MYNICE OPTOELECTRONICS (MYANMAR) CO., LTD.

Environmental Management Plan

Manufacturing of Various Kinds of Optoelectronic Devices on CMP Basis

Prepared by

Myanwei Environmental Solutions Company Limited

27-Sep-22

MYANWEI
ENVIRONMENTAL SOLUTIONS

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Date: 27.9.2022

Attention: Dear Director

Environmental Conservation Department

Subject: Environmental Management Plan (EMP) Report in respect of the Manufacturing of various kinds of optoelectronic devices on CMP Basis by Mynice Optoelectronics (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.

Mynice Optoelectronics (Myanmar) Co., Ltd.

Date: 27.9.2022

Dear: Director

Environmental Conservation Department

Nay Pyi Taw

Subject: Environmental Management Plan (EMP) Report in respect of the various kinds of optoelectronic devices on CMP Basis

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

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

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

Mynice Optoelectronics (Myanmar) Company Limited will at all times comply fully with all commitment and obligations in the EMP report.

We acknowledge and understand that

Mr. Wang Hua
Promoter
MYNICE OPTOELECTRONICS (MYANMAR)
CO., LTD.

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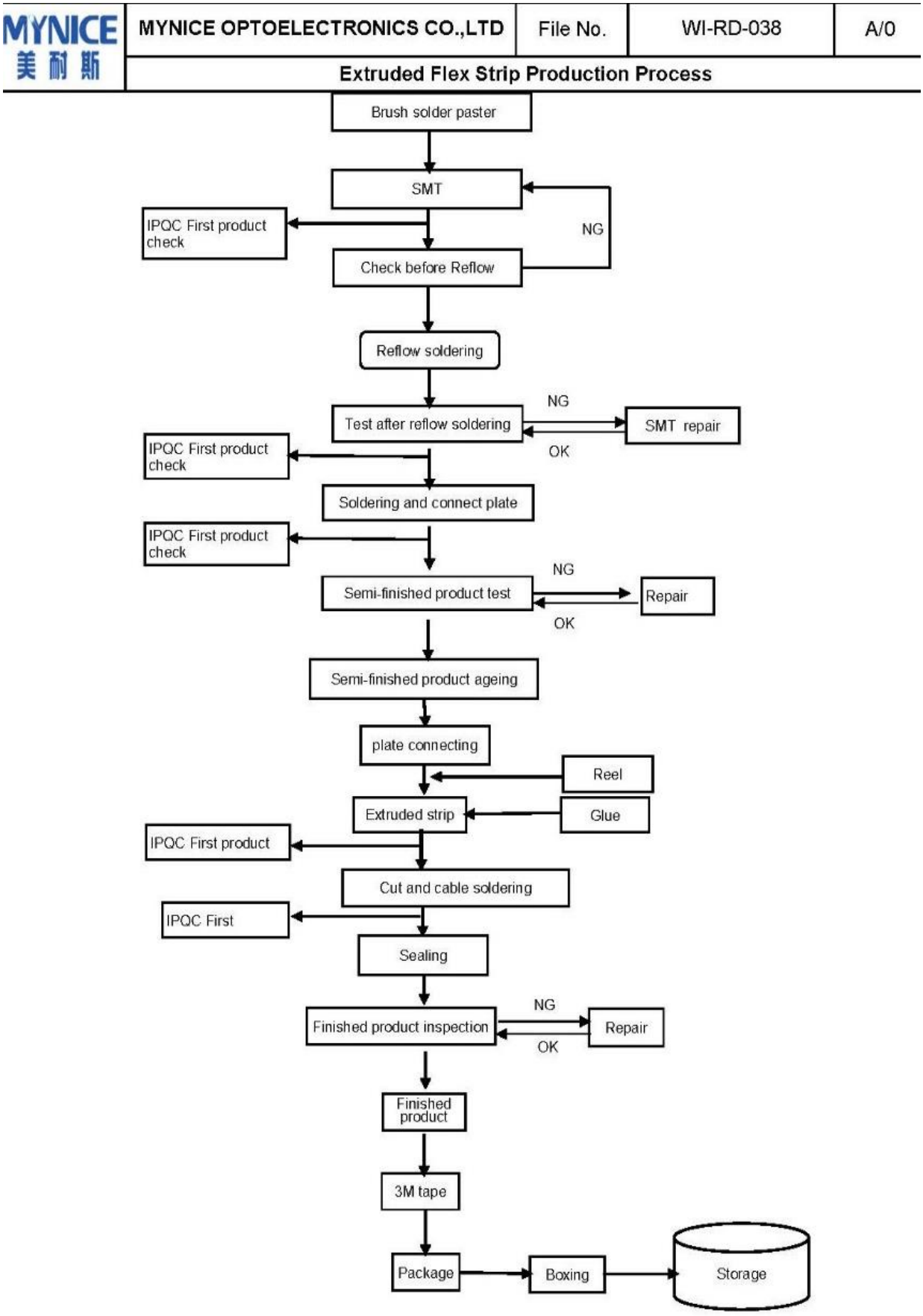
အဆိုပြုထားသော စီမံကိန်း	CMP စနစ်ဖြင့် Optoelectronic Devices အမျိုးမျိုး ထုတ်လုပ်ခြင်းလုပ်ငန်း
ရင်းနှီးမြှုပ်နှံမှုပုံစံ	ရာနှုန်းပြည့် နိုင်ငံခြားသားရင်းနှီးမြှုပ်နှံမှု
အစုရှယ်ယာပုံစံ	ပုံမှန်အစုရှယ်ယာ
မြေနေရာပုံစံ	စက်မှုဇုန်မြေ
စုစုပေါင်းမြေကွက်ဧရိယာ	စုစုပေါင်း ၁.၃၈၈၄ ဧက အနက်မှ ၀.၃၈၃ ဧက (၁၅၄၈.၂၂၉၂ စတုရန်းမီတာ)
အဆောက်အဦ အမျိုးအစား	တစ်ထပ် စက်ရုံအဆောက်အဦး (၆၀ ၁၀၀ x ၆၀ ၁၆၀) နှစ်ထပ်ရုံးခန်းအဆောက်အဦး (၁၉ × ၃၅) ပေ
မြေငှားကာလ	နှစ် ၆၀
တည်ဆောက်မှုကာလ	၁ နှစ်
အဆိုပြုရင်းနှီးမြှုပ်နှံမှုကာလ	၂၅ နှစ်
စီမံကိန်း တည်နေရာ	မြေကွက်အမှတ် (၈၆-က)၊ မြေတိုင်းရပ်ကွက်အမှတ်-၂၅၊ ရွှေလင်ပန်းစက်မှုမြို့၊ လှိုင်သာယာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး။
ဆက်သွယ်ရန် ဖုန်းနံပါတ်	မဖြူဖြူစင်(မန်နေဂျာ) ၀၉၇၉၉၇၃၄၄၈

မြန်မာနိုင်ငံ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဥပဒေ (၂၀၁၂) အရ၊ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (EMP) ပြုလုပ်ရန်လိုအပ်ကြောင်း ၂၀၂၂ ခုနှစ်၊ ဖေဖော်ဝါရီလ ၂၃ ရက်နေ့တွင် စာအမှတ်၊ ရက/အီးအိုင်အေ/၅(၂) (၅၆၆/၂၀၂၂) ဖြင့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန ရန်ကုန်တိုင်းဒေသကြီးမှ သဘောထားမှတ်ချက် ရရှိပြီးဖြစ်ပါသည်။ ထို့ကြောင့် EMP အစီအရင်ခံစာရေးဆွဲရန် တတိယအဖွဲ့အစည်းဖြစ်သော MYANWEI ENVIRONMENTAL SOLUTIONS CO.,LTD. မှ တာဝန်ယူရေးဆွဲခဲ့ပါသည်။

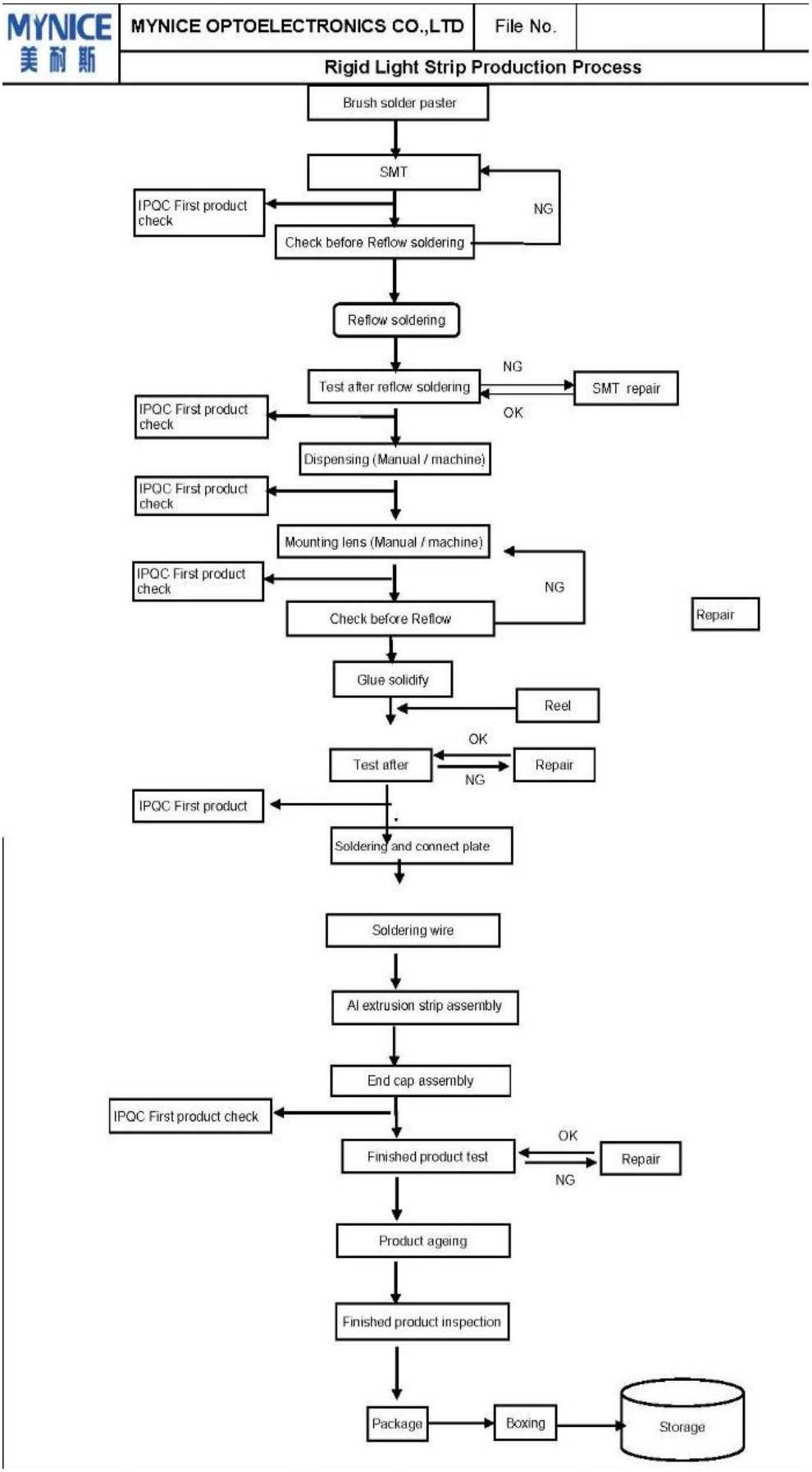
(Mynice Optoelectronics (Myanmar) Co., Ltd.) စက်ရုံသည် မြေကွက်အမှတ် (၈၆-က)၊ မြေတိုင်းရပ်ကွက်အမှတ်-၂၅၊ ရွှေလင်ပန်းစက်မှုမြို့၊ လှိုင်သာယာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီးတွင် တည်ရှိသည်။ အဆိုပြုစီမံကိန်းသည် မြောက်လတ္တီကျူ ၁၆° ၅၄' ၃၅.၆၃" နှင့် အရှေ့လောင်ဂျီကျူ ၉၆° ၃' ၂၂.၅၄" ကြားတွင်ရှိပါသည်။ အဆိုပါစက်ရုံသည် Optoelectronic Devices အမျိုးမျိုးတို့ကို CMP စနစ်ဖြင့်ထုတ်လုပ်၍

ပြည်ပသို့တင်ပို့ခြင်းလုပ်ငန်းဖြစ်ပါသည်။ စီမံကိန်းဧရိယာသည် စုစုပေါင်း ၁.၃၈၈၄ ဧက အနက်မှ ၀.၃၈၃ ဧက ကျယ်ဝန်း၍ ပင်မအဆောက်အအုံနှစ်လုံး ပါဝင်ပါသည်။ စီမံကိန်းဧရိယာအတွင်းတွင် ထုတ်လုပ်ခြင်းဆိုင်ရာ တစ်ထပ်စက်ရုံအဆောက်အဦးတစ်လုံး၊ နှစ်ထပ်ရုံးခန်းအဆောက်အဦး တစ်လုံးပါဝင်ပါသည်။ အလုပ်သမားဦးရေ စုစုပေါင်း ၂၆၁ ဦးရှိပါသည်။ နှစ်စဉ် ခန့်မှန်းခြေ ကုန်ထုတ်လုပ်မှုနှုန်းမှာ ၂၆,၀၀၀,၀၀၀ ဝန်းကျင်ရှိပါသည်။

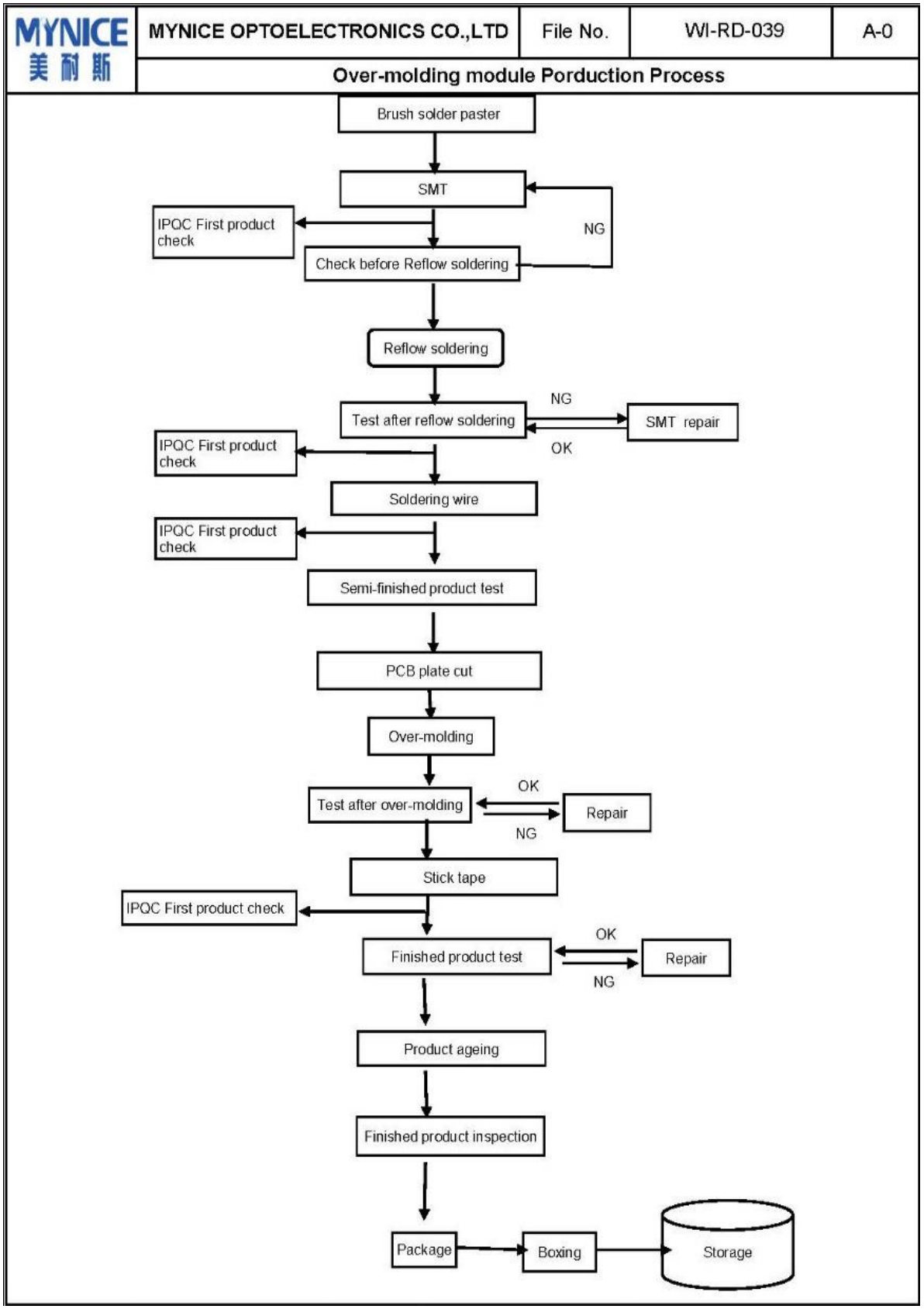
စီမံကိန်းဆောင်ရွက်ရာတွင် MOREC ၏ သတ်မှတ်ထားသော ပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေများအတိုင်းလိုက်နာဆောင်ရွက်လျက်ရှိပြီး လက်ရှိချမှတ်ထားသော ပြည်တွင်း၊ပြည်ပ ပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင်ဆိုင်ရာဥပဒေများကို လိုက်နာဆောင်ရွက်လျက်ရှိပါသည်။



Extruded Flex Strip ထုတ်လုပ်ပုံ အဆင့်ဆင့်



Red Light Strip ထုတ်လုပ်ပုံ အဆင့်ဆင့်



Over-moulding module ထုတ်လုပ်ပုံ အဆင့်ဆင့်

Raw Materials

SMT First Product Checking

Wire Bonding Process

Tape Bonding Process

QC Inspection

Injection Process

Labeling

Final QC and Packing

Mynice (Myanmar) Co., Ltd.၏ Optoelectronic Devices ထုတ်လုပ်ပုံအဆင့်ဆင့်

အနီးပတ်ဝန်းကျင်အခြေအနေဆိုင်ရာ ဖော်ပြချက်

လက်ရှိပတ်ဝန်းကျင်၏ ပတ်ဝန်းကျင်ဆိုင်ရာအချက်အလက်၊ ပတ်ဝန်းကျင်အရည်အသွေး တိုင်းတာခြင်းများနှင့် သက်ရောက်မှုများကို ၂၀၂၂ ခုနှစ်၊ မေလ၊ ၁၉ ရက်နေ့တွင် ပြုလုပ်ခဲ့ပါသည်။ ထို့အပြင် စက်ရုံတည်နေရာနှင့် သက်ဆိုင်သည့် အချက်အလက်များဖြစ်သော လူမှုစီးပွားအခြေအနေ၊ ရှုပပတ်ဝန်းကျင်ဆိုင်ရာ အချက်အလက်များ၊ ဇီဝပတ်ဝန်းကျင်ဆိုင်ရာ အချက်အလက်များ၊ ရာသီဥတုဆိုင်ရာ အချက်အလက်များ အစရှိသည့်များကို ရန်ကုန်တိုင်းဒေသကြီး၊ လှိုင်သာယာမြို့နယ်မှ တရားဝင်ပြဌာန်းထားသော မြို့နယ်ဆိုင်ရာ အချက်အလက်များမှ ကိုးကားဖော်ပြထားပါသည်။ ၂၀၁၉ ခုနှစ်တွင် လှိုင်သာမြို့နယ်၏ လူဦးရေမှာ ၄၄၀,၉၄၉ ဦးရှိပါသည်။

အဆိုပြုလုပ်ငန်း၏စစ်တမ်းကောက်ယူမှု

အမျိုးအစား	**ရလဒ်**
ရာသီဥတုအခြေအနေ	
အပူချိန်	၃၈.၃ °C
စိုထိုင်းဆ	၇၄ %
ဆူညံသံ	
ထုတ်လုပ်မှုဇရိယာအတွင်း	၄၈.၆ dBA
လေထုအရည်အသွေး	
PM 10	၁၁.၆μg/m^3
PM 2.5	၁၆.၆ μg/m^3
SO_2	၁၃.၁ μg/m^3

NO_2	၄၄.၉ μg/m^3
O_3	၂၃.၉ μg/m^3

ပတ်ဝန်းကျင်ထိခိုက်မှု ဆန်းစစ်ခြင်းနှင့် လျော့ချရေးနည်းလမ်းများ

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

အကဲဖြတ်ခြင်း	အတိုင်းအတာ				
	၁	၂	၃	၄	၅
ပမာဏ	မလုံလောက်သော	အနည်းငယ်နှင့် လုပ်ငန်းခွင်ပြောင်းလဲမှု ဖြစ်စေနိုင်သော	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 - ၇၅	မြင့်

၆၀	အလွန်မြင့်

ပတ်ဝန်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
လေထုအရည်အသွေး	• သယ်ယူပို့ဆောင်ရေးသုံး မော်တော်ယာဉ်တို့ကြောင့် ဖုန်မှုန့်နှင့် ဖန်လုံအိမ်ခါတ်ငွေ့ထွက်ခြင်း • လုပ်ငန်းခွင်အတွင်းဖုန်မှုန် ထွက်ခြင်းအရေးပေါ် သုံး မီးစက်မှာ စွန့်ထုတ်အခိုးအငွေ့ ထွက်ခြင်း	• မီးစက် တို့တွင် မီးခိုးခေါင်းတိုင် တပ်ဆင်ခြင်းဖြင့် အခိုးအငွေ့ကြောင့် ပတ်ဝန်းကျင် ထိခိုက်မှုကို လျော့ချခြင်း၊ • စက်ရုံအတွင်းနှင့် အနီး အနားတွင် သစ်ပင်ပန်းမံ စိုက်ပျိုးခြင်းဖြင့် carbon ထွက်ရှိမှုကို လျော့ချပေးခြင်း၊ • စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။
မြေဆီလွှာညစ်ညမ်းမှု	• မတော်တစ စက်ပစ္စည်း၊ မော်တော်ယာဉ်များမှ ဆီယိုဖိတ်ခြင်း	• ထိခိုက်မှုလျော့ချရန်မလိုပါ။
ရေအရည်အသွေး	• မီးဖိုချောင်သုံးမှထွက်ရှိခြင်း	• ထိခိုက်မှုလျော့ချရန်မလိုပါ။
ဆူညံသံ နှင့် တုန်ခါမှု	• မီးစက်၊ အထည်ချုပ်စက် နှင့် မော်တော် ယာဉ် အသုံးပြုမှုကြောင့် ပတ်ဝန်းကျင် ဆူညံမှု	• ဆူညံသံများသောစက်ရုံလုပ်ငန်းနေရာများတွင် တစ်ကိုယ်ရည်သုံး ကာကွယ်ရေးပစ္စည်းများ တပ်ဆင်အသုံးပြုစေခြင်း။ • အသံထုတ်လွှတ်မှုနည်းသော စက်ပစ္စည်းများ အသုံးပြုခြင်းနှင့် မီးစက်ခန်း၊ ကွန်ပရက်ဆာခန်းများ သီးသန့်ထားရှိစေခြင်း။
ကုန်းနေ အပင်နှင့် သတ္တဝါများ၊ ရေနေသတ္တဝါများ	• Optoelectroic Devices အမျိုးမျိုး ထုတ်လုပ်ခြင်း လုပ်ငန်း	• ထိခိုက်မှုလျော့ချရန်မလိုပါ။
မီးဘေးအန္တရာယ်	• ကုန်ကြမ်းသိုလှောင်မှု နှင့် လျပ်စစ်သုံးစွဲ ပေါ့လျော့မှု	• စက်ရုံ၏မီးဘေးအန္တရာယ်ကာကွယ်ရန်အတွက် မီးသတ်ဘူး၊ မီးသတ်ပိုက်၊ မီးသတ်ခေါင်း များထားရှိခြင်း။ • မီးသတ်ဆိုင်ရာစက်ပစ္စည်းကိရိယာများကိုပုံမှန်စစ်ဆေးခြင်း ၊အရေးပေါ် အခြေနေအတွက် မီးသတ်ရေကန်အဆင်သင့်ထားရှိခြင်း။ • စက်ရုံအတွင်းအရေးပေါ် အချက်ပေးစနစ်များထားရှိခြင်း။ • အရေးပေါ် ထွက်ပေါက်များတစ်လျောက်တွင် ကုန်ပစ္စည်းများပိတ်ဆို့ခြင်းမရှိအောင်ရှင်းလင်းထားရှိခြင်း။
လုပ်ငန်းခွင် ဘေးအန္တရာယ်	• စက်ပစ္စည်းများလည်ပတ်ခြင်းကြောင့် မတော်တဆထိခိုက်မှုများ ဖြစ်ပေါ်နိုင်ခြင်း။ • ပစ္စည်းတင်ချုပြုလုပ်ခြင်း၊ ဖြတ်တောက်ခြင်း၊ ရောနှောခြင်း၊ ဖိနှိပ်ခြင်း၊ ထုတ်ပိုးခြင်း။	• အရေးပေါ် အခြေအနေများအတွက် စက်ပစ္စည်းကိုင်တွယ်မှုသင်တန်းပေးခြင်း၊ ကြက်ခြေနီသင်တန်းပေးခြင်း၊ မီးသတ်သင်တန်းပေးခြင်း။ • လုပ်ငန်းခွင်တွင်း အလုပ်သမားများ အလင်းရောင်ကောင်စွာရရှိစေရန်နှင့်

