

၃။ ထို့ပြင် မီးသတ်ဦးစီးဌာနမှ အခါအားလျော်စွာ ထပ်မံစစ်ဆေးချိန်တွင် မီးဘေးလုံခြုံရေးဆိုင်ရာ ပြဋ္ဌာန်းချက်များကို လိုက်နာဆောင်ရွက်ခြင်းမရှိပါက ဤထောက်ခံချက်ကို ပြန်လည်ရုတ်သိမ်းသွားမည်ဖြစ်ပြီး အဆောက်အဦအားအသုံးပြုသူ(သို့မဟုတ်)ပိုင်ရှင်သည် မြန်မာနိုင်ငံမီးသတ်တပ်ဖွဲ့ဥပဒေအရအရေးယူခြင်းခံရမည်။

မှတ်ချက်။ ဤထောက်ခံချက်အား လွှဲပြောင်းသုံးစွဲခြင်းမပြုရ။ အဆောက်အဦအား မူလရည်ရွယ်ချက်မှ ပြောင်းလဲအသုံးပြုပါက ထောက်ခံချက်အသစ် ထပ်မံလျှောက်ထားရမည်။

ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)

(သိန်းထွန်းဦး၊ ညွှန်ကြားရေးမှူး)

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
ပြည်ထဲရေးဝန်ကြီးဌာန
မီးသတ်ဦးစီးဌာန

စာအမှတ်၊ ၂၅၅၁ / ၁၀၀ / ၅၅ / ဦး ၁
ရက် စွဲ၊ ၂၀၂၀ပြည့်နှစ်၊ ဇူလိုင်လ ၁၈ ရက်

သို့

ဦးအောင်မြတ်ထွေး
အမှတ်(၁၁၃)၊ ဝန်ဆောင်မှုလမ်း၊ ဝါးတစ်ရာစက်မှုဇုန်
(၂၃)ရပ်ကွက်၊ ရွှေပြည်သာမြို့နယ်

အကြောင်းအရာ။ **ဆောက်လုပ်ပြီးသော အဆောက်အဦအတွက် မီးဘေးလုံခြုံရေးစစ်ဆေး ထောက်ခံချက် (Fire Safety Certificate)ထုတ်ပေးခြင်း**

ရည် ညွှန်း ချက်။ (၁) မီးသတ်ဦးစီးဌာန၏(၈.၃.၂၀၁၇)ရက်စွဲပါစာအမှတ် ၀၉၉ / ၁၀၀ / ၅၂ / ဦး ၁
(၂) မီးသတ်ဦးစီးဌာန၏(၅.၁၂.၂၀၁၇)ရက်စွဲပါစာအမှတ် ၇၅၄ / ၁၀၀ / ၅၂ / ဦး ၁
(၃) သက်ဆိုင်သူ၏(၃.၄.၂၀၂၀)ရက်စွဲပါလျှောက်လွှာ

ရန်ကုန်တိုင်းဒေသကြီး၊ ရွှေပြည်သာမြို့နယ်၊ (၂၃)ရပ်ကွက်၊ ဝါးတစ်ရာစက်မှုဇုန်၊ ဝန်ဆောင်မှုလမ်း၊ အမှတ်(၁၁၃)တွင် ဦးအောင်မြတ်ထွေး အမည်ဖြင့် RCC(၃)ထပ်(အထည်ချုပ်စက်ရုံ+ရုံး)၊ RCC(၂)ထပ်(ရုံး+ဝန်ထမ်းအိပ်ဆောင်) အဆောက်အဦမီးဘေးလုံခြုံရေး ဆောင်ရွက်ထားရှိမှုနှင့်စပ်လျဉ်း၍ ဤဌာန၏ ရည်ညွှန်းချက်(၁)နှင့်(၂)ပါ အကြံပြုချက်များကို လိုက်နာဆောင်ရွက်မှုရှိကြောင်း စစ်ဆေးတွေ့ရှိသည့်အတွက် မီးဘေးလုံခြုံရေးစစ်ဆေးထောက်ခံချက် (Fire Safety Certificate)ကို ထုတ်ပေးလိုက်ပါသည်။

ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)
(သိန်းထွန်းဦး ၊ ညွှန်ကြားရေးမှူး)

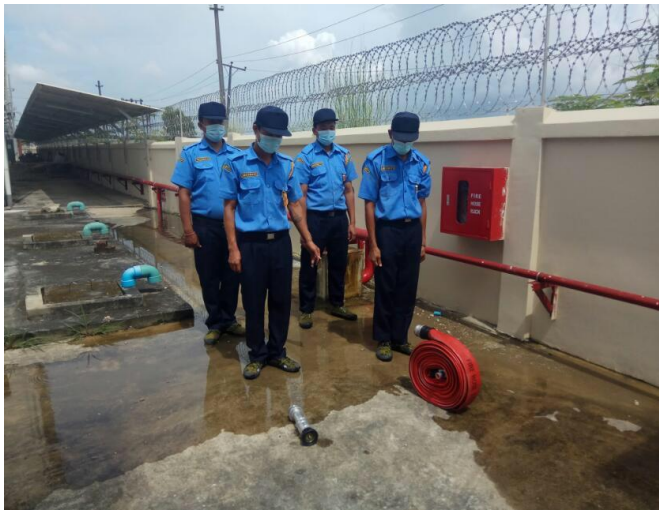
မိတ္တူကို

ရန်ကုန်တိုင်းဒေသကြီးမီးသတ်ဦးစီးမှူးရုံး၊
မြောက်ပိုင်းခရိုင်မီးသတ်ဦးစီးမှူးရုံး၊ အင်းစိန်မြို့နယ်၊
မြို့နယ်မီးသတ်ဦးစီးမှူးရုံး၊ ရွှေပြည်သာမြို့နယ်၊
မျှောစာတွဲ၊လက်ခံစာတွဲ။

FSC(2018)4(waylin)