ပတ်ဝန်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
		အမြင်အာရုံမထိခိုက်စေရန် အလင်းရောင်များကို လုံလောက်စွာထားရှိခြင်း။ • အလုပ်သမားများအတွက်တစ်ကိုယ်ရေကာကွယ်ရေးသုံးပစ္စည်းများဖြစ်သည့် နားကြပ်၊ လက်အိတ်၊ ဦးထုပ်၊ မျက်မှန်များ အသုံးပြုစေခြင်း။ • လျှပ်စစ်အန္တရာယ်မဖြစ်စေရန် နှင့် ပြုပြင်ထိန်းသိမ်းမှုများ ပြုလုပ်ရန်အတွက် ဝန်ထမ်းထားရှိ၍ ပုံမှန်စစ်ဆေးခြင်း။ • လျှပ်စစ်ဓာတ်ကူးခြင်းမှ ကာကွယ်ရန် အလုပ်သမားများအတွက် လျှပ်စစ်ဖြတ်တောက်ကိရိယာများတပ်ဆင်ထားပေးခြင်း။
ကျန်းမာရေး	• အရေးပေါ် မီးစက်များမှ ဆူညံသံများထွက်ပေါ်လာခြင်း။	• လုပ်သားများအတွက်ကျန်းမာရေးမထိခိုက်စေရန် ရေမြောင်းများကိုစနစ်တကျထားရှိခြင်း။ • လုပ်သားများအတွက် ရှစ်နာရီအတွင်းလက်ခံနိုင်သည့်အာမြင့်ဆုံး ဆူညံမှု နှုန်းမှာ 90dB(A) ဖြစ်သည်။ အသံဆူညံမှုအမြင့်ဆုံးနေရာများတွင် နားကြပ်များ တပ်ဆင်စေခြင်း။
စွန့်ပစ်အစိုင်အခဲ	• ထုတ်လုပ်ရာတွင် ကျန်ရှိသော အပိုင်းအစများ။ မီးဖိုချောင်နှင့် ရုံးတွင်းစွန့်ပစ်ပစ္စည်းများ	• စက်ရုံအတွင်း အမှိုက်ပုံးများထားရှိခြင်း။ • သတ်မှတ်ထားသောနေရာတွင် အမှိုက်စို၊ အမှိုက်ခြောက်များခွဲခြားစွန့်ပစ်ခြင်း။ • အမှိုက်များကို ရန်ကုန်စည်ပင်သာယာရေးကော်မတီနှင့် ချိတ်ဆက်၍စွန့်ပစ်ခြင်း။
စွန့်ပစ်အရည်	• နေအိမ်၊ စားသောက်ဆောင် တို့မှစွန့်ထုတ်ရေ၊ ဘွိုင်လာစွန့်ပစ်ရေ နှင့် မိလ္လာကန်စနစ်	• ဆီကန်၊ မိလ္လာကန်များ ကိုပုံမှန်စစ်ဆေးခြင်း၊ သန့်စင်ခြင်းများပြုလုပ်ခြင်းဖြင့် စွန့်ပစ်အရည်များ စိမ့်ဝင်မှုများကိုလျော့ကျစေနိုင်ခြင်း။
အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများ	• စက်များမှ ဆီယိုစိမ့်မှုများ၊ မော်တော်ယာဉ်များပြုပြင်ထိမ်းသိမ်းမှုက ထွက်ရှိသည့်အမှိုက်များ	• အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်းများသိုလှောင်မှု အားထိန်းသိမ်းခြင်း စစ်ဆေးခြင်း။ • အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများကို ရန်ကုန်မြို့တော်စည်ပင်သာယာရေး ကော်မတီ (သို့မဟုတ်) လိုင်စင်ရ အမှိုက်စွန့်ပစ်ရေးဆိုင်ရာအဖွဲ့အစည်းများ (ဥပမာ DOWA or YCDC) နှင့်ချိတ်ဆက်၍စွန့်ပစ်ခြင်း။
သဘာဝဘေးအန္တရာယ် (ငလျင်၊ ရေကြီးရေလျှံ၊ မြေပြို၊ မုန်တိုင်း)		အရေးပေါ်အကြောင်းရင်းနှင့် အခြေအနေများအတွက် သက်ဆိုင်ရာမှတ်တမ်းများနှင့် ကိရိယာများကို ထိန်းသိမ်းခြင်း

သိသာထင်ရှားသော သက်ရောက်မှုများကိုတွက်ချက်ရာတွင် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုနှင့် ဆန်းစစ်ခြင်းအဖွဲ့အစည်း(IEMA) မှ ချမှတ်ထားသော နည်းလမ်းကို အသုံးပြု၍ ဆန်းစစ်ထားပါသည်။ စီမံကိန်းလုပ်ဆောင်ချက်များပေါ် မူတည်၍ ရလဒ်များ နည်းသည်၊ အလွန်နည်းသည်ကို ဖော်ပြထားပါသည်။

အချို့ရလဒ်များမှာ အသင့်အတင့် ရှိပါသည်။ လူမှုစီးပွားဆိုင်ရာတိုးတက်မှုများအနေဖြင့် ကောင်းမွန်သောသက်ရောက်မှု ရှိသည်ကို တွေ့ရှိရပါသည်။

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

လူထုတွေ့ဆုံပွဲများပြုလုပ်ရာတွင် ကိုဗစ်-၁၉ကပ်ရောဂါ ဖြစ်ပွားနေသောကြောင့် ကျန်းမာရေးဝန်ကြီးဌာန၏ ထုတ်ပြန်ချက်များအရ ရောဂါပြန့်ပွားမှုလျော့ကျစေရန် လူငါးဦးထက်ပိုမို စုဝေးခြင်းကိုတားမြစ်ထားသောကြောင့် Myanwei Environmental Solutions Company Limited ၏ facebook စာမျက်နှာ (https://drive.google.com/file/d/1Fq_N9BgFvSHFHJ6CWpgC2PZe2KIB83j/view?usp=drivesdk) မှတစ်ဆင့် စက်တင်ဘာလ ၂၃ ရက်နေ့ ၂၀၂၂ ခုနှစ်တွင် အကြံပြုချက်များကိုတောင်းခံခဲ့ပါသည်။

Mynice Optoelectronics (Myanmar) Company Limited ၏ လူထုအကျိုးပြုလုပ်ငန်းများဆောင်ရွက်မည့် အစီအစဉ်

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

စီမံကိန်းသည် ရွှေလင်ဗန်းစက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ်တွင်တည်ရှိသည်။ စီမံကိန်းကြောင့် ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများမရှိပါ။ စီမံကိန်းဆိုင်ရာ သတင်းအချက်အလက်များ၊ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်များကို အောက်ပါ ဝပ်ဆိုက်များမှတစ်ဆင့် လေ့လာနိုင်ပါသည်။

Myanwei website www.myanweiconsulting.com

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

EXECUTIVE SUMMARY

The project is new investment for manufacturing of various kinds of optoelectronic devices on (CMP) basis company from China. The Yangon Region Investment Committee (YRIC) issues the project on 7 February 2020 with Endorsement No. YGN-346/2020. YRIC notified for the environmental approval and comments of the Ministry of the Natural Resources and Environmental Conservation (MONREC) on the proposed project and had approved the proposal for investment in manufacturing of various kinds of optoelectronic devices (CMP) basis. The estimated authorized capital investment is about US $ 1 million.

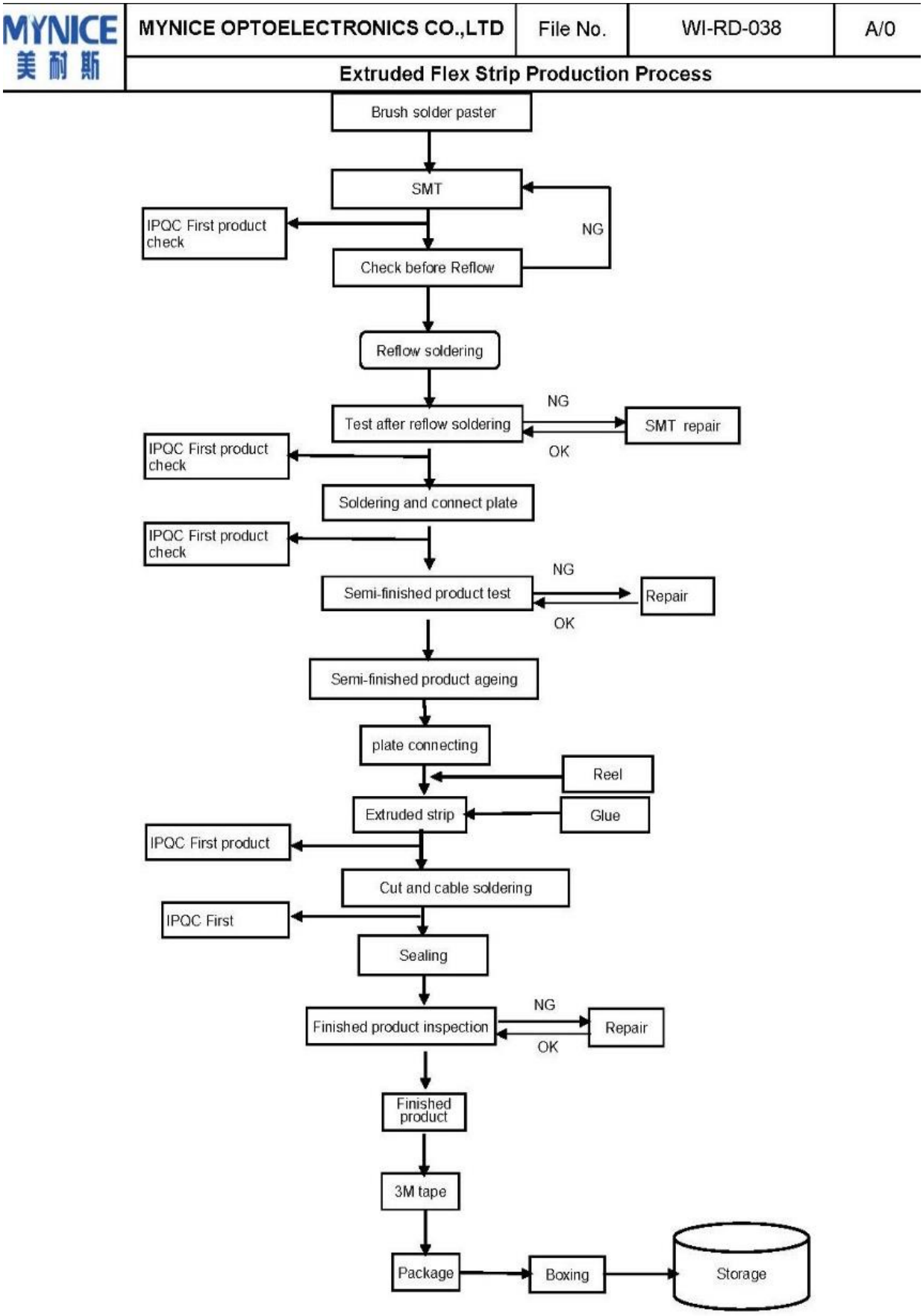
Table 1-1 Salient features of the project

Type of Proposed Business	Manufacturing of various kinds of optoelectronic devices on (CMP) basis
Type of investment	100% foreign investment
Type of Share	Ordinary Share
Type of land	Industrial Land
Total land area	0.383 acres out of 1.3884 acres
Total building area	One storey factory building (100 x 160) ft Two storey office building (19 x 35) ft
Land lease year	60 years
Construction period	1 year
Operation starting date	25 years investment permit
Address	Plot No.(86-Ka), Myay Taing Block No-25, Shwe Lin Ban Sethmu Myo, Hlaing Thar Township, Yagon Region
Contact person	Ma Phyu Phyu Sin (Manager) 09799734788

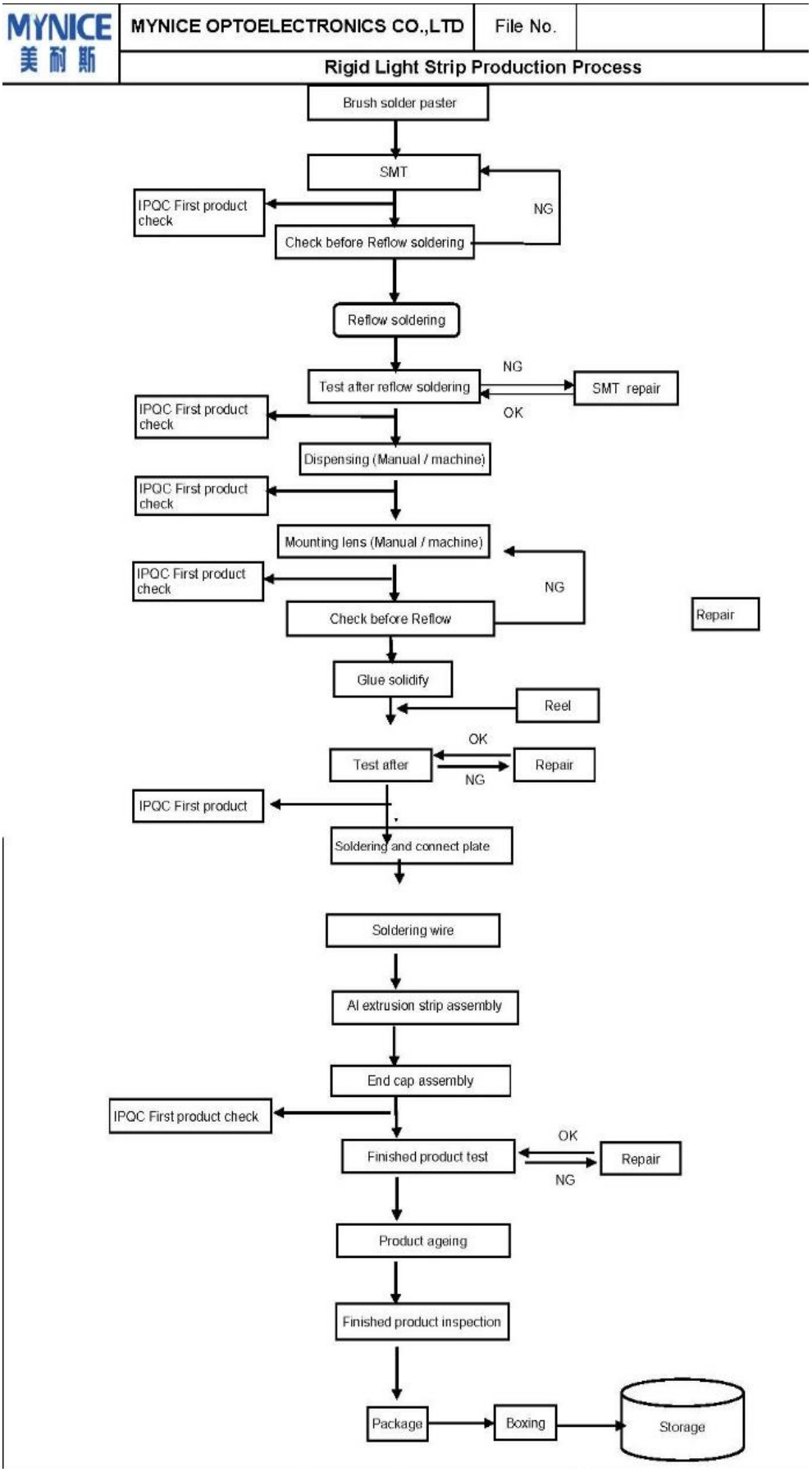
According to the Myanmar Environmental Conservation Law (2012), it requires that the proponents of every development project in the country submit either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) to Ministry of Natural Resources and Environmental Conservation (MONREC). As per the comments of Environmental Conservation Department (ECD), they said project requires an Environmental Management Plan (EMP) to meet the environmental assessment requirements of Notification No. YaKa/EIA/5(2) (566/2022) on 23 February 2022. Therefore, Mynice Optoelectronics (Myanmar) Co., Ltd commissioned Myanwei Environmental Solutions Co., Ltd. (Myanwei) for EMP report study.

Mynice Optoelectronics (Myanmar) Co., Ltd is located at Plot No.(86-Ka), Myay Taing Block No-25, Shwe Lin Ban Sethmu Myo, Hlaing Thar Township, Yagon Region, Myanmar. The location point of proposed project is between Latitude 16°54'35.63"N and Longitude 96° 3'22.54"E. The project utilizes 0.383 acres out of 1.3884 acres of land and consists of two main factory building. The designed area includes production building (two story), offices and garage etc. Number of people 261 employees working at Mynice Optoelectronics (Myanmar) Co., Ltd. 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 23,000,000 pieces.

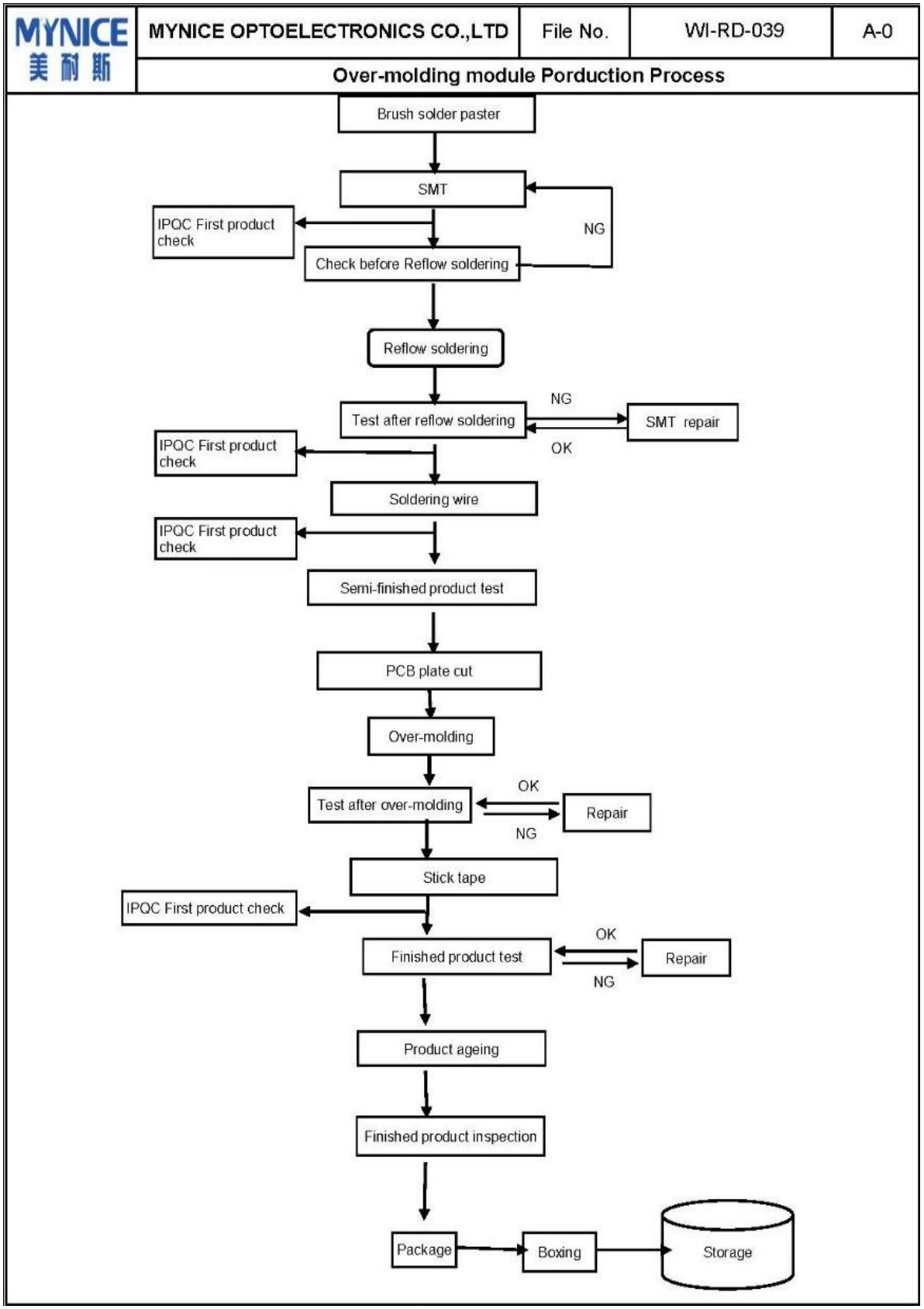
The project is processed according to the relevant environmental legislations established by the MONREC and overview of current local and international environmental and social policies including related international or regional convention.



Extruded Flex Strip production process



Red Light Strip production process



Over-moulding module production process

Raw Materials

SMT First Product Checking

Wire Bonding Process

Tape Bonding Process

QC Inspection

Injection Process

Labeling

Final QC and Packing

Production Flow Diagram of Mynice Optoelectronics (Myanmar) Co., Ltd

The baseline environmental quality at the Project Site and its immediate surroundings was established by groundwater, wastewater, ambient air quality samples, noise and indoor temperature and humidity measurements at immediate surrounding areas. To determine the existing baseline environmental quality within the project site 19th May 2022.

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

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

Moreover, secondary data collection of proposed project site area such as socio-economic condition, physical/ biological environment, weather data where be received from official township data was reference by Regional Data of Hlaing Thar Yar Township. The field observation for determining the environmental baseline of the proposed project area was undertaken during operation period. The survey team consists of the senior consultant and environmental quality team. The baseline data collected regarding the environmental condition of the project area was conducted in the following section. The proposed project site is primarily agricultural land, but now is initiated into the industrial zone area. In 2019, the population Hlaing Thar Yar Township is about 440,949 people.

Brief Description of Surrounding Environment

For environmental baseline, data were collected by onsite measurements analysis during operation phase on 19th May 2022. 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 Hlaing Thar Yar Township.

Survey Result in Proposed Project

Type	Result
Weather Condition	
Indoor temperature	32.9°C
Humidity	(65.88%)
Noise level	
Operation area	48.61 dBA
Air Quality	
PM 10	11.6 µg/m^3
PM 2.5	16.6 µg/m^3
SO_2	13.1 µg/m^3
NO_2	44.9 µg/m^3
O3	23.9 µg/m^3

Risk Assessment and Mitigation Measure Plan

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

Impact Assessment Parameter and Its Skill

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

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

Significant Point (SP) = (Magnitude + Duration + Extent) × Probability

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

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

Environmental Impact	Project Activities	Mitigation Measures
Operation Phase		
Air	Dust and GHGs emission from vehicles used for transporting raw materials and final products Emission of smoke from emergency diesel generator and vehicle movement	To control air pollution, the vehicles, generators and machineries have to check and maintain regularly. Ensuring vehicles, compressor and generator are well maintained. The factory has planted trees to reduce carbon emission and minimize air pollution
Soil	Engine oil leaks, spills at diesel storage and during fuel refueling	No mitigation measure
Water	Dormitory Cleaning and Kitchen	No mitigation measure
Noise and vibration	Generating noise from the production machinery	Should be built individual room like as generator room Low noise equipment should be used Should be provided the noise covering equipment or personal protective equipment (PPE)
Flora and fauna on terrestrial and aquatic life	Operation of the optoelectronics factory	No Mitigation Measure
Fire	Poor electrical installations Waste disposed area raw materials and chemical storage	To provide fire extinguishers, fire hose reels and fire hydrants on the walls of the factory for fire emergency cases. Regular inspection for existing firefighting equipment must be done. In case of fire emergency, water storage tank for fire frightening. The emergency fire alarms are installed at the factory for alerting the workers in case of fire. The main entrances and route for emergency cases of the factory must not be blocked with materials or machines for fire emergency cases.

Environmental Impact	Project Activities	Mitigation Measures
Occupational Safety	Accidental cases cause by operating machines. Unloading, cutting, and packaging activities. Accidental cases of thermic fluid heater	First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for emergency cases of workers. According to the observed light intensity values, the proponent provides sufficient lighting for workers for safe working and reducing optical problems of the workers. Personal Protective Equipment (PPEs) like earmuffs, safety gloves, helmets and goggles are provided for each department. To prevent electric shock hazards, electrical maintenance staff (handyman) is to be assigned to do regular inspections and take preventive measures. To prevent electric shock the factory provides electric cutter watch for employees.
Health	Influx of people Noise from the generating of the emergency generators	Manage the drainage systems of the factory to prevent health risk of the workers. The maximum allowable noise level for workers is 90dB(A) for 8hours exposure a day. Thus, adequate protective noise impact measures in the form of ear muffs/ear plugs to the workers working in high noise areas.
Solid waste	Residual pieces of wire from the production lines Waste from packaging materials Waste from kitchen, dormitory and office.	Provides separate garbage bins at each building. All of the solid wastes will be collected separately in garbage based on their types and stored in relevant separated waste storage area Depending on the volume of waste in each department, the waste must be transported to the appropriate storage unit.In the living environment, waste must be categorized and marked. Final wastes should be disposed by using YCDC's service.
Liquid waste	Septic system and sewage. Domestic liquid waste disposal from office, kitchen and dormitory.	Regular inspection and cleaning, oil traps, septic tank and adequate covers for all storage and waste disposal areas can decrease these contaminations.
Hazardous waste	Used oil and lubricant discharged from the maintenance of vehicles and machines.	Proper inspection and maintenance in storage of hazardous waste. The hazardous wastes are transported by specially licensed carriers and disposed in a licensed faculty (e.g., DOWA and YCDC)
Natural Disaster (Earthquakes, Floods, landsides and cyclone)		Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency
Decommissioning Phase		
Air pollution	Decommissioning of buildings and related materials	Spray water twice a day Cover mesh trap around the decommission area

Environmental Impact	Project Activities	Mitigation Measures
	Transportation of demolished materials	Install shading net about 2 meters above temporary fence of decommission area Carry broken material with cover by canvas.
Water pollution	Sewage form decommissioning workers Demolition machinery equipment	Systematically demolish the septic tanks.
Soil Contamination	Decommissioning of buildings and related materials Transportation of demolished materials	Manage the spillage of oil and diesel and sewage.
Noise Pollution	Decommission activities Transportation of demolished materials	Carry out the activities during day time. Maintain the machines and vehicles to reduce noise pollution. Provide the ear plugs to the workers.
Waste disposal	Demolished debris such as bricks, concrete materials	Recyclable materials and dispose to the define areas.
Hazardous waste	Used lubricants from decommissioning vehicles and machines	Manage the disposal way of hazardous waste.
Occupational Health and Safety (Accidents, Injuries)	Decommissioning activities Transportation of demolished materials	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.

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

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

As for the public consultation disclosure during the preparation of this report Covid-19 disease becomes serious in Yangon. The Ministry of Health and Support declared to avoid gathering more than

5 people to avoid close contact and to prevent spreading of disease. Thus, the project condition, the present environmental condition and the management plan are through the social media of Myanwei Environmental Solutions Company Limited Facebook page (https://drive.google.com/file/d/1Fq_N-9BgFvSHFHJ6CWpgC2PZe2KIB83j/view?usp=drivesdk) declared in 23rd September, 2022 due to current situation. The suggestion, complain and comments from the public, organization and stakeholder are warmly welcome and accept via mailing, comment, telephoning and messengers.

CSR plan of Mynice Optoelectronics (Myanmar) Co., Ltd

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

The project is in Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township and there are no local people affected by project. The project information and this EMP will be accessible to public and stakeholders via facebook.

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 Mynice Optoelectronics (Myanmar) Co., Ltd. The Environmental Management Plan (EMP) aims at controlling pollution at source with available and affordable technology followed by treatment measures. Waste minimization and waste recycling measures are emphasized. In addition to the industry specific control measures, the proposed industry should adopt following guidelines.

1.1. THIS EMP DOCUMENTS AIMS

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

1.2. OBJECTIVE OF ENVIRONMENTAL MANAGEMENT PLAN

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

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

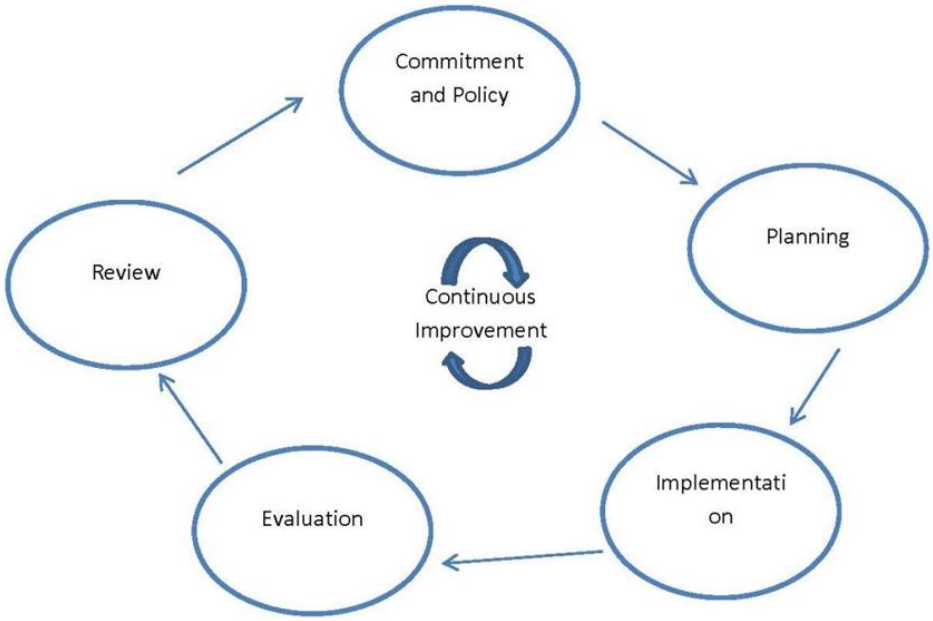


Figure 1-1 Continuous Improvement Circle

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

1.2.1. Institutional Requirement

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

1.2.2. Responsibilities of the EMP

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

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

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

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

1.2.3. Structure and Responsibilities for the EMP Development and Implementation

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

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

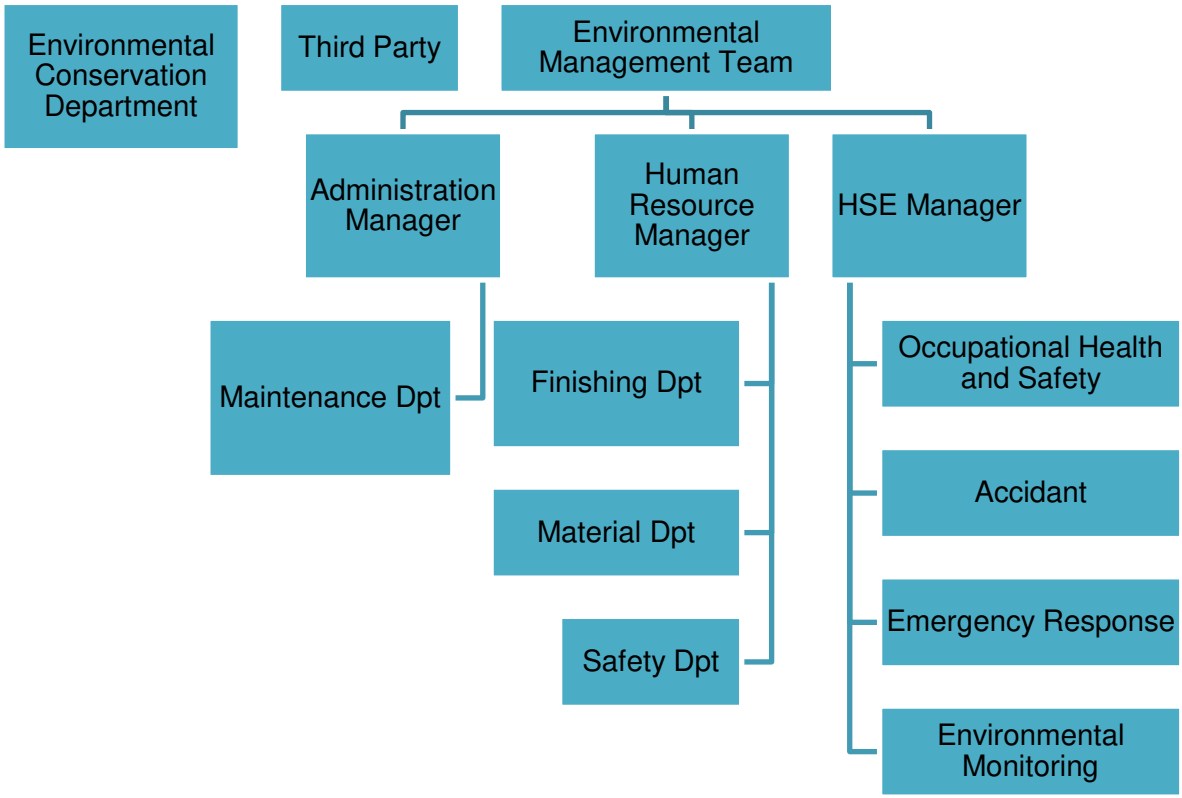


Figure 1-2 Organization Structure of Environmental Management Plan

Table 1-1 Responsibilities of HSE Members

Roles	Responsibilities
General Manager	The General Manager will be assisted by the Operations Manager and also the HR and HSE Officer. In terms of environmental protection commitments, the Operation Manager will be the key driving force and will be responsible for: • Establishing overall environmental direction and policy • Ensuring the implementation of the EMP • Ensuring investigation of all environmental incidents are reviewed and that reports are submitted on time • Ensuring an effective system of internal and external communication is in place • Providing advice regarding the environmental program
Operation Manager	The Operation Manager will assist the General Manager in looking into the overall environmental matters during the operational phase of the Project. The Operation Engineer will also be responsible for: • Adherence to the overall environmental direction and policy • Ensuring the implementation of the recommended actions in the investigation of all environmental incidents • Managing resources for operation wastes
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:

Roles	Responsibilities
	• Assisting the management in publicising and implementing corporate and local policies, objectives and programs • Maintaining key environmental-related documents and information • Communicating/ liaising with the local authorities on environmental issues
HSE Officer	The HSE Officer will be the key person in charge of all environmental matters pertaining to the site. The HSE Officer will be responsible for: • Coordinating the implementation of environmental programs, including monitoring of the project site environmental performance • Performing periodic internal environmental audits and inspections to ensure compliance with the legal environmental requirements • Ensure a monitoring system is in place to track and report all health, safety and environmental incidents; • Carry out a thorough initial site inspection of environmental controls prior to work commencement; • Record and provide a written report to the General Manager and production team of non-conformances with the EMP and require the HR Manager to undertake mitigation measures to avoid or minimize any adverse impacts on environment or report required changes to the EMP.

1.3. PROJECT BACKGROUND

The project is new investment for manufacturing of various kind of optoelectronic devices on (CMP) basis company from China. The Yangon Region Investment Committee (YRIC) issues the project on 7 February 2020 with the Endorsement No. (YGN-346/2020). YRIC notified for the environmental approval and comments of the Ministry of the Natural Resources and Environmental Conservation (MONREC) on the proposed project and had approved the proposal for investment in manufacturing of various kinds of optoelectronic devices (CMP) basis.

According to the Myanmar Environmental Conservation Law (2012), it requires that the proponents of every development project in the country submit either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) to Ministry of Natural Resources and Environmental Conservation (MONREC). As per the comments of Environmental Conservation Department (ECD), they said project requires an Environmental Management Plan (EMP) to meet the environmental assessment requirements of Notification No. YaKa/EIA/5(2) (566/2022) on 23 February 2022. Therefore, Mynice Optoelectronics (Myanmar) Co., Ltd commissioned Myanwei Environmental Solutions Co., Ltd. (Myanwei) for EMP report study.

This EMP report is prepared based on the impact identified in EIA procedure (2015). The EMP is prepared provide additional guidance on the means, methods and mechanisms by which such mitigation measures will be implemented. The EMP is one of the most important outputs of the environmental assessment process. The EMP is the synthesis of all proposed mitigate and monitoring actions, set to a timeline with specific responsibility assigned and follows up actions defined. The EMP can be prepared at different times of the project life. Operation environmental management plan is developed to ensure that appropriate environmental practices are followed during a project's operation

and decommissioning phases. As the factory is already built operation environmental management plan is designed for this factory.

1.4. PROJECT PROPONENT PROFILE

This is the information of the project proponent from the registration of YRIC which is described in below Table 1-2. The estimated authorized capital investment is about US $ 1 million. Organization chart of Mynice Optoelectronics (Myanmar) Co., Ltd is presented in Figure 1-3.

Table 1-2 Salient features of the project

Type of Proposed Business	Manufacturing of various kinds of optoelectronic devices on CMP Basis
Type of investment	100% foreign investment
Type of Share	Ordinary Share
Type of land	Industrial Land
Total land area	0.383 acres out of 1.3884 acres
Total building area	One storey factory building (100 x 160) ft Two storey office building (19 x 35) ft
Land lease year	60 years
Construction period	1 year
Operation starting date	25 years investment permit
Address	Plot No.(86-Ka), Myay Taing Block No-25, Shwe Lin Ban Sethmu Myo, Hlaing Thar Township, Yagon Region.
Contact person	Ma Phyu Phyu Sin (Manager) 09799734788

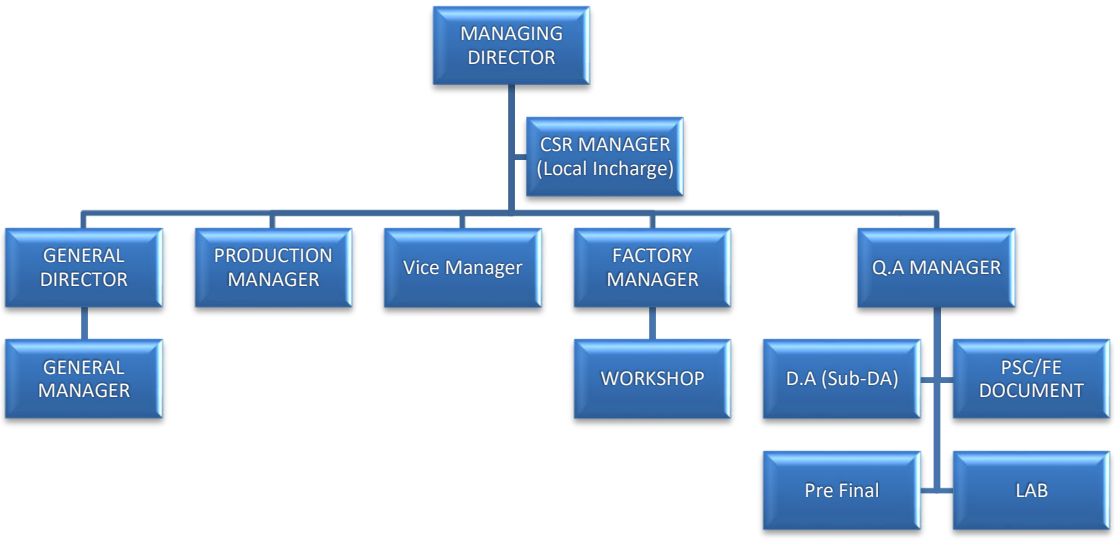


Figure 1-3 Organization Chart of Mynice Optoelectronics (Myanmar) Co., Ltd

1.5. ENVIRONMENTAL CONSULTANT PROFILE

MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED prepares the EMP for the proposed project. The field studies were carried out by MYANWEI having experiences in conducting

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

Myanwei Environmental Solutions Company Limited	No. 49(B), Inya Yeik Thar Street, Mayangone Township, Yangon Region, The Republic of the Union of 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. Khin Thu Zar Myint	B.E Materials and Metallurgy Engineering Diploma in Environmental Planning and Management	Senior Environmental Consultant, Social Research, Public consultation, social economic investigation
Ms. Su Myat Hlaing	B.E. Civil Engineering B. Tech Civil Engineering	Environmental Engineer
Mr. Saw Yan Naung	B.E. Chemical Engineering B. Tech Chemical Engineering	Junior Environmental Consultant, monitoring measure, document administration
Mr. Htun Lin Kyaw	B.Sc (Geology)	Junior Environmental Consultant, monitoring measure, document administration
Mr. Si Yan Hein	B.Sc (Geology) Certificate of Geotechnical Engineering (Myanmar Geoscience Society)	Junior Environmental Consultant, monitoring measure, document administration
Mr. Kaung Sett Lwin	B.Sc (Hons) Geology Certificate of Geotechanical Enginnering (Myanmar Geosocience Society)	Junior Environmental Consultant, monitoring measure, document administration

Name	Qualification	Responsibility
Mr. Aung Kyaw Htet	B.Sc (Geology)	Junior Environmental Consultant, monitoring measure, document administration
Mr. Naing Htay Linn	B.Sc (Forestry)	Junior Environmental Consultant, monitoring measure, document administration

2. POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

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

2.1. MYANMAR REGULATORY FRAMWORK

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

2.1.1. Laws and Regulations Related to Environmental and Social Considerations

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

Table 2-1 List of Myanmar's Law relating to environmental management

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

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

Section 24	The project proponent has to allow relevant governmental organization or department to inspect whether performing is conformity with the terms and condition include in prior permission, stipulated by the ministry, or not.
Section 25	The project proponent has to comply with the terms and conditions include in prior permission.
Section 29	The project proponent has to abide by the stipulations included in the rules, regulations, by-law, order, notification and procedure, which are issued by said law.
Environmental Conservation Rules, 2014	
Rules 58	The Ministry shall form the EIA Report Review Body with the experts from the relevant Government departments, organizations.
Rules 59	The Ministry may assign duty to the Department to scrutinize the report of EIA prepared and submitted by any organization or person relating to EIA and report through the EIA Report Review Body.
Rules 61	The Ministry may approve and reply on the EIA report IEE or EMP with the guidance of the Committee.
Sub-rule (a) of rule 68	The project proponent has to avoid emit, discharge or dispose the materials which can pollute to environment, or hazardous waste or hazardous material prescribed by notification in the place where directly or indirectly injure to public.
Sub-rule (b) of rule 68	The project proponent has to avoid performing to damage to ecosystem and the environment generated by said ecosystem.
Environmental Impact Assessment Procedure (December 2015)	
Objectives	The project proponent has to be liable for all adverse impacts caused by doing or emitting of project owner or contractor, sub-contractor, officer, employee, representative or consultant who is appointed or hired to perform on behalf of project owner, under sub-paragraph (a) of paragraph 102. The project proponent has to support, after consulting with effected persons by project, relevant government organization, government department and other related persons, to resettlement and rehabilitation for livelihood until the effected persons by the project receiving the stable socio-economy which is not lower than the status in pre-project, under sub-paragraph (b) of paragraph 102 The project proponent has to fully implement all commitments of project and conditions included in EMP. Moreover, the project proponent has to be liable for contractor and sub-contractor who perform on behalf of him/her have to fully abide by the relevant laws, rules, this procedure, EMP and all conditions, under paragraph 103. The project proponent has to be liable and fully & effectively implement all requirements included in ECC, relevant laws and rules, this procedure and standards under rule 104. The project proponent has to inform the completed information, after specifying the adverse impacts caused by the project, from time to time, under paragraph 105. The project proponent has to continuously monitor all adverse impacts in the pre-construction phrase, construction phrase, operation phrase, suspension phrase, closure phrase and post-closure phrase, moreover has to implement the EMP with abiding the all conditions included in ECC, relevant laws & rules and this procedure, under paragraph 106. The project proponent has to submit, as soon as possible, the failures of his or her responsibility, other implementation, ECC or EMP. If dangerous impact caused by this failure or failure should be known by the Ministry the project proponent has to submit within 24 hours and other than this situation has to submit within 7 days from knowing it, under paragraph 107.