Annex E

Pharmacy and Health Care Certificate

Serial No-29/7/POL

Pearl Myint Mo

Training and Consultancy

CERTIFICATE OF COMPLETION

This is to certify that
Ms. Hnin Wai Yan Noe
has successfully completed Nurse Aide Training program at
Pearl Myint Mo Training and Consultancy
From 29th February 2017 to 14th July 2017

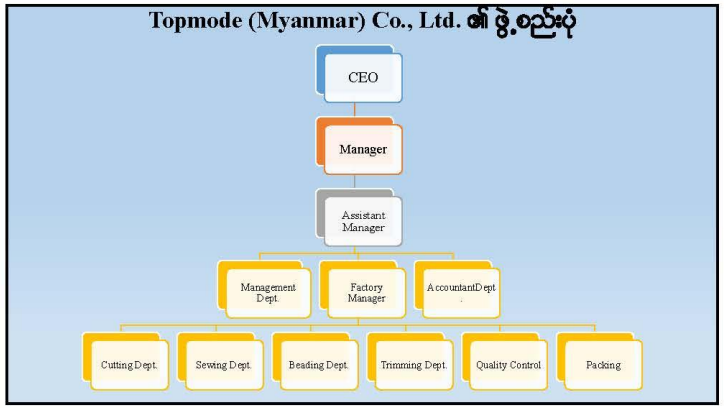
The training included the following modules

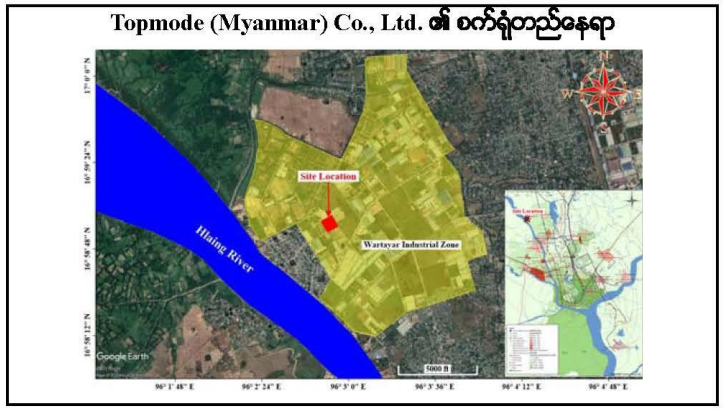
Anatomy & Physiology
Pharmacology
Basic First Aid
Clinical Nursing Skills
Gerontology & Community Nursing(Elder Care)
Maternity &Child Care
Clinical Attachment

Annex F

Power Point Presentation Slides

Topmode (Myanmar) Company Limited	
လုပ်ငန်းအမျိုးအစား	CMP စနစ်ဖြင့်အဝတ်အထည်အမျိုးမျိုးချုပ်လုပ်ခြင်းလုပ်ငန်း။
ခွင့်ပြုမိန့်အမှတ်	(ခွင့်ပြုမိန့်အမှတ်- ၄၀၇/၂၀၂၀)၂၀၂၀ ခုနှစ်၊ ဩဂုတ်လ ၁၄ ရက်။
ရင်းနှီးမြှုပ်နှံမှု	၁၀၀ ရာခိုင်နှုန်း နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု
မြေဧရိယာ	မြေဧရိယာစုစုပေါင်း = ၄.၂၀၆ ဧက(၁၇,၀၂၁.၀၇၈ စတုရန်းမီတာ)
အဆောက်အုံ	(၁၂၀ ပေ × ၂၀၀ ပေ) သုံးထပ်အဆောက်အအုံ (၁)လုံး (၁၆၀ ပေ × ၅၈ ပေ)(၁၂၀ ပေ × ၃၀ ပေ)နှစ်ထပ်အဆောက်အအုံ(၁)လုံး (၃၀ ပေ × ၄၀ ပေ) နှစ်ထပ်အဆောက်အအုံ (၁)လုံး (၂၀ ပေ × ၃၀ ပေ) တစ်ထပ်အဆောက်အအုံ (၁)လုံး
ရင်းနှီးမြှုပ်နှံသည့်ကာလ	နှစ် ၅၀ ရင်းနှီးမြှုပ်နှံမှု
စက်ရုံလိပ်စာ	မြေကွက်အမှတ် (၁၁၃)၊ မြေတိုင်းရပ်ကွက်အမှတ်-၄၉၊ ဝါးတရာစက်မှုဇုန်၊ ရွှေပြည်သာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး။





လုပ်ငန်းလည်ပတ်ရန်အခြေခံလိုအပ်ချက်များ	
ရေအသုံးပြုမှုအခြေအနေ	
ရေအရင်းအမြစ်	အဝီစိတွင်းရေ (၂ တွင်း)
အဓိကလိုအပ်ချက်	
လက်ရှိလူဦးရေ	၂၃၀ ဦး
အဓိကကုန်ကြမ်း	ချည်မျှင်၊ နိုင်လွန်ကြိုးပုလဲသီးစီးကွဲ့၊ဖဲကြိုး၊ ဇစ်အမျိုးမျိုး နှင့် ဆက်စပ်ပစ္စည်းများ။
နှစ်စဉ်ထွက်ကုန်ပစ္စည်းပမာဏ	နှစ်စဉ် ပျမ်းမျှအထည်အရေအတွက် ပထမနှစ်မှ ၁၀နှစ်အတွင်း (၁၅,၀၀၀) မှ (၁၆,၅၀၀) အထိ။

6/23/2021

Topmode (Myanmar) Co., Ltd.
Warehouse
Cutting
Beading
Sewing
Trimming
Ironing
Quality Inspection
Packaging

Topmode (Myanmar) Co., Ltd.

Topmode (Myanmar) Co., Ltd.
1.Gate 2.Production Building 3.Water Tank 4. Dormitory
5.Office 6.Toilets 7.Fire Pump & Ro Filtration System 8. Generator room & Transformer

Topmode (Myanmar) Co., Ltd.

6/23/2021

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအမံများ ဖိတ်ခေါ်တင်ပြခြင်း

EMP သုံးသပ်ခြင်းနှင့် အတည်ပြုခြင်း

Topmode (Myanmar) Co., Ltd.