	The project proponent has to submit the monitoring report dually or prescribed time by Ministry in line with the schedule of EMP, under paragraph 108. The project proponent has to prepare the monitoring report in accord with the rule 109. The project proponent has to show this monitoring report in public place such as library, hall and website and office of project for the purpose to know this report by public within 10 days from the date which the report is submitted to the Ministry. Moreover, has to give the copy of this report, by email or other way which way agreed with the asked person, to any asked person or organization, under paragraph 110. The project proponent has to allow inspector to enter and inspect in working time and if it is needed by Ministry has to allow inspector to enter and inspect in the office and work-place of project and other work-place related to this project in any time, under paragraph 113. The project proponent has to allow inspector to immediately enter and inspect in any time if it is emergency or failure to implement the requirements related to social or environment or caused to it, under paragraph 115. The project proponent has to allow inspector to inspect the contractor and sub-contractor who implement on behalf of project, under paragraph 117.
Screening: Section 23	a) The project proponent shall submit the Project Proposal to the Ministry for Screening. b) The Ministry will send the Project Proposal to the Environmental Conservation Department to determine the need for environmental assessment. c) Following the preliminary Screening and verification that the Project Proposal contains all required documents and related materials, subject to Articles 8, 9, 10, 11, 26 and 27 the Department shall make a determination in accordance with Annex 1 _ Categorization of Economic Activities for Assessment Purposes ‘, taking into account Article 25 and the additional factors listed in Article 28 in order to designate the Project as one of the following, and then submit it to the Ministry: i) An EIA Type Project, or ii) An IEE Type Project, or iii) A Non IEE or EIA Type, and therefore not required to
National Environmental Quality (Emission) Guidelines (NEQG) (December 2015)	
Objectives	To provide the basis for regulation and control of noise and vibration, air emissions, and liquid discharges from various sources in order to prevent pollution for purposes of protection of human and ecosystem health.
National Environmental Policy of Myanmar (2019)	
National Environmental Policy Vision & mission	Vision A clean environment, with healthy and functioning ecosystem, that ensures includes development and wellbeing for all people in Myanmar. Mission To establish national environmental policy principle for guiding environmental protection and sustainable development and for mainstreaming environmental consideration into all polices, laws, regulation, plans, strategic, programmes and projects in Myanmar.
Foreign Investment Law, 2012	
Section 8	(a) To support the primary objectives of the national economic development plan, and for businesses that cannot yet be run by the State and citizens or businesses that have insufficient funds and technology. (b) Development of employment activities

	(l) Protection and conservation of the environment. (q) Appearing the required modern services for the Union and citizens.
Section 17	(a) To abide by the existing laws of the Republic of the Union of Myanmar. (b) To carry out the business by forming a company under the existing laws of Myanmar by the investor. (h) To carry out not to cause environmental pollution or damage in accord with existing laws in respect of investment business. (k) To carry out the systematic transfer of high technology relating to the business which are carried out by the investor to the relevant Basis, departments or organizations in accord with the contract.
Foreign Investment Rule, 2013	
Rule 54	The promoter or investor shall: (a) comply with Environmental Protection Law in dealing with environmental protection matters related to the business; (b) shall carry out socially responsible investment in the interest of the Union and its people; (c) shall co-operate with authorities for occasional or mandatory inspection; (d) shall exercise due diligence to be in conformity and harmony with norms and standards prescribed by relevant Union Ministry in conducting construction of factories, workshops, buildings, and other activities; (e) shall enforce Safety and Health
Myanmar Investment Rules, 2017	
Rule 202	The project proponent has to comply with the conditions of the permit issued by the MIC and applicable laws when making the investment
Rule 203	The project proponent has to fully assist while negotiating with the authority for settling the grievance of the local community which has been affected due to investment
Rule 206.	The project proponent has to submit the passport, expert evidence or document of degree and profile to the MIC office for approval if decide to appoint a foreigner as senior management, technician expert or consultant according to subsection (a) of section 51 of Myanmar Investment Law
Myanmar Insurance Law (1993)	
Section 15	If the project proponent uses the owned vehicles the project owner has to ensure the insurance for the injured person.
Section 16	The project proponent has to ensure insurance to compensate for general damages because the project may cause damages to the environment and injury to the public.
Payment of Wages Law (2016)	
Section 3 & 4	The project proponent has to pay the wages in accord with section 3 and 4 of said law,
Section 5	The project proponent has to submit with the agreements of employees & reasonable ground to the department if it is difficult to pay because of force majeure included in a natural disaster
Section 7-13	The project proponent has to abide by the provisions of section 7 to 13 in the chapter (3) in respect of deduction from wages.
Section 14	The project proponent has to pay the overtime fees, prescribed by law, to the employees who work over working hours
Yangon City Development Committee Law (2018)	

Section (317)	The proponent shall not block the natural river channel, change the course, and disrupt the water channel, filling with soil within the city boundaries without the consent of the Committee
Section (318)	The project proponent shall not construct buildings, factories, and industries without sewage, toilet, septic tanks, and wastewater treatment system
Section (322)	The project proponent is not allowed to make activities that will produce noise pollution, water pollution, air pollution, and soil pollution to impact the environment within the city's boundaries
The Amended Law for Factories Act, 1951 (2016)	
Hygiene in Working Environment: Section 3	Mentions responsibilities of employer and manager regarding waste disposal, ventilation, extreme temperature, dust and gas generation, minimum space for each worker, lighting, portable drinking water and toilets for employees.
Safety in Working Environment: Section 4	States responsibilities of employer and manager concerning with machine guarding, personal protective equipment, housekeeping, aisles and exits, chemical storage and fire protection system to avoid accident.
The Private Industrial Enterprise Law, 1990	
Basic Principles: Section 3	Private Industrial Basis shall be conducted in accordance with the following basic principles: - (a) to enhance the higher proportion of the manufacturing value added in the gross national product and value of services, and to increase the production of the respective economic Basis which are related to the industrial enterprise; (b) to acquire modern technical know-how for raising the efficiency of industrial Basis and to establish the sale of finished goods produced by the industrial enterprise not only in the local market, but also in the foreign market; (d) to cause narrowing down of the gap between rural development and urban development by causing the development and improvement of industrial Basis; (e) to cause opening up of more employment opportunities; (f) to cause avoidance of or reduction of the use of technical know-how which cause environmental pollution; (g) to cause the use of energy in the most economical manner.
The Export and Import Law (2012)	
Objectives	The objectives of this law are as follows: a) To enable to implement the economic principles of the State successfully. b) To enable to lay down the policies relating to export and import that supports the development of the State. c) To cause the policies relating to export and import of the State and activities are to be in conformity with the international trade standards. d) To cause to be streamlined and speedy in carrying out the matters relating to export and import.
Prohibitions: Section 5	No persons shall export or import restricted, prohibited and banned goods.
Prohibitions: Section 6	Without obtaining license, no person shall export or import the specified goods which are to obtain permission.
Prohibitions: Section 5	A person who obtained any license shall not violate the conditions contained in the license.
The Prevention of Hazard from Chemical and Related Substances Law, 2013	
This law was enacted with the objectives of:	

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

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

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

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

Regarding the chemical management and storage, currently, regulations governing chemicals management are divided between various Acts, mostly dating from colonial times; hence the legislation is in many respects related to the British framework. The Factory Act and the Public Health Act contain the provisions for chemicals management and storage. Some chemicals are likely to require permits.

Underground Water Act

The underground water act enacted on the date of 21st June in 1930 whereas it is expedient to conserve and protect underground sources of water supply in the Union of Burma. This act prohibits sinking of a tube for the purpose of obtaining underground water except under and in accordance with the terms of a license granted by the water officer. Township Officer or sub-divisional officer had power to close a license tube after exercising jurisdiction over the local area concerned and the expense of such closure shall be recoverable from the owner of the tube as if it were an arrear of land-revenue.

Myanmar Fire Brigade Law (2015)

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

(a) to take precautionary and preventive measures and loss of state own property, private property, cultural heritage and the live and property of public due to fire and other natural disasters

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

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

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

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

Section-8 Fire Safety Procedures

Rule17	The relevant Government Department or organization shall, for the purpose of precaution and prevention obtain the approval of the Fire Force Department before granting permission for the following cases: a. Constructing three-storied and above buildings market and condominium buildings, b. Operating hotel, motel, guest house enterprise c. Constructing factory, workshop, storage facilities and warehouse d. Operating business expose to fire hazard by using in inflammable materials or explosive materials e. Producing and selling fire-extinguishing apparatuses f. Doing transport business, public utility vehicles train, airplane, helicopter, vessel, ship, tonkin tug
Rule18	The relevant government department or organization shall obtain the opinion of the Fire Services Department for the purpose of fire precaution and prevention, when laying down plans for construction for town, village and downtown or village development plans

The Electricity Law (2014)

In 2014, the new Electricity Law, a comprehensive piece of legislation covering licensing, a new regulatory commission, standards, inspection, tariff, and restrictions, replaced the Electricity Law of 1984. The Electricity Law divides projects into “small” (up to 10 MW), “medium” (between 10 MW to 30 MW) and large (upwards of 30 MW); the states and regions can issue permits for small and medium power plants. In case these plants are not connected to the national grid, the Union Government Ministry is not the primary authority involved. The

authorities have a legal right to use land for the purpose of power plants under the Electricity Law, and have the right to expand and maintain their facilities. The law also provides that the authorities can build transmission lines in accordance with existing laws.	
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
လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သောပတ္တာပစ္စည်းများဆိုင်ရာဥပဒေ (၂၀၁၈)	
ရည်ရွယ်ချက်	လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သော ပတ္တာပစ္စည်းများကို စနစ်တကျပြုလုပ်ခြင်း၊ တင်သွင်းခြင်း၊ သယ်ယူခြင်း၊ သိုလှောင်ခြင်းနှင့် သုံးစွဲခြင်းတို့ပြုနိုင်ရန်၊ ယမ်းဘီလူးနှင့် ဆက်စပ်သုံးပစ္စည်းများ အသုံးပြုသည့် လုပ်ငန်းခွင်ဘေးအန္တရာယ် ကင်းရှင်း၍ လုံခြုံမှုရှိစေရန်၊

	လုပ်ငန်းခွင်သုံး ပေါက်ကွဲစေတက်သော ဂတ္တုပစ္စည်းများ 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 ပေါက်ကွဲစေတက်သော ဂတ္တုပစ္စည်းများကို 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	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.

11 (b)	
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. INTERNATIONAL GUIDELINES

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

2.3. NATIONAL ENVIRONMENTAL QUALITY (EMISSION) GUIDELINES

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

According to the Environmental Conservation Law, MOECAF shall set standards of environmental qualities as agreed by the Union Government and the Environmental Conservation Committee to provide the basis for regulation and control of noise and vibration, air emissions and liquid discharges from various sources in order to prevent pollution for purposes of protection of human and ecosystem health.

2.3.1. **General Guidelines**

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

2.3.1.1. Air emission

Projects with significant sources of air emissions, and potential for significant impacts to ambient air quality, should prevent or minimize impacts by ensuring that: (i) emissions do not result in

concentrations that reach or exceed national ambient quality guidelines and standards, or in their absence current World Health Organization (WHO) Air Quality Guidelines1 for the most common pollutants as summarized below; and (ii) emissions do not contribute a significant portion to the attainment of relevant ambient air quality guidelines or standards (i.e. not exceeding 25 percent of the applicable air quality standards) to allow additional, future sustainable development in the same air shed. Industry-specific guidelines summarized hereinafter shall be applied by all projects to ensure that air emissions conform to good industry practice. Reference should be made to WHO's Air Quality Guidelines for Europe2 for air pollutants not included in the following Table 2-2.

Table 2-2 NEQG's Air Quality Guideline

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

[a] Particulate matter 10 micrometers or less in diameter

[b] Particulate matter 2.5 micrometers or less in diameter

2.3.1.2. Wastewater

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

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

Table 2-3 Wastewater, Storm Water Runoff, Effluent and Sanitary Discharges (general application)[1]

Parameter	Unit	Guideline Values

[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.

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
Sulphide	mg/l	1
Temperature increase	°C	<3[b]
Total coliform bacteria	100 ml	400
Total phosphorus	mg/l	2
Total suspended solids	mg/l	50
Zinc	mg/l	2

a Standard Unit

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

2.3.1.3. Noise levels

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

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

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

[a] Equivalent continuous sound level in decibels

2.3.2. 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 2-5 shows the contents of the section of Community Health and Safety.

Table 2-5 Community health and safety contents

Contents	Brief Description
Water Quality and Availability	Drinking water sources should at all times be protected so that they meet or exceed applicable national acceptability standards or in their absence the current edition of WHO Guidelines for Drinking-Water Quality. Project activities should not compromise the availability of water for personal hygiene needs and should take account of potential future increases in demand. The overall target should be the availability of 100 liters per person per day.
Structural Safety 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)

2.4. COMMITMENT OF MYNICE OPTOELECTRONICS (MYANMAR) CO., LTD.

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

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

3. PROJECT DESCRIPTION

3.1. LOCATION

Mynice Optoelectronics (Myanmar) Co., Ltd is located at Plot No.(86-Ka), Myay Taing Block No-25, Shwe Lin Ban Sethmu Myo, Hlaing Thar Yar Township, Yagon Region, Myanmar. The location point of proposed project is between Latitude 16° 54' 35.63"N and Longitude 96° 3' 22.54"E. Location map is shown in Figure 3-1.

3.1.1. Project implementation

The operation period started in February 2021. The designed area includes production building (two story), utilities of transformer room, guardhouse and general utility room, firefighting pump room and water tank, offices and canteen facilities etc. Number of people 261 employees working at Mynice Optoelectronics (Myanmar) Co., Ltd. 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 26,000,000 pieces.

The term of the land building Lease Agreement shall be an initial five years commencing from the date of the agreement between U Tun Tun Aye (Lessor) and Mynice Optoelectronics (Myanmar) Company Limited (Lessee) and shall be extendable for a period of ten years, and a further consecutive period of ten years by mutual agreement between the Lessor and the Lessee subject to the approval of the Yangon Region Investment Committee.

Decommissioning phase; the proposed project investment duration is 25 years and they will close and return to land owner.

3.1.2. Adjacent condition of project site

Twin Thin Tike Wun U Tun Nyo Street was situated at the east of the factory and Than Chet Wun U Myu Street was situated at the north. PSB Corrugated Boxes factory is the one that adjacent factory of the project site and located at east of the factory. Ever Plastic factory is also located at the north of the project site. The proposed project site is about 2.5 km far from Hlaing river. List and map of adjacent condition of project site is shown in Figure 3-2.

3.1.3. Site Description

The total area of the project site is 0.383 acres out of 1.3884 acres. The project has two main building. The project layout plan can be seen in Figure 3-4. Main structure was designed into office, warehouse, canteen, bathroom and clinic room.

Figure 3-1 Location map of Mynice Optoelectronics (Myanmar) Co., Ltd

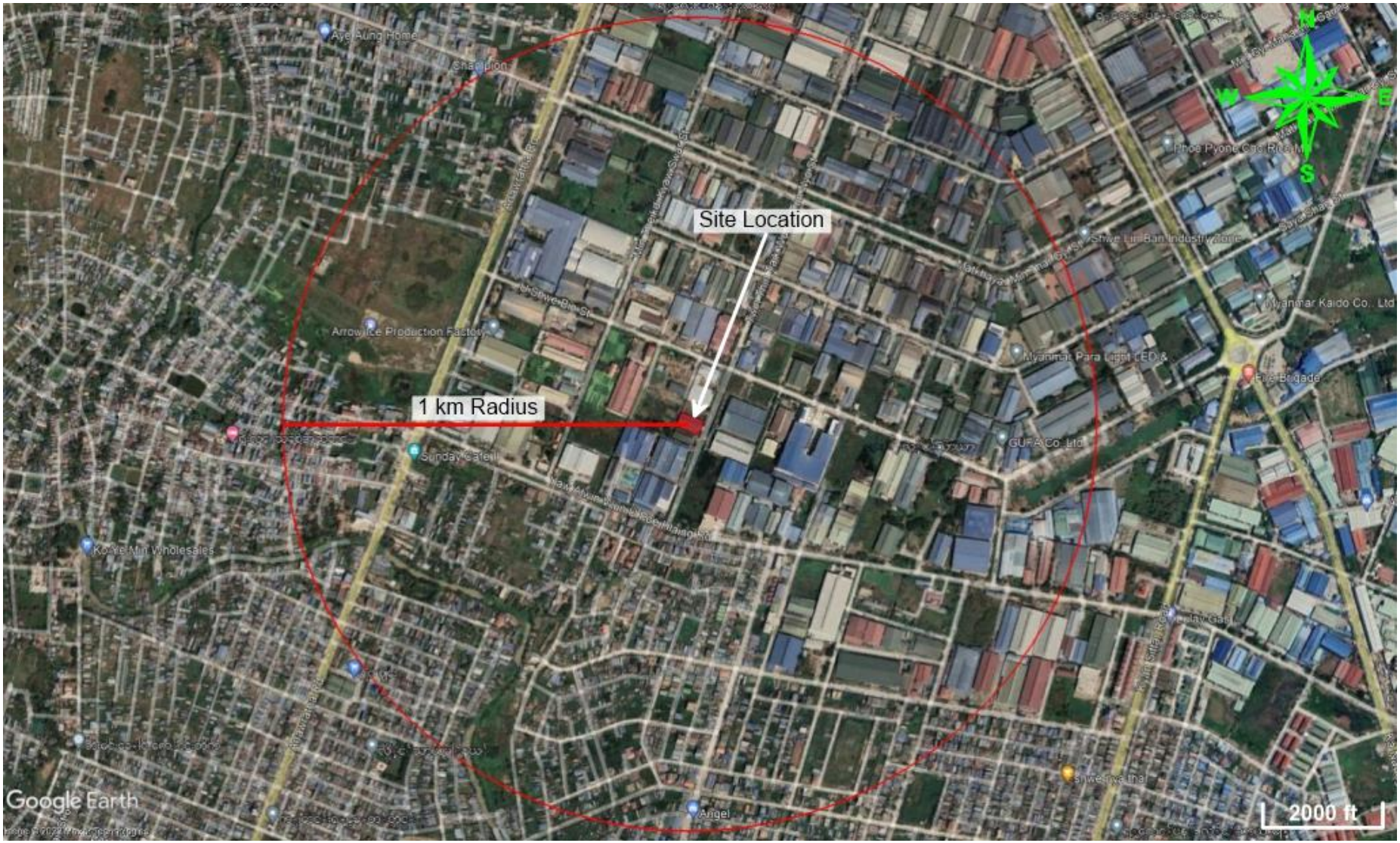


Figure 3-2 Adjacent condition map of Hangati (Myanmar) Co., Ltd

Figure 3-3 Factory Aerial Photo (Layout)

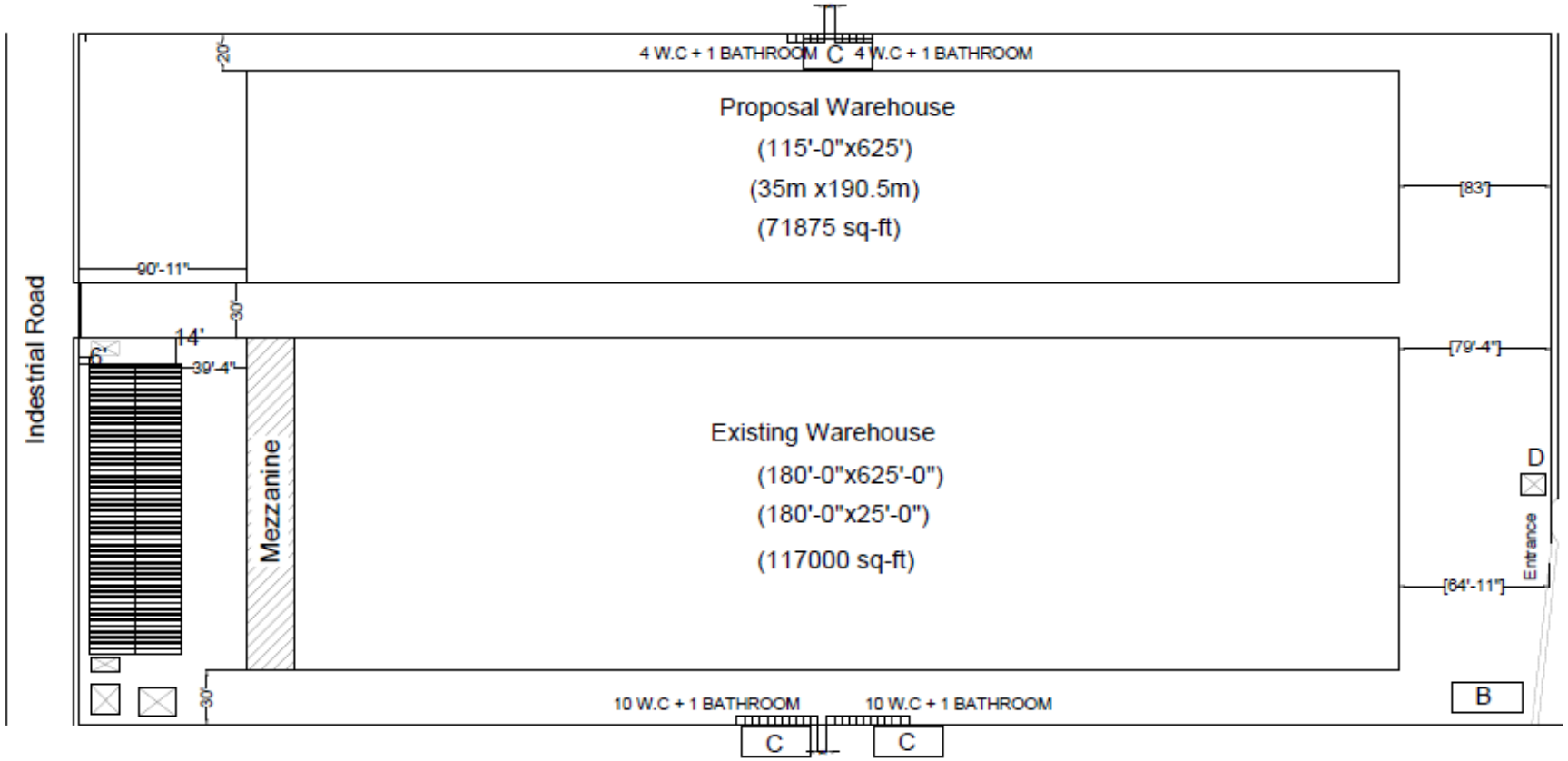


Figure 3-4 Factory Layout plan

3.2. PRODUCTION PROCESS

3.2.1. Production Process

The production process is based on CMP system in which the production on consignment in which the main raw materials (LED, PCB, resistance, wire and thermal casing, etc.,) are provided by overseas buyers and imported free of charge, then bond, assemble and packed in the domestic factories, after which all the finished products are exported. The main operation of the proposed factory is wire bonding and injection. The assembling was operated checked by quality control supervisor on each assembling line. Then optoelectronic device is completed and prior to shipping to destinations. The process flow diagram for optoelectronic device manufacturing is illustrated in figure.