6/23/2021

6/23/2021

ဆူညံသံတိုင်းတာမှု

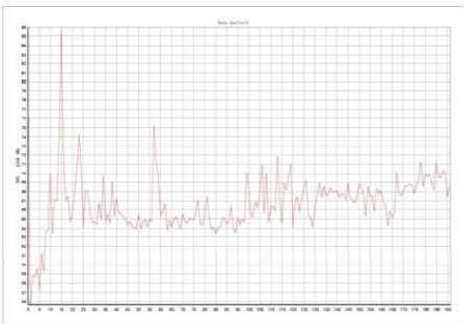
Date/ Time	Measurement Area	GPS value	Measurement Result	NEQ Guildline
20 January 2021 (11:00 to 3:00 pm)	Operation Area	16°58'50"N 96°02'55"E	66.71 dBA	70 dBA

အထက်ဖော်ပြပါ ဆူညံသံတိုင်းတာမှုရလဒ်များအရ
Topmode (Myanmar) Co., Ltd.၏ဆူညံသံများမှာ National Emission Quality Guideline
အတွင်းတည်ရှိနေသည်ကိုလေ့လာတွေ့ရှိရပါသည်။


စက်ရုံတွင်းဆူညံသံတိုင်းတာမှု

MYANWEI

Topmode (Myanmar) Co., Ltd. ၏ဆူညံသံတိုင်းတာမှုပြ ဂရပ်



လုပ်ငန်းခွင်အလင်းရောင်တိုင်းတာမှု

Date/Time	Measure area	Measure value	Standard	Remark
20 January 2020	Cutting Section	1084	1300 - 2000	Below
	Beading Section	888	1300 - 2000	Below
	Sewing Section	1010	600	Above
	Ironing Section	920	900	Above
	Quality Control	854	600	Above
	Packing	284	900	Below

6


လုပ်ငန်းခွင်အတွင်းအလင်းရောင်တိုင်းတာမှု

MYANWEI

လေထုတိုင်းတာမှု

Date/Time	Parameter	Measurement Area	Result	Guideline Value	Unit	Organization	Period
20 January 2020	PM_{10}	Project Area	42.31	50	µg/m3	NEQG	24 hours
	$PM_{2.5}$		25.35	25	µg/m3	NEQG	24 hours
	SO_2		183.73	500	µg/m3	NEQG	10 min
	NO_2		11.12	200	µg/m3	NEQG	1 hrs
	CO		0.31	35	ppm	ACGIH	24 hrs

စက်ရုံတွင်း လေထုတိုင်းတာခြင်း


MYANWEI

အပူချိန်တိုင်းတာမှု


Topmode (Myanmar) Company Limited. ၏ လုပ်ငန်းခွင်ပျမ်းမျှစိုထိုင်းမှုမှာ ၄၇.၇၀% နှင့် အပူချိန်တိုင်းတာမှုမှာ ၂၉.၆၇°C ရှိပါသည်။

MYANWEI

6/23/2021

6/23/2021

6/23/2021

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	စွမ်းအင်နှင့် ရေ သုံးစွဲမှုလျော့ချရေး
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 ကျန်းမာရေးဆိုင်ရာ ဘေးအန္တရာယ်ကင်းရှင်းရေးဥပဒေ (၂၀၁၇), ILO guide to Myanmar Labour Law (2017)
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ အရေးပေါ် အခြေအနေဖြစ်သော (မီး၊ လျှပ်စစ်၊ ရေကြီးရေလျှံမှု) တို့အတွက် စက်ရုံတွင် စီမံခန့်ခွဲမှုရှိခြင်း ▪ စက်ရုံ၏မီးသတ်စနစ်များကို ပုံမှန်စစ်ဆေးခြင်း ▪ ရေးဆွဲထားသော အရေးပေါ် တုန့်ပြန်ရေး အစီအစဉ်များကို ဝန်ထမ်းများ အကျွမ်းတဝင်ဖြစ်စေရန် စီမံထားခြင်း ▪ လောင်စာသိုလှောင်နေရာများ၊ လျှပ်စစ်ဖြန့်ဖြူးရေးနေရာများကို အဓိကထားပြီး စောင့်ကြည့်စစ်ဆေးခြင်း၊ ပြုပြင်မွမ်းမံခြင်း ▪ ပုံမှန်မီးဘေးကာကွယ်ရေး၊ လျှပ်စစ်ဓာတ်လျှပ် 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 ▪ အရေးပေါ် အခြေအနေနှင့် မတော်တဆထိခိုက်မှုမရှိစေရေး စောင့်ကြည့်စစ်ဆေးခြင်း

ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်မှု

တလွှာ	အရည်အသွေး	ကြိမ်နှုန်း	နေရာ	တာဝန်ရှိသူ
လုပ်ငန်းလည်ပတ်ချိန်				
လေထု	$PM_{2.5}$, PM_{10}	တစ်နှစ် ၂ကြိမ်	ထုပ်လုပ်မှု ဧရိယာအတွင်း	Topmode (Myanmar) Co., Ltd
ရေ	pH, DO, BOD, COD,TDS, Temp, Oil and Grease, Chlorine, Arsenic	တစ်နှစ် ၂ကြိမ်	ရေဆိုးသန့်စင်ဆောက်မှ သန့်စင်ပြီးရေ	Topmode (Myanmar) Co., Ltd
ဆူညံသံ	ဆူညံသံ ပမာဏ	တစ်နှစ် ၂ကြိမ်	၂ နေရာ (ထုပ်လုပ်မှု ဧရိယာ အတွင်း)	Topmode (Myanmar) Co., Ltd
အမှိုက်စွန့်ပစ်မှု	အစိုင်အခဲ၊ အရည် နှင့် အန္တရာယ်ရှိပစ္စည်း	ပုံမှန်	စက်ရုံအတွင်း ပြန်လည်အသုံးပြုရန်နှင့် စွန့်ပစ်ရန်တို့၌ အမှိုက်ပုံများအား ခွဲခြားခြင်း	Topmode (Myanmar) Co., Ltd
မီးဘေးအန္တရာယ်	မီးသတ်ဆေးဘူးပစ္စည်းများနှင့်အရေးပေါ်ဖုန်းနံပါတ်များ	လစဉ်	စက်ရုံဧရိယာ အတွင်း	Topmode (Myanmar) Co., Ltd
အလင်းရောင်ပြင်းမှု	အလင်းရောင်ပေးခြင်း	တစ်နှစ် ၂ကြိမ်	ထုတ်လုပ်မှု ဧရိယာအတွင်း (ပိတ်ဖော်ခြင်း နှင့် အရည်အသွေး စစ်ဆေးခြင်း)	Topmode (Myanmar) Co., Ltd
လုပ်ငန်းဖြတ်သိမ်းချိန်ကာလ				
လေထု	PM2.5, PM10	ဖြတ်သိမ်းမှု ကာလအတွင်း ၁ကြိမ်	ထုပ်လုပ်မှု ဧရိယာအတွင်း	Topmode (Myanmar) Co., Ltd
ရေ	pH, DO, BOD, COD,TDS, Temp, Oil and Grease, Chlorine, Arsenic	ထိုကာလအတွင်း ၁ကြိမ်	ရေဆိုးသန့်စင်ဆောက်မှ သန့်စင်ပြီးရေ	Topmode (Myanmar) Co., Ltd
ဆူညံသံ	ဆူညံသံ ပမာဏ	ထိုကာလအတွင်း ၁ကြိမ်	ဖြတ်သိမ်းမှု ဧရိယာ	Topmode (Myanmar) Co., Ltd
ပြန်လည်မွမ်းမံခြင်း	သစ်ပင်များပြန်လည်စိုက်ပျိုးခြင်း		ဖြတ်သိမ်းမှု ဧရိယာအားလုံး	Topmode (Myanmar) Co., Ltd

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ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်မှု ခန့်မှန်းကုန်ကျစရိတ်

စဉ်	အကြောင်းအရာ	အကြိမ်အရေအတွက်	ကုန်ကြစရိတ် (အမေရိကန် ဒေါ်လာ)
လျော့ချခြင်းအစီအစဉ်			
၁.	စက်ရုံအတွင်းလေအတင်အထွက်အစီအစဉ်	၁နှစ် တကြိမ်	နှစ်စဉ် ဒေါ်လာ ၂၀၀
၂.	စက်ရုံဧရိယာအတွင်း သစ်ပင်များစိုက်ပျိုးခြင်း	၃၀၀ တကြိမ်	၃၀၀၀၀ ဒေါ်လာ ၇၀
၃.	အစိုင်အခဲအမှိုက်ပစ်ခြင်း	၁၂ကြိမ်	နှစ်စဉ် ဒေါ်လာ ၁၀၀၀
၄.	တစ်ကိုယ်ရည်သုံး ကာကွယ်နေပစ္စည်းများ ဝယ်ယူခြင်း	၆၀၀ တကြိမ်	၆၀၀၀၀ ဒေါ်လာ ၁၅၀၀
၅.	ဆေးပစ္စည်းများနှင့် ကျန်းမာရေးစစ်ဆေးခြင်း	၁ နှစ် တကြိမ်	နှစ်စဉ် ဒေါ်လာ ၅၀၀၀
အရေးပေါ်အစီအစဉ်			
၁.	မီးသတ်ဆေးဘူး	၁၀၀ တကြိမ်	လစဉ် ဒေါ်လာ ၃၀၀
၂.	မီးသတ်အချက်ပြ စနစ်	၁၀၀ တကြိမ်	
၃.	ရှုဒိုးသုနာပြု ပစ္စည်းများ	၁၀၀ တကြိမ်	
စောင့်ကြပ်ကြည့်ရှုရေးအစီအစဉ်			
၁.	ရေဆိုးရေဘော်	၂ကြိမ်	၁နှစ် ဒေါ်လာ ၂၀၀
၂.	ရှာယ်သံ	၂ကြိမ်	၁နှစ် ဒေါ်လာ ၃၀၀
၃.	စောင့်ကြပ်ကြည့်ရှု့ အစီရင်ခံစာ	၁ ကြိမ်	ဒေါ်လာ ၁၀၀၀

လူမှုအကျိုးတူးပေါင်း ပါဝင်မှု

Topmode (Myanmar) တွင် CSR အတွက် အမြတ်ငွေ၏ ၂% ကို ကျန်းမာရေး၊ ပညာရေးနှင့် နယ်မြေဖွံ့ဖြိုးတိုးတက်ရေးတို့ အတွက် အသုံးပြုသွားမည် ဖြစ်ပါသည်။