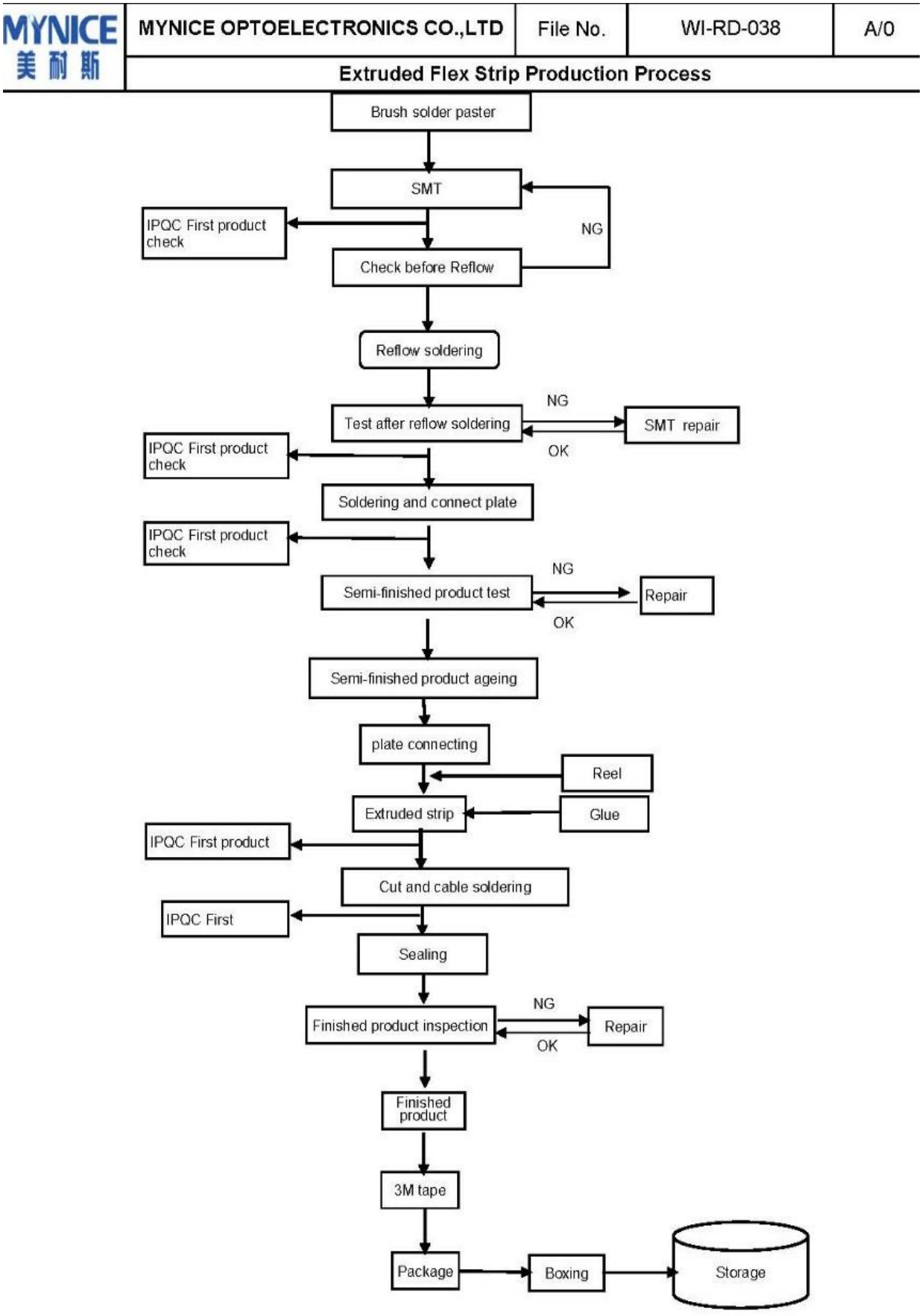


Figure 3-5 Extruded Flex Strip production process

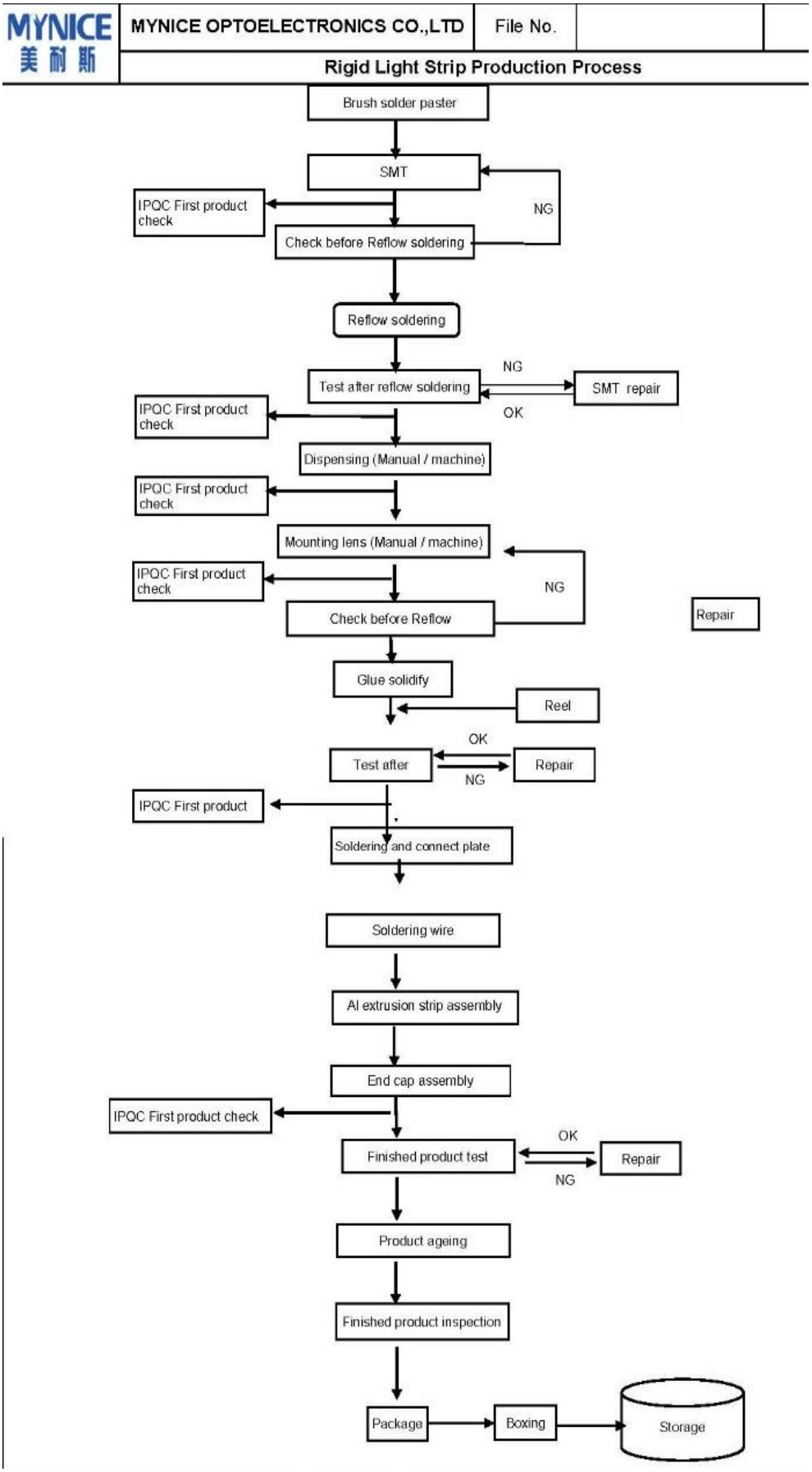


Figure 3-6 Red Light Strip production process

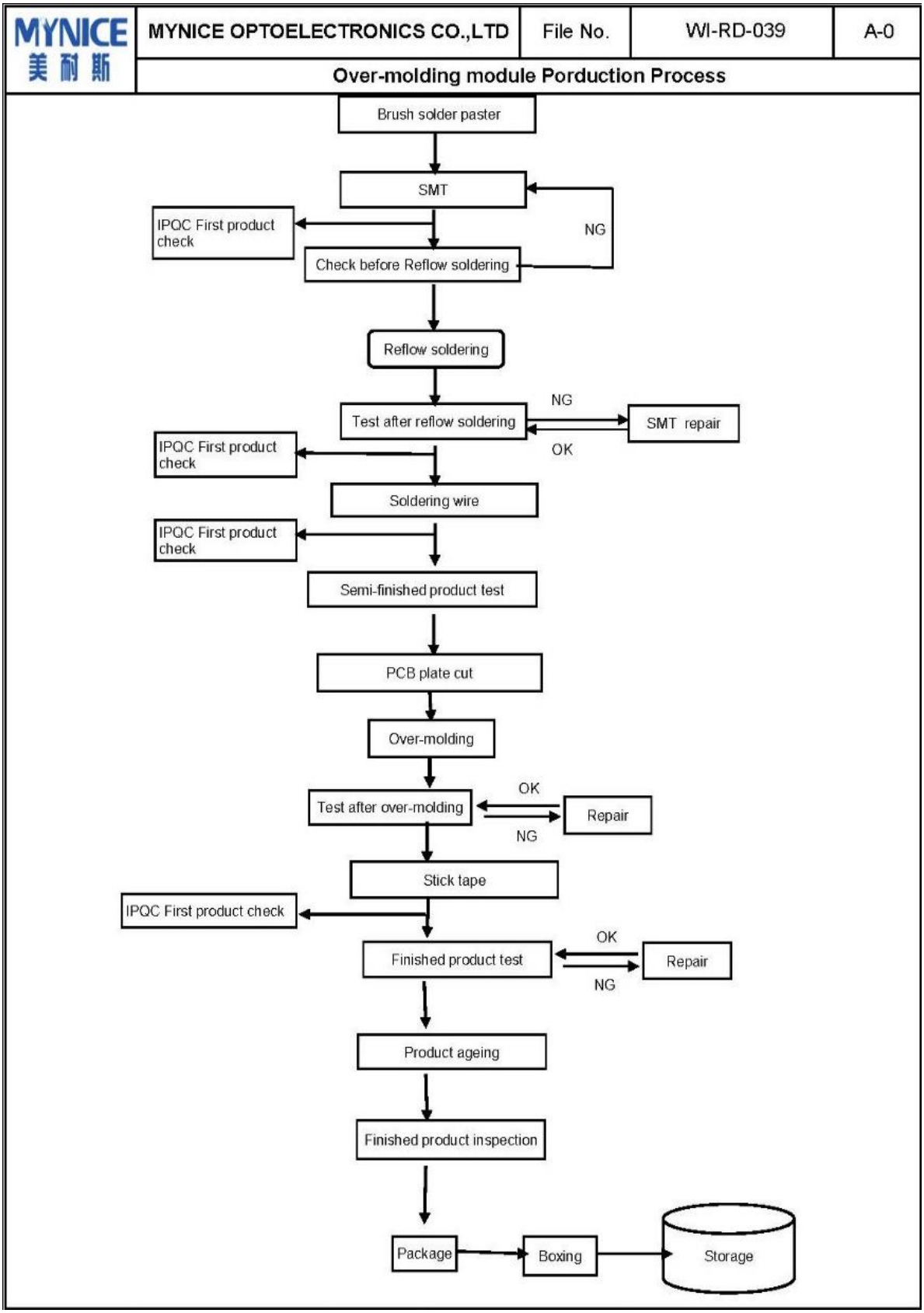


Figure 3-7 Over-moulding module production process

Raw Materials

SMT First Product Checking

Wire Bonding Process

Tape Bonding Process

QC Inspection

Injection Process

Labeling

Final QC and Packing

Figure 3-8 Production Process of Optoelectronic Devices

3.2.2. **Products**

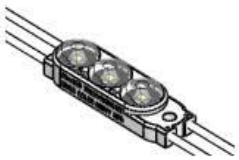
The products of the factory are various kinds of optoelectronic devices. Annual production rate is presented in Table 3-1.

Table 3-1 Annual production rate

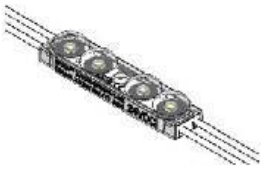
No.	Particular	Unit	Year 1-3	Year 4-5	Year 6-10
I	**Production (Pcs)**		**26,730,000**	**29,403,000**	**29,403,000**
1	PRISM MINI		1,200,000	1,320,000	1,320,000
2	PRISM24		720,000	792,000	792,000
3	VL4-1D		1,200,000	1,320,000	1,320,000
4	VL4-2D		1,200,000	1,320,000	1,320,000
5	VL4-3D		1,200,000	1,320,000	1,320,000
6	VLP3-1D		1,200,000	1,320,000	1,320,000
7	VLP3-2D		1,440,000	1,584,000	1,584,000
8	VLP3-3D		1,200,000	1,320,000	1,320,000
9	Poster Box-3830		720,000	792,000	792,000
10	SLIM 2		720,000	792,000	792,000
11	Ledstripe-8FT		720,000	792,000	792,000
12	Fascia Light		720,000	792,000	792,000
13	Bright Line-0.5		720,000	792,000	792,000
14	PRISM 12		1,200,000	1,320,000	1,320,000
15	Prism Nano-1008		1,200,000	1,320,000	1,320,000
16	M29EW31D		600,000	660,000	660,000
17	M224EW30E		360,000	396,000	396,000

No.	Particular	Unit	Year 1-3	Year 4-5	Year 6-10
18	M214HW30E		480,000	528,000	528,000
19	M37HW32E		480,000	528,000	528,000
20	M24GX34X		360,000	396,000	396,000
21	M28GX34X		360,000	396,000	396,000
22	M21XXXXX		600,000	660,000	660,000
23	M22XXXXX		600,000	660,000	660,000
24	M23XXXXX		600,000	660,000	660,000
25	M24XXXXX		600,000	660,000	660,000
26	L012XXXXX		240,000	264,000	264,000
27	L312XXXXX		240,000	264,000	264,000
28	L160XXXXX		100,000	110,000	110,000
29	L1C0XXXXX		100,000	110,000	110,000
30	Z060XXXXX		100,000	110,000	110,000
31	Z0C0XXXXX		72,000	79,200	79,200
32	Z928XXXXX		72,000	79,200	79,200
33	Z860XXXXX		72,000	79,200	79,200
34	Ledstripe-4FT		72,000	79,200	79,200
35	R018XXXXX		100,000	110,000	110,000
36	R024XXXXX		100,000	110,000	110,000
37	R030XXXXX		100,000	110,000	110,000
38	R032XXXXX		150,000	165,000	165,000
39	R060XXXXX		150,000	165,000	165,000
40	R064XXXXX		150,000	165,000	165,000
41	R070XXXXX		150,000	165,000	165,000
42	R072XXXXX		150,000	165,000	165,000
43	R080XXXXX		150,000	165,000	165,000
44	R090XXXXX		150,000	165,000	165,000
45	R096XXXXX		150,000	165,000	165,000
46	R0C0XXXXX		150,000	165,000	165,000
47	R0X0XXXXX		150,000	165,000	165,000
48	R0Y0XXXXX		150,000	165,000	165,000
49	R0V0XXXXX		150,000	165,000	165,000
50	RE040XXXXX		150,000	165,000	165,000
51	RE080XXXXX		150,000	165,000	165,000
52	RE0C8XXXXX		150,000	165,000	165,000
53	RL084XXXXX		150,000	165,000	165,000
54	RL060XXXXX		150,000	165,000	165,000

No.	Particular	Unit	Year 1-3	Year 4-5	Year 6-10
55	R060XXXXX-XX		150,000	165,000	165,000
56	R060XXXXX-XX		150,000	165,000	165,000
57	R0E0XXXXX-XX		72,000	79,200	79,200
58	R9C0XXXXX		72,000	79,200	79,200
59	RC72XXXXX		72,000	79,200	79,200
60	RCC0XXXXX		72,000	79,200	79,200
61	RNFC0XXXXX		72,000	79,200	79,200
62	RB0W2XXXXX		72,000	79,200	79,200
63	J030XXXXX		240,000	264,000	264,000
64	J060XXXXX		240,000	264,000	264,000
65	J072XXXXX		150,000	165,000	165,000
66	R560XXXXX		150,000	165,000	165,000
67	R5C0XXXXX		150,000	165,000	165,000
68	R260XXXXX		150,000	165,000	165,000
69	R2C0XXXXX		150,000	165,000	165,000
70	R760XXXXX		150,000	165,000	165,000
71	R7C0XXXXX		150,000	165,000	165,000
72	R860XXXXX		150,000	165,000	165,000
73	R8C0XXXXX		150,000	165,000	165,000



PRISM MINI



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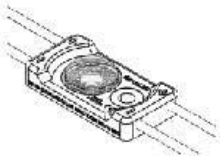
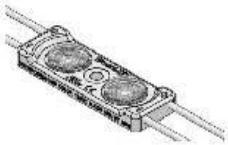
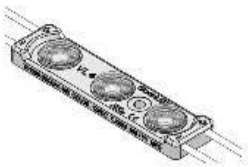


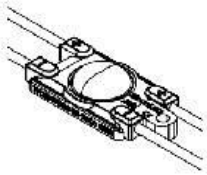
VL4-1D



VL4-2D



VL4-3D



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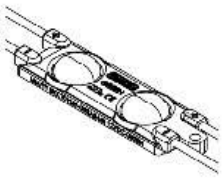

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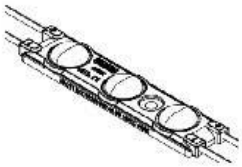

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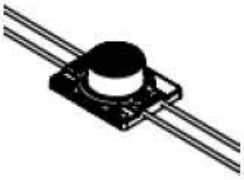
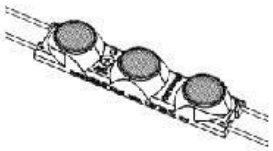


Poster Box-3830



SLIM 2

Ledstripe

Fascia Light

M24XXXXX

L012XXXXX

L312XXXXX

L160XXXXX

L1C0XXXXX

Z060XXXXX

Z0C0XXXXX

7928XXXXX

7860XXXXX

R018XXXXX

R024XXXXX

R030XXXXX

R032XXXXX

R060XXXXX

R064XXXXX

R070XXXXX

R072XXXXX

R080XXXXX

R090XXXXX

R096XXXXX

R0C0XXXXX

R0X0XXXXX

R0Y0XXXXX

R0V0XXXXX

RE040XXXXX

RE080XXXXX

RE0C8XXXXX

RL084XXXXX

RL060XXXXX

R060XXXXX-XX

R0C0XXXXX-XX

R0E0XXXXX-XX

R9C0XXXXX

RC72XXXXX

RCC0XXXXX

RNFC0XXXXX

RB0W2XXXXX

J030XXXXX

J060XXXXX

J072XXXXX

R560XXXXX

R5C0XXXXX

R260XXXXX

R2C0XXXXX

R760XXXXX

R7C0XXXXX

R860XXXXX

R8C0XXXXX

Figure 3-9 Products Storage Photo

3.3. UTILITIES

3.3.1. Raw Material

Raw Materials, which include LED, PCB, resistance, wire and thermal casing, etc., are imported from Korea and carried to the Mynice Optoelectronics (Myanmar) Co., Ltd by the containers. After quantity verification, these raw materials are stored properly in specified area as per their varieties i.e., wire, resistance and LED,PCB are stored on the shelves; and accessories are stored in open cabinets with labels. Annual raw material requires for production process are provided in Table 3-2.

Table 3-2 List of Raw Material Requirements

No.	Particular	Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6-10
1	LED	Pcs	873,900,120	873,900,120	1,057,419,145	1,163,161,060	1,279,477,166	1,407,424,882
2	PCB	Pcs	34,592,002	38,051,202	41,856,322	46,041,955	50,646,150	55,710,765
3	Resistance	Pcs	370,860,040	407,946,044	448,740,648	493,614,713	542,976,185	597,273,803
4	Adhesive 1	Pcs	17,165,733	18,882,307	20,770,537	22,847,591	25,132,350	27,645,585
5	Wire	Pcs	41,551,531	45,706,684	50,277,352	55,305,088	60,835,597	66,919,156

No.	Particular	Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6-10
6	Thermal casing	Roll	120	132	146	160	176	194
7	Diode	Pcs	20,040,000	22,044,000	24,248,400	26,673,240	29,340,564	32,274,620
8	IC	Pcs	24,600,000	27,060,000	29,766,000	32,742,600	36,016,860	39,618,546
9	Capacitance	Pcs	2,528,000	2,780,800	3,058,880	3,364,768	3,701,245	4,071,369
10	Glue 1	Kg	23,242	25,567	28,123	30,936	34,029	37,432
11	Plastic materials	Kg	256,451	282,097	310,306	341,337	375,471	413,018
12	Triode	Pcs	20,340,000	22,374,000	24,611,400	27,072,540	29,779,794	32,757,773
13	Reel	Pcs	966,490	1,063,139	1,169,453	1,286,398	1,415,038	1,556,542
14	Static bag	Pcs	1,271,122	1,398,234	1,538,058	1,691,864	1,861,050	2,047,155
15	White box	Pcs	58,476	64,324	70,757	77,832	85,615	94,177
16	Inner box	Pcs	41,262	45,389	49,928	54,920	60,412	66,454
17	Outer box	Pcs	607,920	668,712	735,583	809,142	890,056	979,061
18	Label	Pcs	10,395,875	11,435,463	12,579,009	13,836,910	15,220,601	16,742,661
19	Plastic boxes	Pcs	12,000	13,200	14,520	15,972	17,569	19,326
20	Tube	M	372,000	409,200	450,120	495,132	544,645	599,110
21	PC Flim	Roll	1,080	1,188	1,307	1,437	1,581	1,739
22	Screws	Pcs	5,046,005	5,550,606	6,105,666	6,716,233	7,387,856	8,126,642
23	Connection terminal	Pcs	6,024,000	6,626,400	7,289,040	8,017,944	8,819,738	9,701,712
24	Manual	Pcs	68,084	74,892	82,382	90,620	99,682	109,650
25	Solder paste	G	15,335,659	16,869,225	18,556,148	20,411,763	22,452,939	24,698,233
26	Tin wire	G	2,648,366	2,913,202	3,204,523	3,524,975	3,877,472	4,265,220
27	Lens	Pcs	39,840,000	43,824,000	48,206,400	53,027,040	58,329,744	64,162,718
28	Bridge rectifiers	Pcs	4,320,000	4,752,000	5,227,200	5,749,920	6,324,912	6,957,403
29	End cap	Pcs	6,997,601	7,697,361	8,467,097	9,313,807	10,245,188	11,269,707
30	Cover	Pcs	2,812,000	3,093,200	3,402,520	3,742,772	4,117,049	4,528,754
31	Shell	Pcs	144,000	158,400	174,240	191,664	210,830	231,913
32	EPE	Pcs	1,504,800	1,655,280	1,820,808	2,002,889	2,203,178	2,423,495
33	Profile	Pcs	272,000	299,200	329,120	362,032	398,235	438,059
34	Clips	Pcs	5,088,002	5,596,802	6,156,482	6,772,131	7,449,344	8,194,27
35	Base	Pcs	3,840,000	4,224,000	4,646,400	5,111,040	5,622,144	6,184,358
36	Adhesive 2	Roll	116,091	127,700	140,470	154,517	169,969	186,966
37	Color masterbatch	Bag	681	749	824	906	997	1,096
38	Glue 2	Pcs	82,622	90,885	99,973	109,970	120,967	133,064

No.	Particular	Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6-10
39	Rubber band	Pcs	5,280,000	5,808,000	6,388,800	7,027,680	7,730,448	8,503,493
40	Styrofoam	Pcs	1,920,000	2,112,000	2,323,200	2,555,520	2,811,072	3,092,179
41	Paper card	Pcs	30,000	33,000	36,300	39,930	43,923	48,315
42	Inductor	Pcs	360,000	396,000	435,600	479,160	527,076	579,784
43	Power supplier	Pcs	372,000	409,200	450,120	495,132	544,645	599,110
44	Printed Circuit Board Assembly	Pcs	20,368,000	22,404,800	24,645,280	27,109,808	29,820,789	32,802,868
45	Printed Circuit Board Assembly	Pcs	6,480,000	7,128,000	7,840,800	8,624,880	9,487,368	10,436,105
46	Printed Circuit Board Assembly	Pcs	10,624,002	11,686,402	12,855,042	14,140,547	15,554,601	17,110,061
47	Printed Circuit Board Assembly	Pcs	10,724,002	11,796,402	12,976,042	14,273,647	15,701,011	17,271,112

Figure 3-10 Raw Materials Storage Photo

3.3.2. **Machinery and Equipment**

Lists of machinery and equipment required for Mynice Optoelectronics (Myanmar) Co., Ltd. is describing in Table 3-3. The working day of the factory is at least 225 days per year.

Table 3-3 List of Machinery

No	Description	HS Code	Unit	Qty
1	Oven Machine	8486	Set	1
2	Board Machine	8441	Set	1
3	Automatic Printing Machine	8443	Set	1
4	Placement Machine	8479	Set	2
5	8 temperature zone reflow soldering (with dual tracks)	8479	Set	1
6	Corner Machine	8479	Set	1
7	Semi-automatic Printing Machine	8514	Set	1
8	Solder Paste Mixer	8461	Set	1
9	Module Soldering Machine	8443	Set	10
10	Cutting Machine	8479	Set	1
11	Light Strip Soldering Machine	8418	Set	2
12	Injection Molding Machine	8479	Set	15
13	Injet Printer	8479	Set	1
	Coding Conveyor	9031	Set	1
14	Printing Machine	8486	Set	1
15	Power Supply	8441	Set	10
				2
16	Moulding Machine	8477	Set	30
17	Welding Jig Machine	8443	Set	30
18	Fixture	8428	Set	5
19	Labeling Machines	8504	Set	1
20	Air Compressor	9027	Set	1
21	Heating Platform	9031	Set	1
22	Docking Station	9028	Set	4
23	Sealing Machine	8479	Set	1
24	50 kg Rubber Baking Machine	8441	Set	1
25	50 kg Rubber Mixer	8477	Set	1
26	Bundling Machine (Tapping Machine)	8504	Set	1
27	Ventilation System	8422	Set	2
28	Central Air Conditioning	8438	Set	1

No	Description	HS Code	Unit	Qty
29	Water Cooling Machine	8477	Set	2
30	Test Fixture	9614	Set	30

3.3.3. Human Resource

The operation time is 8 AM- 5 PM and run 225 days per year. Human resource required by foreign experts/technicians and local persons for administrative and production process are about 261 persons which are also described in Table 3-4.

Table 3-4 Annual human resource requirement

No	Position	Local Person	Foreign Technicians
1	Shipping Manger	1	
2	Human Resources Manager	1	
3	Quality Control	5	
4	Store Supervisor	1	
5	Store Keeper	2	
6	Driver	1	
7	Security Staff	2	
8	Cleaner	1	
9	Skill and Semiskill Workers	108	
10	Unskilled Workers	129	
11	Translator	1	
12	Fire Safety Officer	1	
13	Technician	3	
14	Factory Manager		1
15	Financial Manager		1
16	Purchasing Manager		1
17	Sampling Technician		1
18	Quality Manager		1
	Total	**256**	**5**

3.3.4. Water requirement

Hlaing Thar Yar Industrial zone has no centralized water supply system and the factory gets water from the tube wells installed inside the factory compound. Groundwater from this tube well is pumped into the groundwater tank for the factory and domestic use. The main water use in the proposed project is for domestic usage such as for personal washing, food preparation, and washing of utensils. Main source of water supply will be provided by tube well water (ground water 480ft deep) in which tube well water is pumped by 2 inches PVC pipe and treated by oxidation tower, chlorine dosing system, de-iron filter (FRP), carbon filter, and cartridge filter. The water will be reserved in an underground tank (48,870 gallons) for toilet and firefighting with filters. Daily drinking water requirement of propose project

is from the outsource suppliers and about 300 liters per day. Annual water consumption for the whole factory is about 180,000 gallons per year. The tube well water is treated by sedimentation tank, filers in overhead tank and lastly water treatment system including sand filter, carbon filter, water softener and reverse osmosis (RO) system before distribution through the pipe lines.

Figure 3-11 Water supplying system

3.3.5. Electricity and fuel requirement

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

Figure 3-12 Electricity Facilities

3.4. FACILITIES

3.4.1. Fire hazards protect facility

Fire extinguishers, fire hose reels and fire hydrants are installed in the factory for fire emergency cases. Regular inspection for existing firefighting equipment must be done. In case of fire emergency,

water storage tank for fire frightening is also constructed with the capacity of 48,870 gallons at the proposed area. The emergency contact numbers of township and district fire services department must be printed and tagged at easily visible places for fire emergency cases. The emergency fire alarms are installed at the factory for alerting the workers in case of fire. The main entrances and route for emergency cases of the factory must not be blocked with materials or machines for fire emergency cases. In addition, the project proponent has plans to provide trainings on firefighting for the workers by a professional or otherwise by sending to training courses. The plan to install fire alarm system and fire-frightening system are mentioned in Figure 3-13.

Figure 3-13 Firefighting system

3.4.2. Ventilation System

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

3.4.3. Liquid waste control facility

Water discharge from the factory site will be treated by silts track tank before discharging. The factory plan has kitchen, canteen and toilet facilities attached in various buildings of the factory. In the kitchen, separated drainage lines are provided to flow wastewater from the activities washing and

cooking, etc. And around the compound area of the project area, drainages are also provided and maintain to flow storm water (rain water, snow and surface water). The compound area of the factory is paved with concrete and the drainages are covered and holes are there to flow the storm water. The existing drainage at the project area can be seen in Figure 3-14. Besides, the factory plans to use separate wastewater channels, septic type toilet system. Liquid waste from the dining room, canteens and toilet facilities are collected in septic tanks which are attached with sewer treatment plant and the proponent will connect and cooperate with YCDC to be carried out for disposing of these septic tank wastes. To mitigate the impact on water, the drainages around the compound area of the factory must maintain and clean regularly. This factory has arranged 12 (male 4, female 8) number of toilets. Spillage and leakages of oil and grease should also be minimized.

Figure 3-14 Drainage and Toilet facility

3.4.4. Solid waste management facility

The factory provides separate garbage bins at each building. All the solid wastes will be collected separately in garbage based on their types and stored in relevant separated waste bin: non-hazardous waste, hazardous waste, re-usable waste and final wastes will be disposed by using YCDC's service. The amount of disposed industrial waste is about 6 tons per month.

Figure 3-15 Waste storage photo

3.4.5. Medical and Health facility for employments

The factory has a clinic, first aid kit boxes and full-time nurse-aid has been employed to treat employees for minor injuries, sickness and emergency medical care. Medicines and first aid kits are provided in this clinic. Moreover, these medicines and first aid kits are provided for emergency cases of workers. First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for workers. According to the observed light intensity values, the proponent provides sufficient lighting for workers for safe working and reducing optical problems of the workers. Personal Protective Equipment (PPEs) like earmuffs, safety gloves, helmets and goggles are provided for relevant department. To prevent electric shock hazards, electrical maintenance staff (handyman) is to be assigned to do regular inspections and take preventive measures. To prevent electric shock the factory provides electric cutter watch for employees.

Figure 3-16 First Aid Facilities Photo

3.5. WASTE GENERATION

The project will be generated solid waste, liquid waste and hazardous waste from the operation of the Mynice Optoelectronics (Myanmar) Co., Ltd. Detail description of waste generation and waste amount are shown in Table 3-5.

Table 3-5 Waste generation and estimate waste amount

Waste		Type of wastes	Estimated waste amount	Source of generation
Solid waste	Re-usable	Residual pieces of wire	10% a roll of wire (kg)	Production line
		Raw material cutting wastes	1000 kg / month	
		Disposed packaging materials, paper or plastic wrapping	100 kg / month	Materials store and supply packaging
	Non re-usable	Food residues, domestic waste	473.46 kg / day*	Canteen, Kitchens, dormitory
Liquid waste		Sanitary discharge water	121.4 m^3 /day*	Toilet facility, kitchen and canteen
Hazardous waste		Residual chemicals, use chemical container		Chemical usage and store area
		Oil leakage and spills	-	Operation of generator and movements of vehicles

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

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

4. BRIEF DESCRIPTION OF SURROUNDING ENVIRONMENT

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

4.1. METHODOLOGY FOR DATA COLLECTION AND ANALYSIS

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

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

4.2. ENVIRONMENTAL BASELINE STUDY

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

4.2.1. Site survey and Environmental Monitoring

The baseline environmental quality at the Project Site and its immediate surroundings was established by groundwater, wastewater, ambient air quality samples, noise and indoor temperature and humidity measurements at immediate surrounding areas. To determine the existing baseline environmental quality within the project site 19th May 2022.

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

Table 4-1 Summary of Environmental Survey

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

4.2.2. Air Quality

To determine the existing baseline ambient air quality status within the project site on 19th May 2022, working period air pollutants level, which include dust (PM_{10} and $PM_{2.5}$) and gases (CO, CO_2, SO_2,

NO_2) were measured at the selected site using the AQM – 09 air monitoring station. To reveal the existing status of baseline air quality, the average ambient air qualities measured were compared with National Environmental Quality (Emission) Guideline. The measurement location point is situated at Latitude 16°54'35.28"N and Longitude 96° 3'23.56"E.

Table 4-2 Observed air quality results

Parameters	Observed Value	Guideline Value	Unit	Organization	Period
Outdoor Air Quality					
PM_{10}	11.6	50	µg/m^3	NEQG	8 hrs
$PM_{2.5}$	16.6	25	µg/m^3	NEQG	8 hrs
SO_2	13.1	20	µg/m^3	NEQG	24 hrs
NO_2	44.9	200	µg/m^3	NEQG	1 hour
O_3	23.9	100	µg/m^3	NEQG	8 hours

NEQ = National Environmental Quality (Emission) Guideline

Figure 4-1 Outdoor air quality measurement of the project

4.2.2.1. Summary of air quality result

It was observed that the air quality of SO_2 concentration level is within the limit of NEQ (emission) guideline but particulate matter (PM_{10}, $PM_{2.5}$) and gases level of Nitrogen Dioxide (NO_2) and Ozone(O_3) are also within the National Environmental Quality (Emission) Guideline. **Appendix C**.

4.2.3. Noise

The Noise level was measured by using Digital Sound Level Meter for working hours on 19th May 2022. The average noise level in the project site area is 48.6 dBA (Table 4-3). Receptor (nearby production area at project site) noise level of measurement are within the acceptable level of National Environmental Quality (Emission) Guideline.

Figure 4-2 Indoor Noise Measurement of the project

Table 4-3 Noise level measurement in the factory

Date and Time	Location	GPS value	Result value	NEQ Guideline
19.05.2022	Operation Area	16°54'35.78"N 96° 3'22.81"E	48.6 dBA	70 dBA

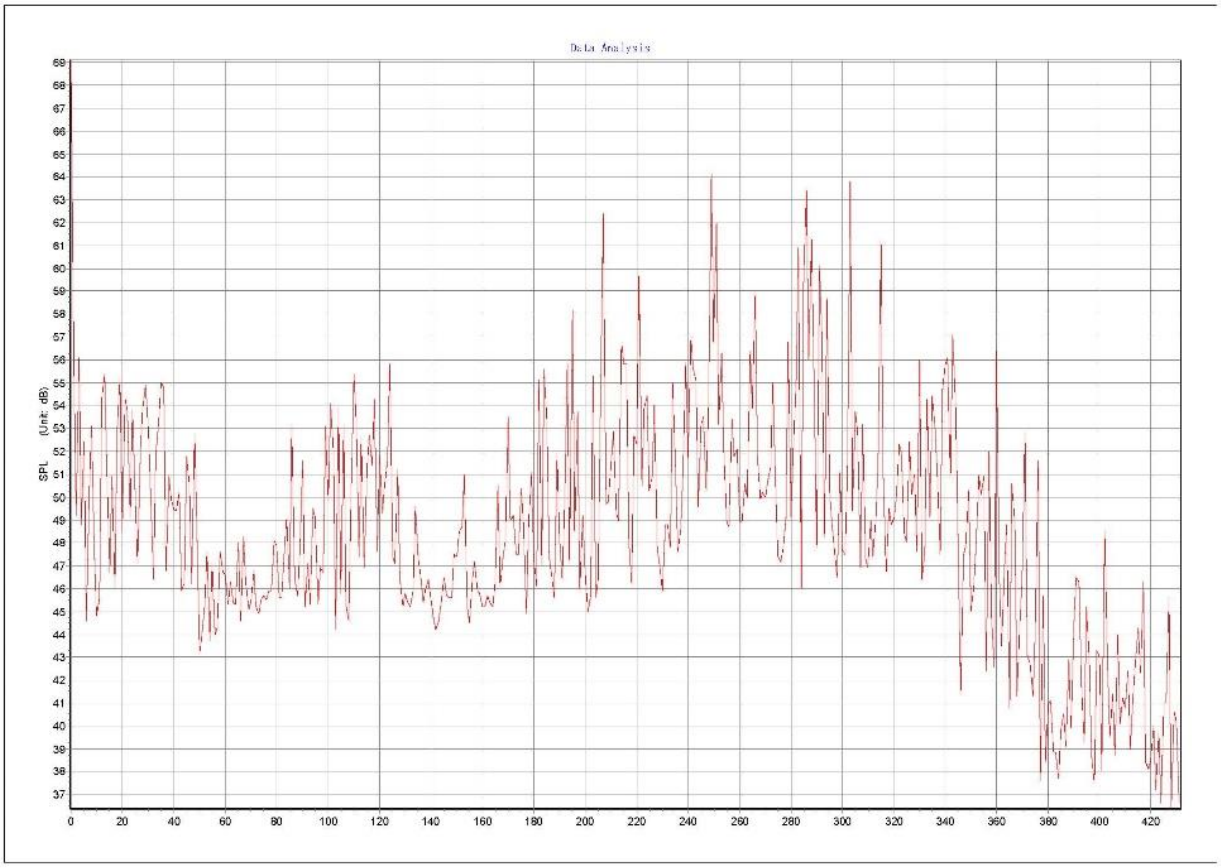


Figure 4-3 Noise Level Result Graph

4.2.3.1. Summary of Noise Result

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

4.2.4. **Light**

Activities of the workers in the optoelectronic devices factory are highly dependent on the quality of light. Therefore, the consultant conducted the light measurement in the factory is presented in Table 4-5. The illustrates the recommended illumination and limiting glare index applicable to typical works (fairly severe to very severe tasks) in factory is provided in Table 4-4.

Appropriate lighting is the need for every department, irrespective to the task being handled. Although, there are some areas where focus on maintaining proper illumination is very crucial in a 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 4-4 Recommended illumination and limiting glare index based on IES Code, 1968

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

Source: Koenigsberger, et al. 1975

Figure 4-4 Light quality measurement

Table 4-5 Result of light measurement in Mynice Optoelectronics (Myanmar) factory

No	Location	Measure value (Lux)	Standard*
1	Wire Bonding Area	646	1000
2	QC Inspection Area	660	900
3	Injection Area	862	600
4	Packing Area	746	600

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

According to the monitoring results, Mynice Optoelectronics (Myanmar) factory light level is normal condition that's why some places need to reduce the light level and ought to put on the electricity bulb more over the higher places. On the other hand, some places are a bit lower that is why which need to change like a more powerful light bulb in that light level lower places. In these ways is able to adjust the light pollution of this factory.

4.2.5. Indoor Temperature and Humidity

The indoor temperature and humidity condition during 19th May 2022 shows the average temperature of 38.3°C while the average humidity is 74 % as shown in Table 4-6.

Table 4-6 Relative humidity and temperature measure at factory

Date and Time	Description	Result value	Environmental parameter air station guideline
19th May 2022 (10:00 am to 4:00 pm)	Relative Humidity RH %	74 (%)	Present condition
	Temperature	38.3 °C	Present condition

Figure 4-5 Humidity and Temperature Measurement Photo

4.3. PHYSICAL COMPONENT

4.3.1. Topography

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

4.3.2. Geology

In Yangon area mainly composed of Pegu Group, Irrawaddy Formation and Alluvium. Alluvial deposits (Pliestocene to Recent), the non-marine fluvialtile sediments of Irrawady formation (Pliocene), and hard, massive sandstone of Pegu series (early-late Miocene) underlie the Yangon area. Alluvial deposits are composed of gravel, clay, silts, sands and laterite which lie upon the eroded surface of the Irrawaddy formation at 3-4.6 m above mean sea level (MSL). The rock type in Yangon is mainly soft rocks, which consist of sandstone, shale, limestones and conglomerate. Geological map of Yangon Regional area is shown in Figure 4-6.

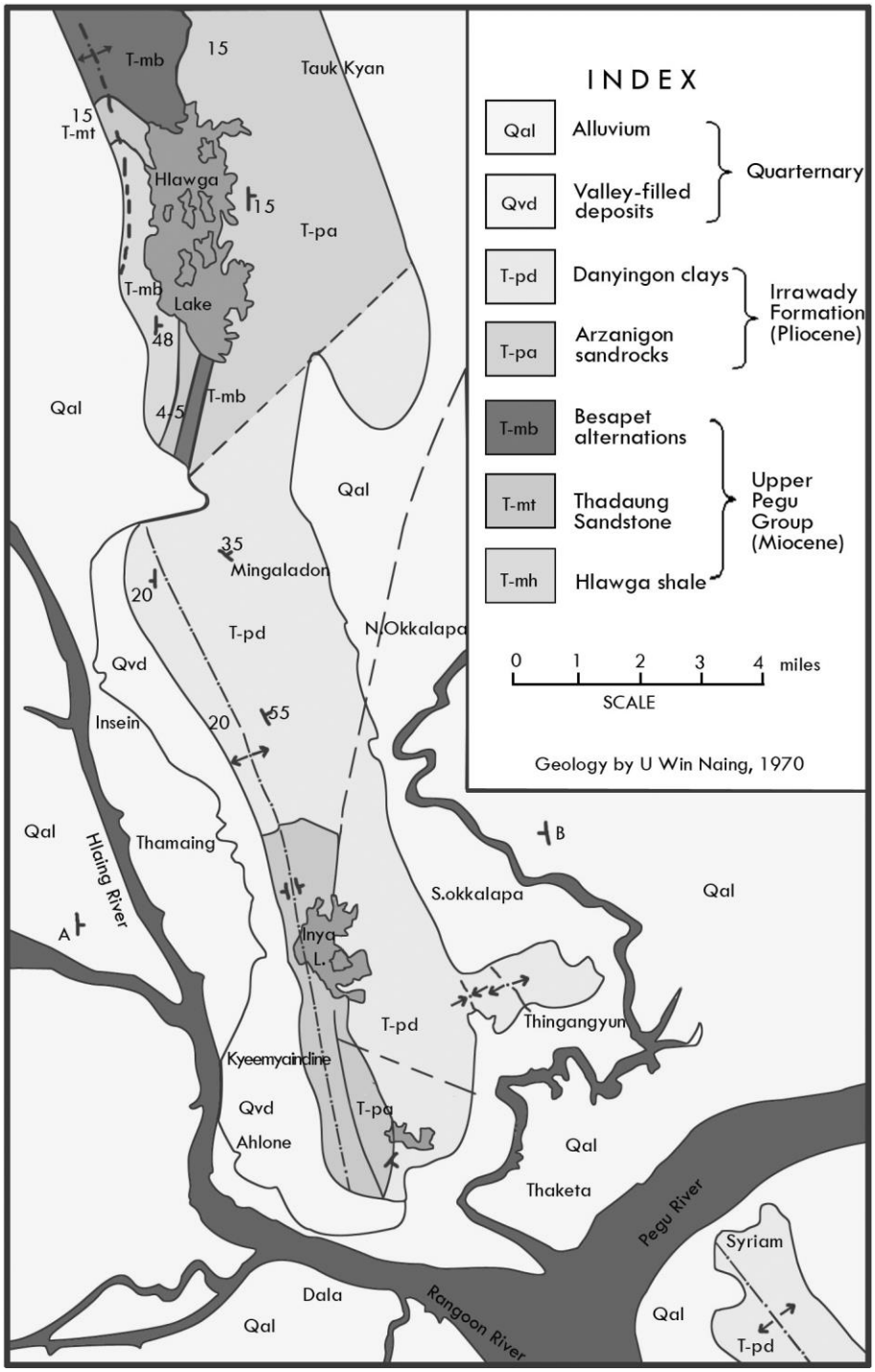


Figure 4-6 Geological Map of Yangon Region

4.3.3. **Tectonics**

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

4.3.4. **Soil**

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

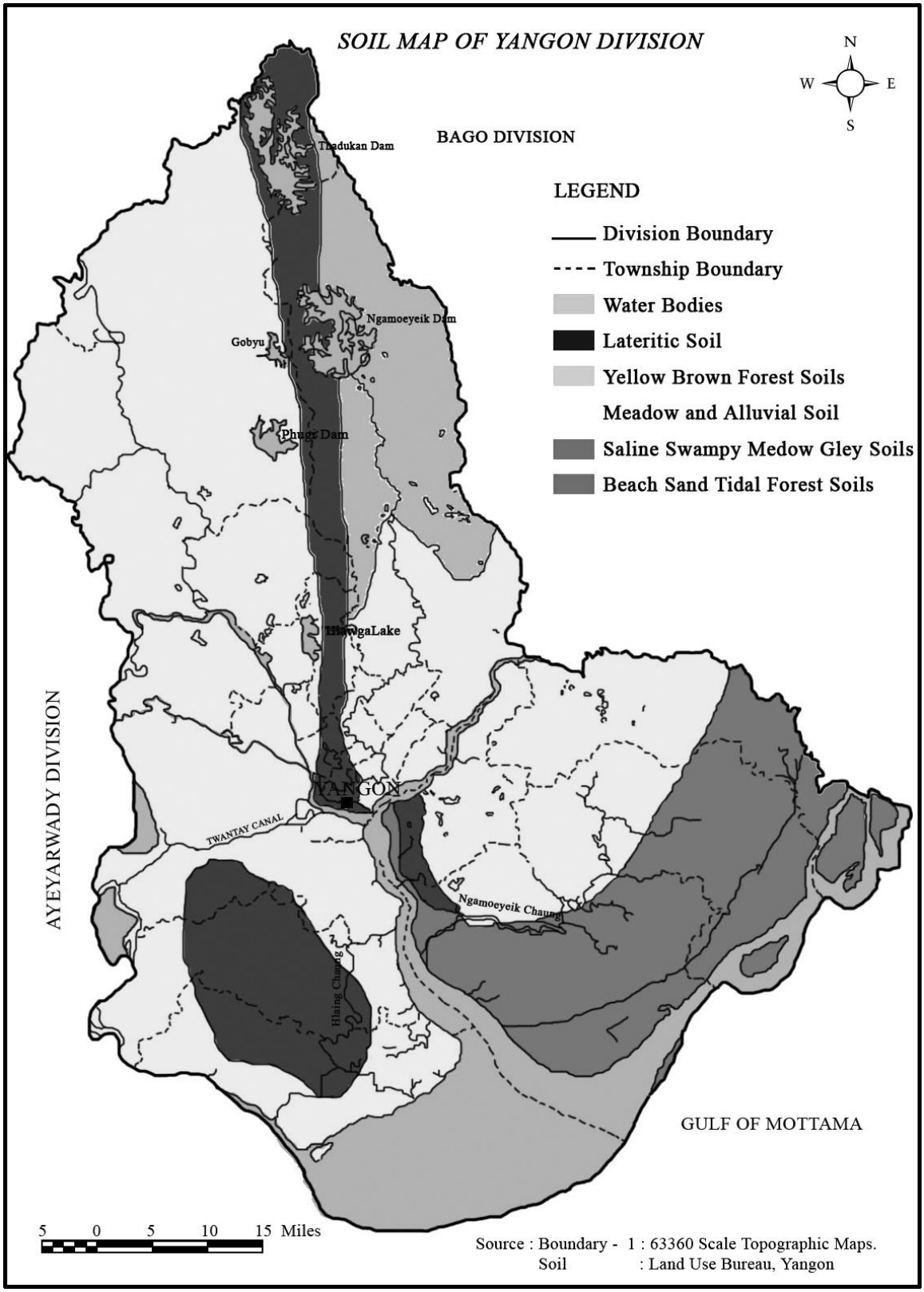


Figure 4-7 Soil Map of Yangon (Source: Land use of Bureau of Yangon)

4.3.5. **Hydrogeology**

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

Groundwater: Groundwater availability is generally based on the distribution of permeable and relatively impermeable rocks. The nature of openings in the rocks determines permeability of rocks. Based on local geological considerations, potential groundwater source of Yangon can be roughly divided into two sub regions, namely the low potential area and high potential area. Low potential areas are areas with those rock units of Hlawga Shale, Thadugan Sandstones and Basepet Alternation of upper Pegu Group (Miocene epoch) and Danyingon Clays of Irrawaddy rocks. These rocks and formations are a dense, massive and consolidated nature and have impervious characteristic. High potential areas are underlain by Pliocene Series and recent Formations. High potential area covers approximately 85 percent of the Yangon city including Pabedan. Stand pipe piezometers were installed at a depth of up to 30 m from the existing ground level while a pumping well was installed upon completion of the soil investigation works. Based on the results recorded up to the 8th of December 2012, stabilized groundwater level was observed to range between 0.49 m MSL to -1.81 m MSL4.