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

စက်ရုံ၏ဆောင်ရွက်ချက်များ




Topmode (Myanmar) Co., Ltd ဝန်ထမ်းများအတွက်သုံးရေပြင်ဆင်ထားရှိမှု

Topmode (Myanmar) Co., Ltd. ၏ လျှပ်စစ်သုံးစွဲမှု

Topmode (Myanmar) Co., Ltd. ၏ မီးဘေးအန္တရာယ်အတွက် ထားရှိမှုများ

Topmode (Myanmar) Co., Ltd. ၏ ရေဖြောင်းစနစ်ထားရှိမှုများ

Topmode (Myanmar) Co.,Ltd ၏ အမှိုက်သွန်ပစ်မှုအနေထားများ

Annex G

List of Commitments

Topmode (Myanmar) Company Limited ၏ အဂတ်အထည်အမျိုးမျိုး ချုပ်လုပ်ခြင်းလုပ်ငန်းလည်ပတ်ဆောင်ရွက်ခြင်းကြောင့် 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)
နိဒါန်း	၁	ရည်ရွယ်ချက် လုပ်ငန်းလုပ်ဆောင်မှုများကြောင့်ဖြစ်ပေါ်လာသည့် ပတ်ဂန်းကျင်ထိခိုက်မှု အပေါ် လျော့ချရန် ပတ်ဂန်းကျင်စောင့်ကြပ်ကြည့်ရှုမည့်အစီအစဉ်အား အကောင်အထည်ဖော်ရန် ရည်မှန်းချက် သဘာဂပတ်ဂန်းကျင်ဆိုင်ရာစီမံခန့်ခွဲမှုစနစ်သည် ပတ်ဂန်းကျင်ဆိုင်ရာစွမ်းဆောင်ရည်ကို စဉ်ဆက်မပြတ် ပြန်လည်သုံးသပ်ခြင်း၊ စွမ်းဆောင်ရည်မြှင့်တင်ခြင်းဖြင့် အောင်မြင်စေရန် လုပ်ဆောင်ပေးသော စနစ်တစ်ခုဖြစ်ပါသည်။ သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာစွမ်းဆောင်ရည်ကို မြှင့်တင်ရန် ပြန်လည်သုံးသပ်ခြင်းနှင့် အကဲဖြတ်ခြင်း သဘာဂပတ်ဂန်းကျင်ဆိုင်ရာစီမံခန့်ခွဲမှုစနစ်သည် သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာစွမ်းဆောင်ရည်ကို မြှင့်တင်ရန် စဉ်ဆက်မပြတ်ပံ့ပိုးပေးသည်။	
	၁.၁	အဆိုပြုလုပ်ငန်း၏နောက်ခံအကြောင်းအရာ Topmode (Myanmar) Company Limited သည် CMP စနစ်ဖြင့် အဂတ်အထည်အမျိုးမျိုးကို ချုပ်လုပ်ပြီး တရုတ်နိုင်ငံသို့တင်ပို့ရောင်းချသွားမည်ဖြစ်သည်။	

ကတိကဝတ်၏ အတိုချုပ် အမည်	အမှတ်စဉ်	ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
မူဝါဒ၊ ဥပဒေနှင့် အဖွဲ့အစည်းဆိုင်ရာမူဘောင်များ	၂	ပတ်ဝန်းကျင် ထိန်းသိမ်းရေး ဥပဒေ (၂၀၁၂) ပတ်ဝန်းကျင် ထိန်းသိမ်းရေး နည်းဥပဒေ (၂၀၁၄) ပတ်ဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း (၂၀၁၅) မြန်မာနိုင်ငံမှ ချမှတ်ထားသော စက်ရုံနှင့် သက်ဆိုင်သည့် အခြား လိုက်နာဆောင်ရွက်ရမည့် လုပ်ထုံးလုပ်နည်း၊ ဥပဒေ၊ နည်းဥပဒေ နှင့် မူဝါဒများ အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅) နှင့် နိုင်ငံတကာ ပတ်ဝန်းကျင်ဆိုင်ရာ စံသတ်မှတ်ချက်များနှင့် ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုဆိုင်ရာ လမ်းညွှန်ချက်များ	အခန်း (၂)
စီမံကိန်းအကြောင်းအရာဖော်ပြချက်	၃	မြေကွက်အမှတ် (၈၁၊၈၂)) အနက်မှ မြေကွက်အမှတ်၈၁၊ မြေတိုင်း ရပ်ကွက် အမှတ် ၅၁၊ သာခုကန် စက်မှုဇုန်၊ ရွှေပြည်သာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး။ မြေဧရိယာ ၂.၄၀၀၅ ဧက (၉၇၁၄.၄၇၉ စတုရန်းမီတာ)	အခန်း(၃)
	၃.၁	အဆိုပြုလုပ်ငန်း၏ရည်ရွယ်ချက် Standard Fiber မှ ကုန်ကြမ်းပစ္စည်းများကို ရယူပြီး CMP စနစ်ဖြင့် ချုပ်လုပ်၍ အဆိုပါ လုပ်ငန်းသို့ ပြန်လည်ပေးပို့သွားမည်ဖြစ်သည်။	အခန်း၃ (၃.၂)
	၃.၂	အဆိုပြုလုပ်ငန်းသည် ပြည်တွင်းလုပ်သား ၂၃၀ ဦးနှင့် ပြည်ပမှ ပညာရှင် ၈ ဦးဖြင့် အဝတ်အထည်အမျိုးမျိုးကို ချုပ်လုပ်သွားမည်ဖြစ်သည်။	အခန်း၃ (၃.၅.၃)
	၃.၅	အဆိုပြုလုပ်ငန်း၏ အဓိကကုန်ကြမ်းမှာ ချည်မျှင်ဖြစ်ပြီး အခြားဆက်စပ်ပစ္စည်းများကို တရုတ်နိုင်ငံမှ တင်သွင်းသွားမည်ဖြစ်သည်။	အခန်း၃ (၃.၅.၁)
	၃.၆	အဆိုပြုလုပ်ငန်း၏ထုတ်ကုန်မှာ မင်္ဂလာဆောင်အဝတ်စုံအမျိုးမျိုး ထုတ်လုပ်ခြင်းဖြစ်ပါသည်။	အခန်း၃ (၃.၆.၁)

ကတိကဝတ်၏ အတိုချုပ် အမည်	**အမှတ်စဉ်**	**ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်**	**အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)**
ပတ်ဝန်းကျင် အရည်အသွေးတိုင်းတာမှု	၄	အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅) နှင့် နိုင်ငံတကာ ပတ်ဝန်းကျင်ဆိုင်ရာ စံသတ်မှတ်ချက်များနှင့် ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုဆိုင်ရာ လမ်းညွှန်ချက်များကို အခြေခံလေ့လာ တိုင်းတာထားပါသည်။	အခန်း (၄)
လေအရည်အသွေး	၄.၂	အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅)၏ ထုတ်လွှတ်အခိုးအငွေ့ (Air emissions) လမ်းညွှန်သတ်မှတ်ချက် (SO_2, NO_2, CO, $PM_{2.5}$, PM_{10}) တို့ဖြင့် နှိုင်းယှဉ် ဖော်ပြထားပါသည်။	အခန်းခွဲ (၄.၂.၃)
ဆူညံသံ	၄.၁	အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅)၏ အမြင့်ဆုံးလက်ခံနိုင်သည့် ဆူညံသံအဆင့် (Noise level) လမ်းညွှန်သတ်မှတ်ချက် စက်မှုဇုန် ဇရိယာတွင် (70 One hour LAeq (dBA)) ဖြင့်နှိုင်းယှဉ် ဖော်ပြထားပါသည်။	အခန်းခွဲ (၄.၂.၄)
စက်ရုံတွင်း အလင်းရောင် ရရှိမှု	၄.၃	Illumination and Limiting Glare Index based on IES Code, 1968 ဖြင့် နှိုင်းယှဉ် ဖော်ပြထားပါသည်။	အခန်းခွဲ (၄.၂.၅)
ဒေသဆိုင်ရာအချက်အလက်များ	၄.၄	အဆိုပြုလုပ်ငန်းတည်ရှိသည့် ရွှေပြည်သာမြို့နယ်၏ဒေသဆိုင်ရာအချက်အလက်များ	အခန်းခွဲ (၄.၃)
ထိခိုက်မှုဆန်းစစ်ခြင်းနှင့်လျော့ချရေးနည်းလမ်းများ	၅	ထိခိုက်မှုဆန်းစစ်ခြင်း ကောင်းကျိုး အလုပ်ကိုင်အခွင့်အလမ်းများပေါများလာခြင်း၊ လမ်းပန်းဆက်သွယ်ရေးကောင်းမွန်လာခြင်း၊ နည်းပညာများတိုးတက်လာခြင်းဆိုးကျိုး သဘာဝပတ်ဝန်းကျင်အရင်းအမြစ်များ၊ ဂေဟစနစ်အရင်းအမြစ်များ၊ လူသားများအပေါ် ထိခိုက်မှုများ၊ အမှိုက်စွန့်ပစ်ခြင်းကြောင့်ထိခိုက်မှုများ	အခန်း(၅)
	၅.၁	ဆန်းစစ်ခြင်းနည်းလမ်း သိသာထင်ရှားသောသက်ရောက်မှု=(ပမာဏ+အချိန်+ကျယ်ပြန့်မှု) × ဖြစ်နိုင်ခြေ	အခန်းခွဲ (၅.၂)

ကတိကဝတ်၏ အတိုချုပ် အမည်	**အမှတ်စဉ်**	**ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်**	**အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)**
ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှု	၆	Topmode (Myanmar) Company Limited ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ် (EMP) အတွက် စက်ရုံစီမံခန့်ခွဲရေးအဖွဲ့၊ အလုပ်သမားများ၊ ဒေသခံလူထုများ၏ အမြင်၊ သက်ဆိုင်ရာ တာဝန်ရှိသူတို့၏အကြံပြုချက်များနှင့် ကွင်းဆင်းလေ့လာသူများမှ ဆွေးနွေးတိုင်ပင်မှုတို့ အပေါ် အခြေခံပြီး ဆောင်ရွက်သွားမည် ဖြစ်သည်။ EMP တွင် စက်ရုံအတွင်း ဘေးအန္တရာယ် ကင်းရှင်းရေးစီမံခန့်ခွဲမှုများကို လိုက်နာရန်အတွက် ထည့်သွင်းဖော်ပြထားပါသည်။	အခန်း (၆)
လေထုညစ်ညမ်းမှုနှင့် ဖုန်မှုန့်များ	၆.၁	ကာဗွန်ဒိုင်အောက်ဆိုက်လျော့ချရန်အတွက်စက်ရုံအနီးအတွင်းသစ်ပင်ပန်းပင်များ စိုက်ပျိုးမည် အဆိုပြုလုပ်ငန်းဧရိယာအတွင်း စွန့်ပစ်ပစ္စည်းများ မီးရှို့ခြင်းကို တားမြစ်ထားမည်။ လေထုညစ်ညမ်းမှုလျော့ချရန် လုပ်ငန်းသုံးယာဉ်များ၊ မီးစက်များနှင့် လုပ်ငန်းဆိုင်ရာ စက်ပစ္စည်းများကို ပုံမှန်စောင့်စစ်ဆေးရမည်။ ပတ်ဝန်းကျင်အပေါ် မီးခိုးထွက်ရှိမှုလျော့နည်းစေရန် မီးခိုးခေါင်းတိုင်များ တပ်ဆင်ရမည်။ မော်တော်ယာဉ်များ၊ ရေစုပ်စက်များနှင့် မီးစက်များကို ပုံမှန် ပြုပြင်၊ ထိန်းသိမ်းထားရှိရမည်။	အခန်းခွဲ (၆.၁)
ဆူညံသံထွက်ရှိမှု	၆.၂	မီးစက်ခန်းများထားရှိခြင်းနှင့် အခြားသက်ဆိုင်သည့် ပစ္စည်းများအားစနစ်တကျ ထိန်းသိမ်းထားရှိရမည်။ ဝန်ထမ်းများကို သက်ဆိုင်ရာကိစ္စရပ်များနှင့် ပတ်သက်၍ သင့်တော်သော သင်တန်းများပေးခြင်း၊ ဆူညံသံထွက်ရှိသည့်နေရာများတွင် PPE များကို ဝတ်ဆင်စေခြင်း	အခန်းခွဲ (၆.၂)
အမှိုက်စွန့်ပစ်မှု	၆.၃	စက်ရုံအတွင်း အမှိုက်ပုံးများထားရှိခြင်း သတ်မှတ်ထားသောနေရာတွင်သာ အမှိုက်စို၊ အမှိုက်ခြောက်များ ခွဲခြားစွန့်ပစ်ခြင်း အမှိုက်များကို ရန်ကုန်စည်ပင်သာယာရေးကော်မတီနှင့် ချိတ်ဆက်၍စွန့်ပစ်ခြင်း	အခန်းခွဲ (၆.၃)
မီးဘေးအန္တရာယ်	၆.၄	မီးအန္တရာယ်အရေးပေါ်အခြေအနေများအတွက် စက်ရုံအတွင်းတွင် မီးသတ်ဆေးဘူးများ၊ မီးသတ်ရေပိုက်များ၊ မီးသတ်ရေကန် ထားရှိရမည်။	အခန်းခွဲ (၆.၄)