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

Hydrology: The Project Site lies along the catchment of the Hlaing River which flows north to south. The Yangon River (also known as the Rangoon River or Hlaing River) is formed by the confluence of the Pegu and Myitmaka rivers and flows into the Gulf of Martaban which is part of the larger Andaman Sea. The river flows along a 40 km stretch flowing from southern Myanmar as an outlet of the Ayeyarwady River into the Ayeyarwady delta. A small portion of the Bago River (the estuary) lies within the Yangon Division. The Pazundaung Creek and Bago River joins the Yangon River and from there, flow towards the Southwestern direction into Andaman Sea.

4.3.6. **Climate and Meteorology**

4.3.6.1. Average Weather in Yangon

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

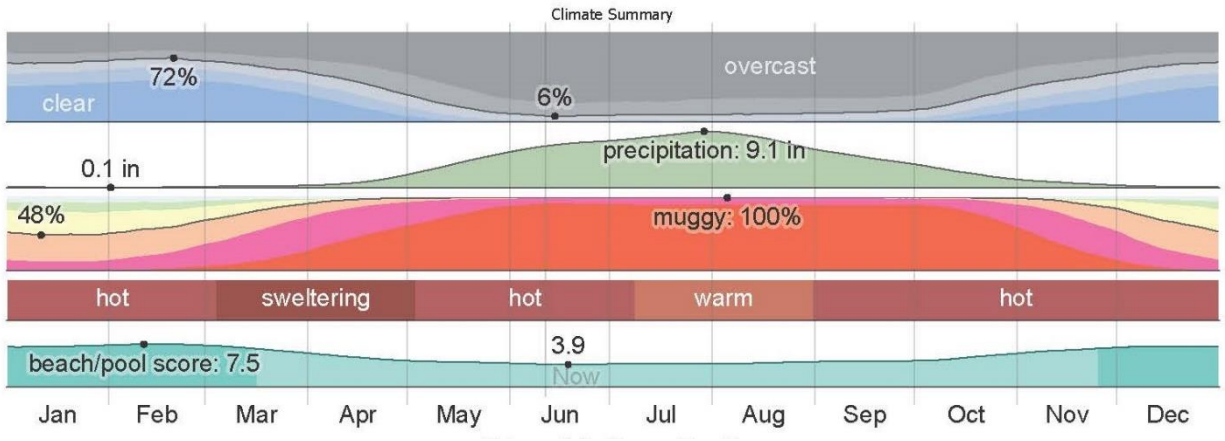


Figure 4-8 Climate Summary of Yangon Region

4.3.6.2. Temperature

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

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

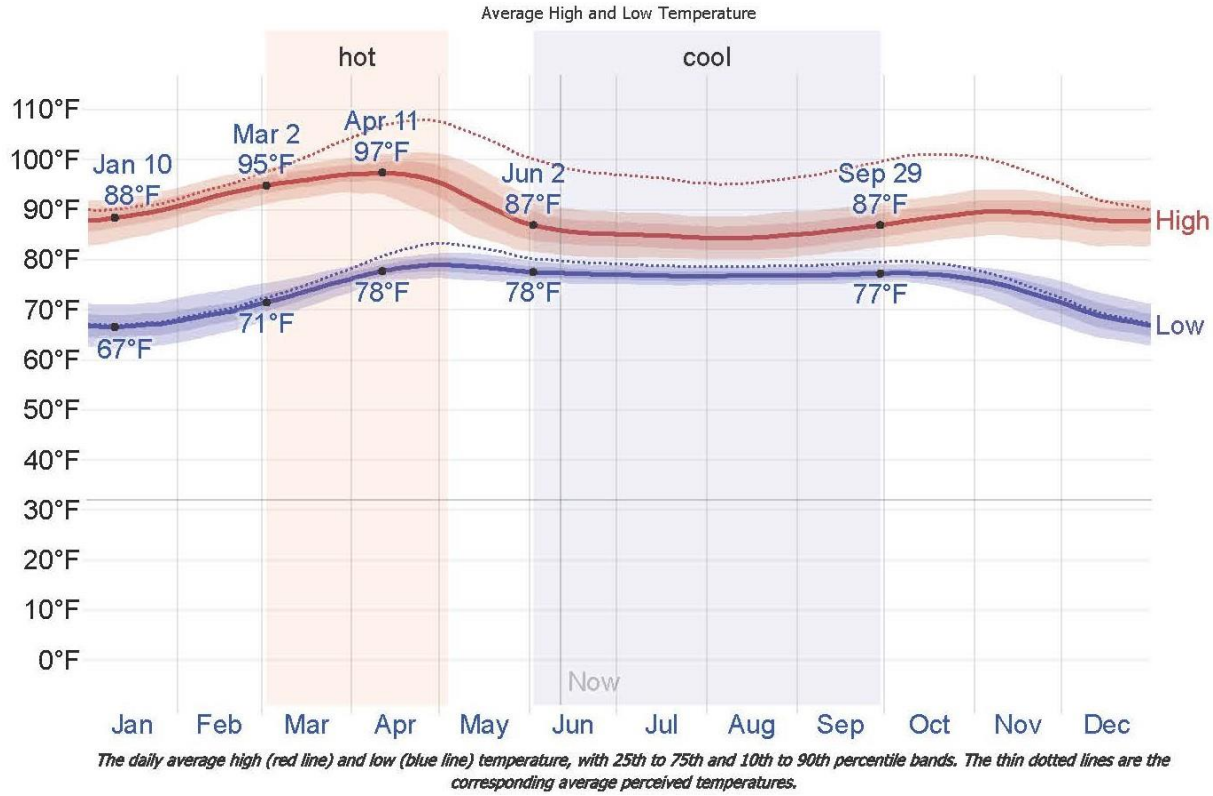


Figure 4-9 Average Temperature of Yangon Region

4.3.6.3. Clouds

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

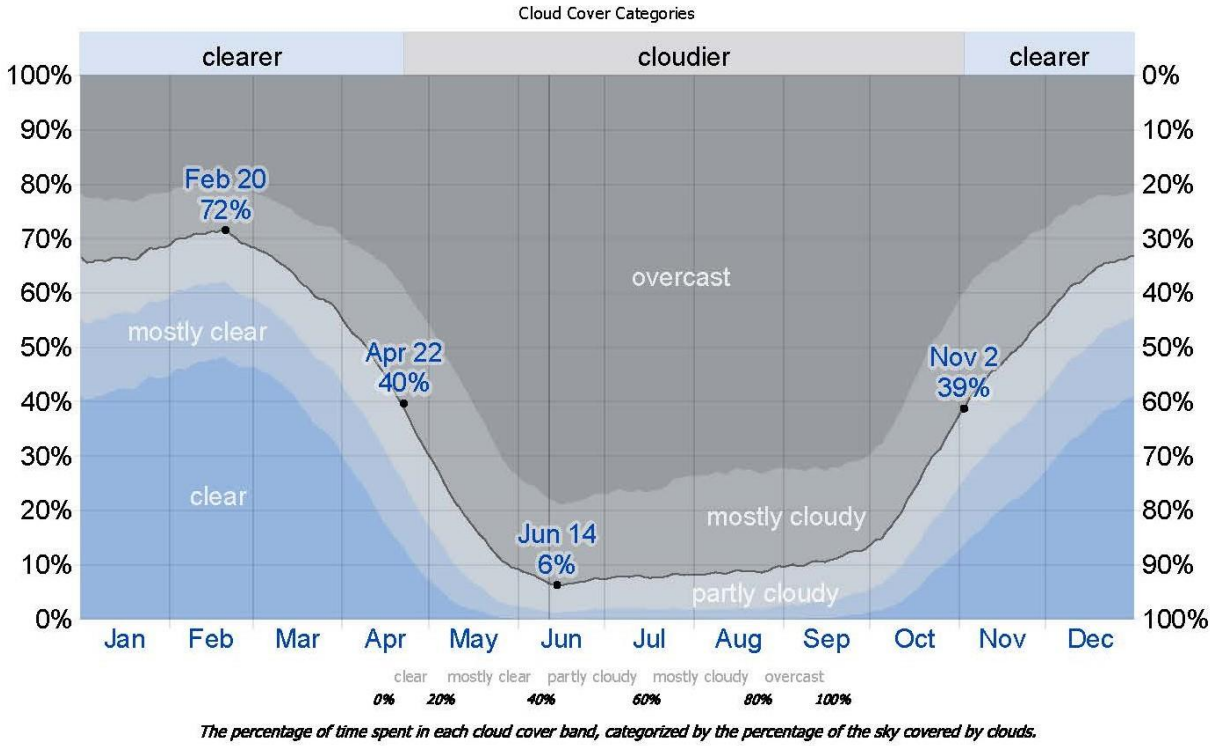


Figure 4-10 Cloud Cover Categories

4.3.6.4. Rainfall

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

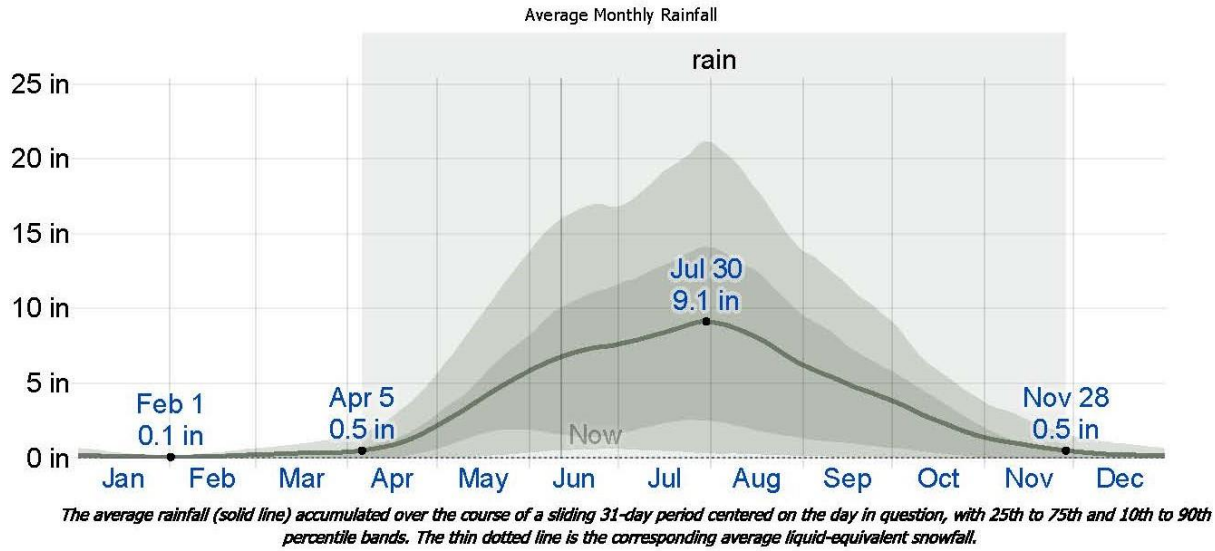


Figure 4-11 Average Monthly Rainfall at Yangon Region

Table 4-7 Annual rainfall and temperature

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

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

4.3.6.5. Humidity

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

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

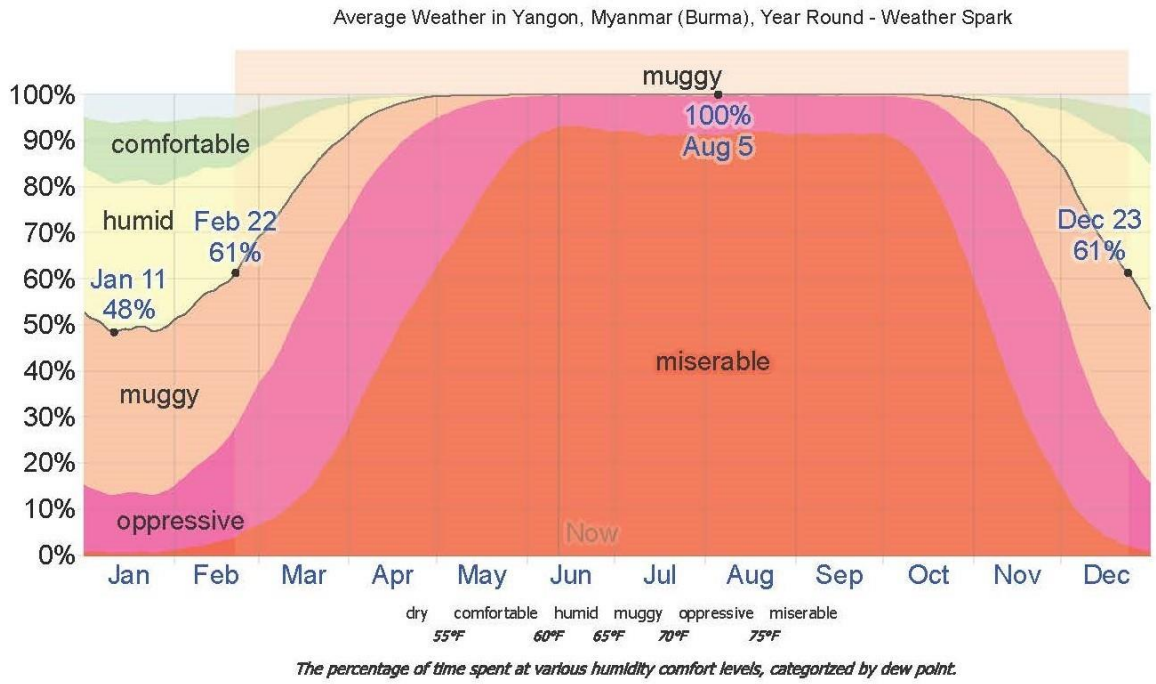


Figure 4-12 Humidity of Yangon

4.3.6.6. Wind

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

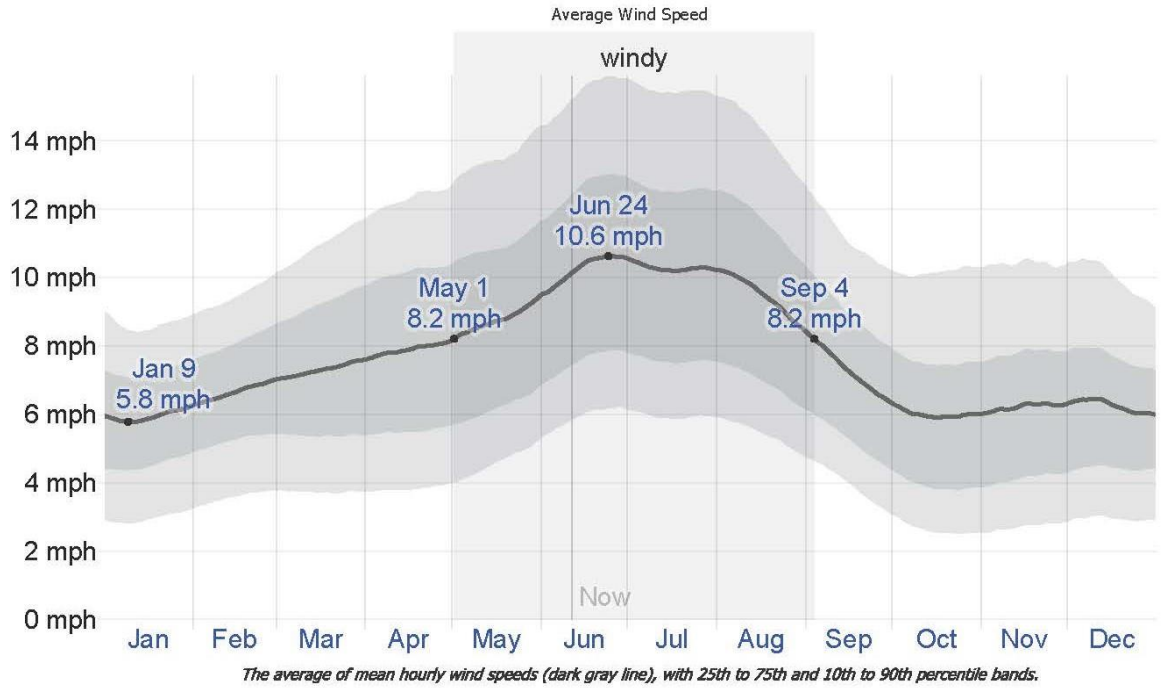


Figure 4-13 Average Wind Speed in Yangon

4.4. BIOLOGICAL COMPONENT (SECONDERY DATA)

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

Ecological Resources	Existing condition
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**

Mynice Optoelectronics (Myanmar) factory is located across Hlaing Thar Yar Township in Yangon Region. In 2019, the population of Hlaing Thar Yar Township is about 440,949 people as present in Table 4-8. [1]

Table 4-8 Population of Males and Females at Hlaing Thar Yar Township (2019)

Item	Over 18 years			Under 18 years			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Urban	110193	125186	235379	49964	55193	105157	160157	180379	340536
Rural	34642	32707	67349	16488	16576	33065	51130	49283	100413
Total	144835	157893	302728	66452	71769	138221	211287	229662	440949

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

4.5.2. **Religion**

The different kinds of religion present in Hlaing Thar Yar Township are shown in Table 4-9. More than 90% of the people living in the township are Buddhists. [1]

Table 4-9 Religion in Hlaing Thar Yar Township (2019)

Township	Buddhist	Christian	Hindu	Muslim	Total
Hlaing Thar Yar	422529	6400	8320	3700	440949

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

4.5.3. **Local Economy**

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

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

4.5.4. **Public Infrastructure and Access**

4.5.4.1. Communication and Transportation

Major transportation route in Hlaing Thar Yar Township are railway, port, and car road as presented in Table 4-10. [1]

Table 4-10 Transportation Route

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

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

4.5.4.2. Electricity

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

4.5.4.3. Education

Location of major schools were situated i.e., basic education primary school (B.E.P.S.), basic education middle school (B.E.M.S), basic education high school (B.E.H.S), West Yangon Technological University, in the Hlaing Thar Yar Township. The name and the located village tract/ ward of schools are described in Table 4-10. [1]

Table 4-11 List of major school in Hlaing Thar Yar Township

No.	Name of School	Location
1.	West Yangon Technological University	Outside Padan Village Tract
2.	BEHS (1)	N0 (2) ward
3.	BEHS (2)	No (12) ward
4.	BEHS (3)	NO (17). Ward
5.	BEHS (4)	NO (5) ward
6.	BEHS (5)	NO (7) ward
7.	BEHS (6)	Yae Okken
8.	BEHS (7)	NO (16) ward
9.	BEHS (8)	NO (20) ward
10.	BEMS (Branch) (1)	NO (6). Ward
11.	BEMS (Branch) (2)	Nyaung Village Tract
12.	BEMS (Branch) (3)	Dine Su, Nyaung Village
13.	BEMS (Branch) (4)	NO (6) ward
14.	BEMS (Branch) (5)	NO (1) ward
15.	BEMS (Branch) (6)	NO (10) ward

No.	Name of School	Location
16.	BEMS (Branch) (7)	Outside Padan Village Tract
17.	BEMS (Branch) (8)	NO (18) ward
18.	BEMS (Branch) (9)	Shwe Lin Pan Village Tract
19.	BEMS (Branch) (10)	NO (9). Ward
20.	BEMS (Branch) (11)	NO (12). Ward
21.	BEMS (Branch) (12)	NO (18). Ward
22.	BEMS (Branch) (13)	NO (15). Ward
23.	BEMS (Branch) (14)	NO (14). Ward
24.	BEMS (Branch) (15)	NO (13). Ward
25.	BEMS (Branch) (16)	NO (11). Ward
26.	BEMS (Branch) (17)	NO (7). Ward
27.	BEMS (Branch) (18)	NO (11). Ward
28.	BEPS (1 to 32)	Hlaing Thar Yar
29.	Pre School (1 to 6)	Hlaing Thar Yar

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

4.5.4.4. Health Status

The diseases of high prevalence reported in 2019 are Tuberculosis (TB), followed by Acute Respiratory Infection (ARI), Diarrhea, TB and snakebites. With reference to the Township Health Profile 2019 of Hlaing Thar Yar Township, no accidental work injuries reported to the township hospital in 2013. The common diseases are shown in Table 4-12.

Table 4-12 Common Diseases in the Hlaing Thar Yar Township

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

Table 4-13 Lists of Hospital in Hlaing Thar Yar Township

Hospital Name	Beds/Services	Responsible
Township Hospital	200	Government
Cottage Hospital (Shwe Lin Pan)	16	Government
Pan Hlaing	95	Private
Tun Foundation	20	Private
Total	331	-

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

4.6. CULTURAL AND VISUAL COMPONEMTS

Hlaing Thar Yar 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 in Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township, there may have business opportunities to local people. Local people can have a market by selling foods, snacks and drinks nearby the factory.