ကတိကဝတ်၏ အတိုချုပ် အမည်	အမှတ်စဉ်	ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
		အရေးပေါ်ထွက်ပေါက်များနှင့် စုရပ်နေရာများအား လမ်းညွှန်ပြ ထားရှိရမည်။ မီးသတ်ရေလှောင်ကန်များ၊ မီးငြိမ်းသတ်ရေးကရိယာများကို ပုံမှန်စစ်ဆေးခြင်း စက်ရုံအတွင်း အရေးပေါ်အချက်ပေးစနစ်များ တပ်ဆင်ခြင်း အရေးပေါ်ထွက်ပေါက်များတစ်လျောက်တွင် စက်ပစ္စည်းများနှင့် အခြားသောကုန်ပစ္စည်းများ ပိတ်ဆို့ထားခြင်း မရှိရန် စီစဉ်ထားရမည်။	
လုပ်ငန်းခွင်ထိခိုက်မှုနှင့် ကျန်းမာရေး	၆.၅	ရှေးဦးပြုစုနည်း သင်တန်းများ၊ ဘေးအန္တရာယ်ကင်းရှင်းရေး လေ့ကျင့်မှု၊ မီးငြိမ်းသတ်နည်းသင်တန်းများ၊ အခြားလိုအပ်သော လေ့ကျင့်မှုများ၊ စက်ပစ္စည်းများကို စနစ်တကျကိုင်တွယ်မှုများအား သင်တန်းပေးခြင်း လုပ်ငန်းခွင်အတွင်း အလုပ်သမားများ အလင်းရောင်ကောင်းစွာရရှိစေရန်နှင့် အမြင်အာရုံမထိခိုက်စေရန် အလင်းရောင်များကို လုံလောက်စွာ ထားရှိခြင်း ဌာနတစ်ခုချင်းစီအတွက် တစ်ကိုယ်ရေသုံးကာကွယ်ရေးပစ္စည်းများ ထောက်ပံ့ပေးခြင်း လျှပ်စစ်အန္တရာယ်ကာကွယ်ရန်အတွက် လျှပ်စစ်ထိန်းသိမ်းရေးဝန်ထမ်းများအား ထားရှိ၍ အဆိုင်းခွဲ၍ ပုံမှန်စစ်ဆေးကာကွယ်မှုများပြုလုပ်စေခြင်း ဝန်ထမ်းများ၏ကျန်းမာရေးအတွက် စက်ရုံတွင် စီမံခန့်ခွဲခြင်း လုပ်သားများအတွက် ဧနာရီအတွင်း လက်ခံနိုင်သည့် အမြင့်ဆုံးဆူညံမှုနှုန်းမှာ 90 dB(A) ဖြစ်သည်၊ ထို့ကြောင့် အသံဆူညံသည့်နေရာများတွင် အသံလုံသည့် နားကြပ်များ နားအကာအကွယ်ပစ္စည်းများ တပ်ဆင်စေခြင်း	အခန်းခွဲ (၆.၆)
စွမ်းအင်	၆.၆	အပူနှင့် အအေးထိန်းရန်အတွက် အချိန်ကန့်သတ်သည့်ကရိယာနှင့် သာမိုစတပ်များ တပ်ဆင်ခြင်း စွမ်းအင်ချွေတာသောကရိယာများတပ်ဆင်ခြင်း အသုံးမပြုသည့် အချိန်တွင် မီးပိတ်ထားခြင်း၊ စက်ပစ္စည်းများ ရပ်နားထားခြင်း	အခန်းခွဲ (၆.၅)

ကတိကဝတ်၏ အတိုချုပ် အမည်	အမှတ်စဉ်	ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
အရေးပေါ် အခြေအနေ	၆.၇	မီးဘေး၊ ငလျင်၊ ရေလွှမ်းမိုးမှု၊ မုန်တိုင်း နှင့်အခြားအရေးပေါ်ကိစ္စများကို ပို၍သင့်တော်သော စီမံခန့်ခွဲမှုများပြုလုပ်ခြင်း စက်ရုံ၏ ကဏ္ဍာတစ်ခုချင်းတိုင်းတွင် မီးငြိမ်းသတ်ရေးကရိယာများနှင့် မီးငြိမ်းသတ်ရေးစနစ်များ ထားရှိခြင်းနှင့် စစ်ဆေးခြင်း မီးဘေးထွက်ပေါက်၊ အရေးပေါ်ထွက်ပေါက် အစရှိသည်တို့ကို အလုပ်သမားများနှင့် တိုင်ပင်ဆွေးနွေးပြီး အသေးစိတ်အကဲဖြတ်ခြင်း မီးငြိမ်းသတ်ခြင်းအား ပုံမှန်လေ့ကျင့်ထားရှိခြင်း ငလျင်လှုပ်တဲ့အခါလုံခြုံသည့်နေရာတွင်သာနေရန်၊အပြင်မထွက်ခြင်း၊အပြင်တွင်လုပ်ကိုင်ရသည့် လုပ်သားများမှာ သစ်ပင်၊ အဆောက်အဦးများကို သတိထားရန်နှင့် သက်ဆိုင်ရာ လုံခြုံရေး သင်တန်းများပို့ချခြင်း မုန်တိုင်းတိုက်ခြင်း၊ ရေကြီးခြင်း၊ မြေပြိုခြင်းတို့ကြောင့် မြွေကဲ့သို့သော အခြားအန္တရာယ်ရှိ တိရိစ္ဆာန်များအန္တရာယ်များကို သတိပေးခြင်း ရှေးဦးသူနာပြုခြင်းကဲ့သို့သော ကျန်းမာရေးဆိုင်ရာအဖွဲ့အစည်းများ ပြင်ဆင်ထားရှိခြင်း နီးစပ်ရာ ဆေးရုံ၊ ဆေးခန်း၊ ရဲစခန်း၊ မီးသတ်ဌာနတို့၏ ဆက်သွယ်နိုင်မည့် ဖုန်းနံပါတ်များအား လူအများမြင်သာသည့် နေရာများတွင် ထားရှိခြင်း မီးသတ်အဖွဲ့၊ ကယ်ဆယ်ရေးအဖွဲ့နှင့် လုံခြုံရေးဟူသော အဖွဲ့များထားရှိ၍ လစဉ် လုံခြုံရေးများ အတွက် အစည်းအဝေးများပြုလုပ် စီမံခန့်ခွဲခြင်း ဘေးအန္တရာယ်ဆိုင်ရာ သင်တန်းများအား သေချာပြုလုပ်စေခြင်း	အခန်းခွဲ (၆.)
စောင့်ကြပ်ကြည့်ရှုမှု	၆.၈	အဆိုပြုစီမံကိန်းသည် ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုမှု အစီရင်ခံစာအား ၆ လ တစ်ကြိမ် သက်ဆိုင်ရာ ဌာနများသို့ တင်ပြရမည်။	အခန်းခွဲ (၆.၈)
လေအရည်အသွေး စစ်ဆေးမှု	၆.၉	SO_2, NO_2, CO, $PM_{2.5}$, PM_{10} (၆ လ တစ်ကြိမ်)	ဇယား (၆.၁)

ကတိကဝတ်၏ အတိုချုပ် အမည်	**အမှတ်စဉ်**	**ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်**	**အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)**
ဆူညံသံ စစ်ဆေးမှုအခြေအနေ	၆.၁၀	Sound Level (dBA) စက်ရုံဧရိယာအတွင်း (၆ လ တစ်ကြိမ်)	ဇယား (၆.၁)
စွန့်ပစ်ပစ္စည်းထွက်ရှိမှုအခြေအနေ	၆.၁၁	စွန့်ပစ်ပစ္စည်းအစိုင်အခဲ၊ စွန့်ပစ်ရည်နှင့် အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်း (အပတ်စဉ်) စက်ရုံအတွင်း ပြန်လည်အသုံးပြုရန်ထားရှိသည့်နေရာနှင့် အမှိုက်ကန်များ	ဇယား (၆.၁)
မီးဘေးအန္တရာယ် စစ်ဆေးမှု	၆.၁၂	မီးငြိမ်းသတ်ရေးကရိယာများ (လစဉ်) စက်ရုံအတွင်း	ဇယား (၆.၁)
စက်ရုံတွင်း အလင်းရောင်အခြေအနေ	၆.၁၃	အလင်းရောင် လစဉ် ကုန်ပစ္စည်းဖြတ်တောက်ခြင်း၊ အရည်အသွေးစစ်ဆေးခြင်းကဲ့သို့သော လုပ်ငန်းများလုပ်ကိုင်သည့် နေရာ	ဇယား (၆.၁)
မကျေနပ်မှုများနှင့် ပြဿနာများ ဖြေရှင်းခြင်း	၆.၁၄	စီမံကိန်းအနီးပတ်ဝန်းကျင်နေထိုင်သောသူများ (သို့) သက်ဆိုင်သူများသည် သူတို့ခံစားနေရသော ပြဿနာများနှင့် သက်ရောက်မှုများနှင့် ပတ်သက်၍ ဖြေရှင်းမှုများပြုလုပ်ရန် စက်ရုံ၏ တာဝန်ရှိသူများ၊ စက်မှုဇုန် စီမံခန့်ခွဲရေး ကော်မတီ၊ အုပ်ချုပ်ရေးဦးစီးဌာနတို့ဖြင့် ပူးပေါင်း ချိတ်ဆက် လုပ်ဆောင်ခြင်း။ ကော်မတီအဆင့်တွင် အခြားမဖြေရှင်းနိုင်သော ပြဿနာများကို တာဝန်ရှိအာဏာပိုင်များသို့ တင်ပြပြီး တရားရေးအရ အဆုံးအဖြတ်ပြုလုပ်မည် ဖြစ်သည်။	အခန်းခွဲ (၆.၉)
လူထုအကျိုးတူပူးပေါင်းပါဝင်မှု	၆.၁၅	အဆိုပြုလုပ်ငန်းသည် လူထုအကျိုးပြုပူးပေါင်းပါဝင်မှုကို ကျန်းမာရေး၊ ပညာရေးနှင့် နယ်မြေဖွံ့ဖြိုးတိုးတက်ရေးအတွက် မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်က ချမှတ်သည့်အတိုင်း ကုမ္ပဏီ၏ အကျိုးအမြတ် ၂ ရာခိုင်နှုန်းအား နှစ်စဉ် ထည့်ဝင်သွားမည်ဖြစ်သည်။	အခန်းခွဲ (၆.၁၁)
အများပြည်သူနှင့်တိုင်ပင်ဆွေးနွေးခြင်း	၇	Myanwei Environmental Solution Company Limited Facebook pageတွင် အောက်ပါလင့်ခ်ဖြင့်ဖော်ပြထားပါသည်။	အခန်း(၇)

ကတိကဝတ်၏ အတိုချုပ် အမည်	အမှတ်စဉ်	ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
		(https://drive.google.com/file/d/1-Np0BF6nyr4WZbtreMn430YBFomWDCKS/view?usp=drivesdk)	
နိဂုံးနှင့်သုံးသပ်ချက်	၈	အကျဉ်းချုပ်အားဖြင့် ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်၏ လမ်းညွှန်ချက်များ၊ ပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေ၊ နည်းဥပဒေ၊ စည်းမျဉ်းစည်းကမ်းများနှင့် ချမှတ်ထားသော မူဝါဒလမ်းညွှန်ချက်များအတိုင်း ပတ်ဝန်းကျင်ဆိုင်ရာစီမံခန့်ခွဲမှုအလေ့အကျင့်များ၊ လုပ်ငန်းစဉ်များနှင့် လိုက်နာဆောင်ရွက်ကျင့်သုံးရန် တာဝန်များကို ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်တွင် ဖော်ပြရှင်းလင်းတင်ပြထားပါသည်။	အခန်း(၈)

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