5.1.2. Negative Impact

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

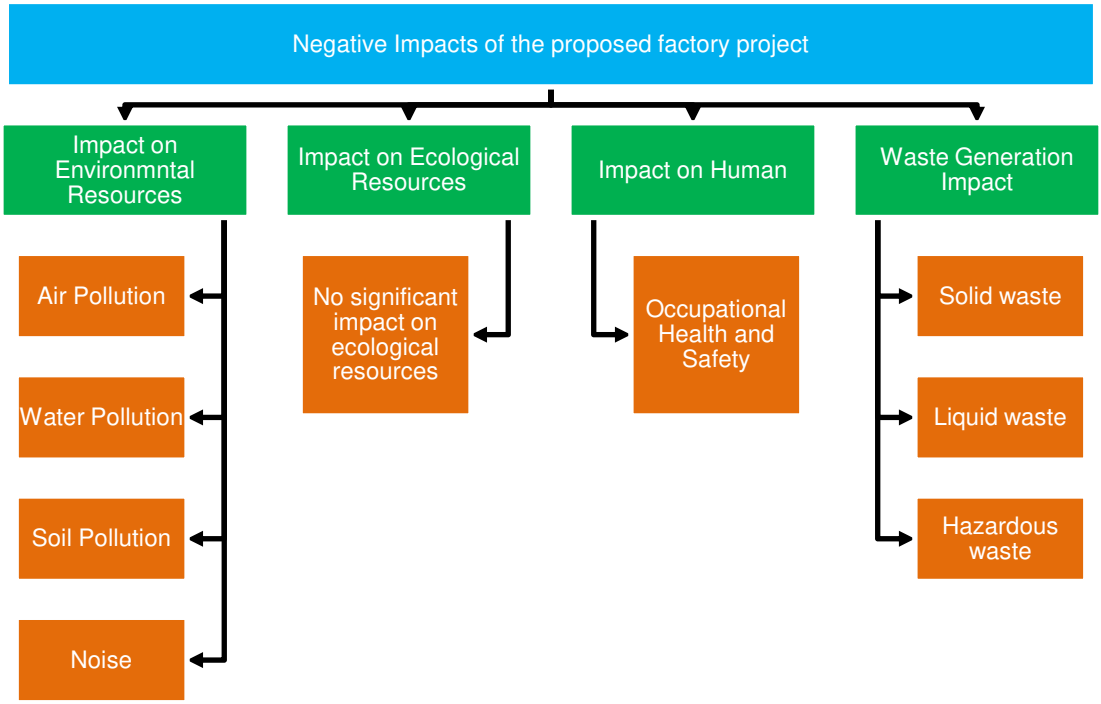


Figure 5-1 Potential negative impact affect from proposed factory project

5.2. METHODOLOGY FOR THE ASSESSMENTS

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

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

Table 5-1 Impact assessment parameters and its scale

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

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

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

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

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

5.3. POTENTIAL ENVIRONMENTAL IMPACT DURING CONSTRUCTION AND DECOMMISSIONING PHASE

Construction phase: The project factory is already constructed during environmental assessment study and site visit. Therefore, the proposed project is located in industrial zone and already finished the construction, the potential impact on environment is not assessed and affected must be caused the construction period.

Decommissioning phase: The proposed duration of the investment shall be 25 years. The term of the land building Lease Agreement shall be an initial five years commencing from the date of the agreement between U Tun Tun Aye (Lessor) and Mynice Optoelectronics (Myanmar) Company Limited (Lessee) and shall be extendable for a period of ten years, and a further consecutive period of ten years by mutual agreement between the Lessor and the Lessee subject to the approval of the Yangon Region Investment Committee

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 providing in Table 5-2.

Table 5-2 Evaluation and Predication of Significant Impacts and Mitigation Measure on Operation Phase

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Potential Adverse Impact	Mitigation Measure
		M	D	E	P	SP			
Impact on Environmental Resource									
Air	Dust and GHGs emission from vehicles used for transporting raw materials, final products and the running of emergency diesel generators and vehicles.	2	4	1	3	21	Low	Air pollution and inhaling them can increase the chance of health problems such as cancer, respiratory diseases and environmental issues such as ozone depletion, ecosystem degradation and climate change.	To control air pollution, the vehicles, generators and machineries have to check and maintain regularly. Ensuring vehicles, compressor and generator are well maintaining.
Water	Poorly planned the ditches where flows the liquid waste from dormitory and toilets.	2	4	1	2	14	Very Low	Bad smell and make block the drains.	The factory not generated hazardous wastewater from production process on CMP basic. No mitigation measures for water.
Soil	Engine oil leaks, spills at diesel storage and during fuel refuelling.	1	4	1	1	6	Insignificant	Degrade the soil level if properly not built the factory ground.	No Mitigation Measure
Noise and Vibration	Generating noise from the generators and vehical movements.	2	4	1	3	21	Low	Intense noise and vibration can cause nuisance on working environment.	No Mitigation Measure
Impact on Ecological Resources									
Flora and fauna on terrestrial and aquatic life	Operation of the optoelectronics factory	1	4	1	1	6	Insignificant	Not Significant Impact on Ecological Resources	No Mitigation Measure

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Potential Adverse Impact	Mitigation Measure
		M	D	E	P	SP			
Impact on Human									
Fire	Raw materials	3	4	2	3	27	Low	Serious damage to property and even injury and death	Proposed factory is well preparing the fire extinguishers, fire hose reels and fire hydrants on the walls of the factory for fire emergency cases. Regular inspection for existing firefighting equipment should be and of fire emergency, water storage tanks are well prepared. The emergency fire alarms are installing at the factory for alerting the workers in case of fire. The main entrances and route for emergency cases of the factory must not block with materials or machines for fire emergency cases.
Occupational Safety	Accidental cases cause by operating of machines. (such as injection and wire bonding process)	3	4	1	3	24	Low	Accidents 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 provided for emergency cases of workers. To prevent electric shock hazards, electrical maintenance staffs (repairperson) are to assign to do regular inspections and take preventive measures. To prevent electric shock the factory provides electric cutter watch for employees.
Health	Influx of people accelerates the rate of infections.	2	4	1	2	14	Very Low	COVID-19 may be disclosure the factory and losses in the properties of business.	Prepare the preventive measures such as follow the social distancing, wear the masks, spraying with hand sanitizers and avoid the grouping.

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Potential Adverse Impact	Mitigation Measure
		M	D	E	P	SP			
Waste Generation Impact									
Solid Waste	Residual pieces of wire from the production lines Waste from packaging Waste from kitchen, dormitory and office.	3	4	1	4	32	Moderate	Environmental pollutions, health problems and accidental fire cases	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. Depending on the volume of waste in each department, the waste must be transported to the appropriate storage unit. In the living environment, waste must be categorized and marked. Final wastes should be disposed by using YCDC's service.
Liquid Waste	Domestic liquid wastes from kitchen, dormitory and sewage system.	2	4	2	2	16	Low	Contamination of soil, surface water, ground water	Proposed factory well planned the sewage and septic tanks system. 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	3	21	Low	Soil Contamination, water pollution, slippery accidents of vehicles and fire burning.	Using of hazardous chemicals and discharging of used chemicals in accordance with occupational health, safety and environmental requirements. The hazardous wastes are transported by specially licensed carriers and disposed in a licensed faculty (eg., DOWA and YCDC)
Natural Hazardous	Climate change and natural phenomenon might be happening of	4	4	3	3	33	Moderate	Disruptions of basic buildings, injuries to death, capital loss of investments	Providing relevant rescue trainings, preparing the preparedness plans such as firefighting plans, safety training and

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Potential Adverse Impact	Mitigation Measure
		M	D	E	P	SP			
	droughts, tropical storms, heat waves, earthquakes and floods.							in supply chain and changes in demographic situation of ecosystem.	essential equipment, and comprising the natural disaster response team.

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

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Potential Adverse Impact	Mitigation Measure
		M	D	E	P	S			
Air pollution	Demolishing of buildings and transportation of residual parts	2	4	1	3	21	Low	Emission of particulate matters (PM 2.5 & 210) and GHGs.	Hire the professional demolishing company. Carry broken material with cover by canvas.
Water pollution	Blocking of ditches with demolished materials	2	1	1	3	12	Very Low	Bear the undesired health problems and may be floods by blocking of drains.	Systematically decommission and assembly the fragments in a particular place and this will not to block the water flow ditches.
Noise Pollution and Vibration	Decommission activities and transportation of demolished materials	3	4	2	3	27	Low	Noise pollution and nuisance on surrounding environments.	Carry out the activities during daytime. Maintain the machines and vehicles to reduce noise pollution. Provide the earmuffs to the workers.
Waste disposal	Demolished debris such as bricks, concrete materials without dumping to the landfill site	2	1	1	3	12	Very Low	May cause adverse impacts on clean and tidy industrial area and other health problems.	Reusable materials and dispose to the define areas or discard contacting with YCDC.
Hazardous waste	Open burning the unclassified wastes and materials	2	1	1	3	12	Very Low	Explosions, loss in recycle materials and enhance the air pollution due to open burning.	Classify the waste types and discard as to their kinds of waste.

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Potential Adverse Impact	Mitigation Measure
		M	D	E	P	S			
Occupational Health and Safety (Accidents, Injuries)	Decommissioning activities and transportation of demolished materials	3	3	1	3	21	Low	Injuries and accidental cases.	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. Use the third-party expert assisted by trained personnel to identify and remove hazardous materials.

The assessment of each impact based on consideration of the magnitude, duration, extent, and probability of activities, which are going to implement during operation phases. In operation phase, there are three moderate significance impacts 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 phase and decommissioning phase can be learn in above tables. All of the impacts during operation phases and decommissioning phase can minimize by taking the action of mitigation measures and implementing Environmental Management Plan.

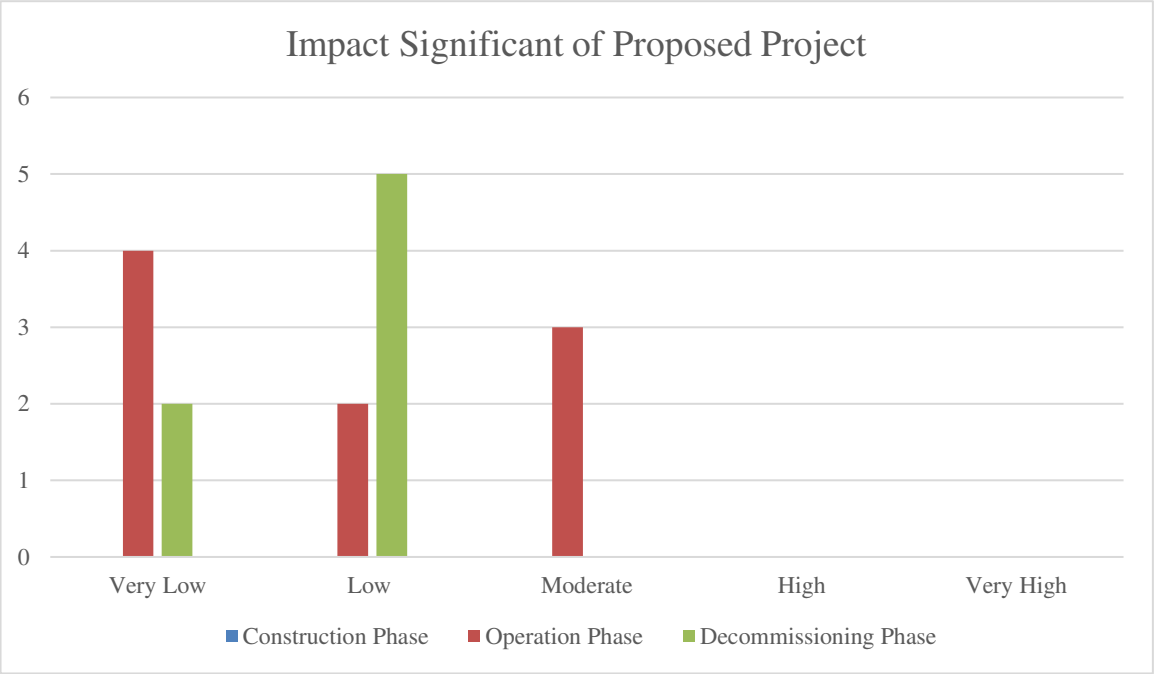


Figure 5-2 Comparison of Impact Significant of Proposed Project

6. ENVIRONMENTAL MANAGEMENT ACTION

The EMP for Mynice Optoelectronics (Myanmar) Co., Ltd has been prepared to added potential issues based upon discussion with factory management, workers, local community view, stakeholder consultation and the site visit. The EMP is additional to and compliments the factory's safety management system. The following environmental impact issues which require environmental management plans based upon the potential impacts activities of Mynice Optoelectronics (Myanmar) Co., Ltd are as follows:

6.1. **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),	
Time Frame	➢ Entire life spans of proposed project operation	
Management Action	➢ Must be establish plants and garden 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, compressors and generators are well maintained.	
Monitoring and Reporting	Frequency	Biannually
	Monitoring Point	Outdoor of proposed project
	Parameters	PM $_{2.5}$, PM $_{10}$, SO_2, NO_2, CO
Estimated Cost	800000 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 analysing air quality ▪ EHS officer: Monitor the cleanness o1f ambient air quality in surrounding of the factory

6.2. **NOISE MANAGEMENT PLAN**

Objective	➢ To maintain low noise exposures, such that human health and well-being are protected. The specific objectives of noise management are to develop criteria for the maximum safe noise exposure levels, and to promote noise assessment and control as part of environmental health programmes.	
Relevant Government Law and Rule	➢ National Environmental Quality (Emission) Guideline 2015	
Time Frame	➢ Throughout the project life	
Management Action	➢ Building noise insulated generator room and ensure satisfactory maintenance of relevant equipment ➢ Prohibit 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 trainings 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 injection area and warehouse)
	Parameters	Sound Decibel
Estimated Cost	500000 Kyats per year	
Responsible Person	HSE Manager or Environmental Management Team of Mynice Optoelectronics (Myanmar) Co., Ltd	

6.3. **FIRE MANAGEMENT PLAN**

Objective	➢ To ensure that fire control practices are implemented on site to minimise the risk of fire from site operations and bush fires
Relevant Government Law and Rule	➢ Myanmar Fire Brigade Law 2015
Time Frame	➢ Entire life spans of proposed project operation

Management Action	➢ Must be provide fire extinguishers, fire hose reels and fire hydrants on the walls of the factory for fire emergency cases. ➢ Must be indicated the emergency exit and assembly point in public area. ➢ Regular inspection for existing firefighting equipment must be done. In case of fire emergency, water storage tank for fire frightening. ➢ The emergency fire alarms are installed at the factory for alerting the workers in case of fire. ➢ The main entrances and route for emergency cases of the factory must not be blocked with materials or machines for fire emergency cases.
Monitoring and Reporting	To check monthly Visual inspection, Firefighting equipment (fire extinguishers, firefighting hose, portable fire pumps, fire hose reels, fire monitor alert system) and firefighting tanks.
Estimated Cost	300000 Kyats per month
Responsible Person	HSE Manager, Operation Manager or Environmental Management Team of Mynice Optoelectronics (Myanmar) Co., Ltd

6.4. **OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT PLAN**

Objective	➢ To provide a broad framework for improving standards of workplace health and safety to reduce work-related injury and illness.
Relevant Government Law and Rule	➢ Public Health Law (1972), Prevention and Control of Communicable Diseases Law 1995 (Amendment 2011), Occupational Safety and Health Law (2019)
Time Frame	➢ Entire life spans of proposed project
Management Action	➢ First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for emergency cases of workers. ➢ According to the observed light intensity values, the proponent should provide 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	1000000 Kyats per year
Responsible Person	HSE Manager, Operation Manager or Environmental Management Team of Mynice Optoelectronics (Myanmar) Co., Ltd

6.5. **SOLID WASTE MANAGEMENT PLAN**

Objective	➢ To assess the activities involved for the proposed and determine the type, nature and estimated volumes of waste to be generated ➢ To identify any potential environmental impacts from the generation of waste at the site
Relevant Government Law and Rule	➢ Yangon City Development Committee Law (2018), National Waste Management Strategy and Action Plan (Draft 2018)
Time Frame	➢ Entire life spans of proposed project
Management Action	➢ Must be provides separate garbage bins at each building. ➢ All of the solid wastes will be collected separately in garbage based on their types and stored in relevant separated waste storage area ➢ Final wastes should be disposed by using YCDC's service.
Monitoring and Reporting	➢ Daily waste has to be collected and handover to YCDC waste collector ➢ The inventory record of waste disposal will be maintained as proof for proper management as designed
Estimated Cost	100000 Kyats per month
Responsible Person	Manager (HR) ▪ Responsible for overall site cleanliness and waste management ▪ Regular waste collection to minimize excessive waste storage

6.6. **ENERGY MANAGEMENT PLAN**

Objectives:	➢ To improve energy efficiency, reduce cost, optimize capital investment, reduce environmental and greenhouse gas emissions, and conserve natural resources

Relevant government law and rule	➢ National Energy Management Committee (Myanmar Energy Master Plan 2015)
Time Frame	Once in a year throughout the factory life
Management Action	➢ Installation of timers and thermostats to control heating and cooling ➢ Energy saving light installed in different area of the factory for saving energy ➢ Used of energy saving devices must be installed ➢ Ensure that good housekeeping measures such as turning off equipment and lights when not in use
Monitoring & Reporting	Conduct annual energy efficiency of adult to find out the scope for energy saving
Estimated cost	Approximately 1000000 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

6.7. **EMERGENCY RESPONSE AND NATURAL 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	➢ Natural Disaster Management Law (2013)
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 500000 Kyats per year
Responsibility	Manager and EHS officer ➢ Arrange firefighting training after every 3 months ➢ Responsible for fire control and response ➢ Monitoring daily danger warning and bans

6.8. ENVIRONMENTAL MONITORING SCHEDULE AND REPORTING

The EMoP cell members responsible may conduct daily, weekly, or monthly general inspections of the project are and facilities. The objective is to identify non-compliance to EMoP is provided the environmental monitoring schedule for Mynice Optoelectronics (Myanmar) Co., Ltd. The proposed factory submits monitoring report to the Ministry not less frequently than every six (6) months, as provided in a schedule in the EMP,

Table 6-1 Environmental Monitoring Process

Issues	Parameter	Frequency	Area to be monitored	Monitoring coast	Responsible Organization
Operation Phase					
Common	Monitoring of mitigation measures	Yearly (3 years after operation)	The project	1250000 Kyats	Environmental Management Team's Mynice Optoelectronics (Myanmar) Co., Ltd
Air quality	SO2, NO2, CO, CO2, PM2.5, PM10	Biannually monitoring and reporting to ECD (first 3 years after operation)	Outdoor area of proposed project	800000 Kyats	Environmental Management Team's Mynice Optoelectronics (Myanmar) Co., Ltd
Waste Generation	Solid waste, Liquid waste and Hazardous waste	Weekly	Recycle house and temporary storage area at the factory office	100000 Kyats	Environmental Management Team's Mynice Optoelectronics (Myanmar) Co., Ltd

Issues	Parameter	Frequency	Area to be monitored	Monitoring coast	Responsible Organization
Fire Hazardous	Visual inspection, firefighting equipment	Monthly	At the factory	300000 Kyats	Environmental Management Team's Mynice Optoelectronics (Myanmar) Co., Ltd
Light intensity	Illuminance	Monthly	At the production line (especially QC)	50000 Kyats	Environmental Management Team's Mynice Optoelectronics (Myanmar) Co., Ltd
Decommissioning Phase					
Air quality	SO2, NO2, CO, CO2, PM2.5, PM10	One time during this phase	One point in the production area	800000 Kyats	Land Owner
Noise	Noise level in decibel (dBA)	One time during this phase	One points in demolishing area	500000 Kyats	Land Owner
Rehabilitation	Recovering and Revegetation		All decommissioning area	Depends on ability and situation	Land Owner

6.9. CAPACITY BUILDING AND TRAINING PLAN

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

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

6.9.1. Assignment of Responsibilities

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

6.9.2. Emergency Procedures

Emergency procedures are operating instructions for employees to follow in emergency case

About work safety in the concerned processing, the management team should

a) Identify and list out all possible emergency situations in the workplace
b) Assess the effects and impacts of the emergency situations
c) Establish emergency response plans
d) Provide and maintain emergency equipment and other necessary resources

e) Ensure that staff are familiarized with the arrangements in case of emergencies by providing procedural instructions and employee training and organizing drills

6.9.3. Training for Emergencies

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

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

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

6.9.4. Fire Prevention and Protection

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

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

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

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

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

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

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

6.9.5. Fire Protection Equipment

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

2. Portable Fire Extinguishers: All buildings within a facility must have fully charged and operable portable fire extinguishers. If employees are expected to use portable extinguishers or other firefighting equipment against incipient fires, they must be trained to use the equipment. Training must include the following:

- Correct type of extinguisher to use on different classes of fire
- Proper techniques for use of the equipment to extinguish a fire

3. Standpipes and Hoses: All areas within a facility that are above 75 feet from ground level and in which combustible materials other than grain are stored should have wet or dry standpipes and hoses installed.

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

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

6.9.6. Fire Safety and Evacuation Plan

Fire Evacuation plans should include the following information

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

Fire Safety Plans should include the following information:

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

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

Table 6-2 American National Fire Fighting Association (NFFA) Standards

No.	Parameters	Proposed Capacity	Remark
1	Fire water flow	14 bars	
2	Deluging rate	12.0 liters/m2/min	
3	Foam rate	10.0 liters/m2/min	

No.	Parameters	Proposed Capacity	Remark
4	Maximum water pressure	190 liters/min	For storage area

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

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

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

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

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

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

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

6.9.7. Site Fire Control

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

6.9.8. Employee Information and Training

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

- Methods for detecting the presence or release of a hazardous chemical, such as monitoring devices and the visual
- appearance or odor of the chemical

- Physical and health hazards of chemicals in their work area
- How to protect themselves using work practices, emergency procedures and personal protective equipment
- How to interpret the information on the labels and MSDS of chemical materials

6.9.9. Health and Safety Training Plan for Worker

Health and Safety Training plan currently used and provided in Mynice Optoelectronics (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 Mynice Optoelectronics (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

6.10. COVID-19 SAFETY PLAN

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered corona virus. COVID-19 most commonly spreads between people who are in close contact through respiratory droplets or small particles produced when an infected person coughs, talks, or breathe. Growing evidence shows that droplets can remain suspended in the air and travel distances beyond six feet, according to the CDC. Indoor environments with poor ventilation increase the risk of transmission.

In proposed factory, preventive measures as hand sanitizers, hand washing basin, masks and social distancing are need to follow in protecting the COVID-19 Pandemic. If the disease is intensive within the factory compound, the factory may face to close- down or stop for an interval.

6.10.1. Prevention guideline by WHO

To prevent infection and to slow transmission of COVID-19, do the following:

- Wash your hands regularly with soap and water, or clean them with alcohol-based hand rub.
- Maintain at least 1-meter distance between you and people coughing or sneezing.
- Avoid touching your face.
- Cover your mouth and nose when coughing or sneezing.
- Stay home if you feel unwell.
- Refrain from smoking and other activities that weaken the lungs.
- Practice physical distancing by avoiding unnecessary travel and staying away from large groups of people.

6.10.2. Symptoms of Corona Virus Disease- 2019

COVID-19 affects different people in different ways. Most infected people will develop mild to moderate illness and recover without hospitalization.

Most common symptoms:

- Fever.
- Loss of taste or smell.
- Dry cough.
- Tiredness.

Less common symptoms:

- Aches and pains.
- Sore throat.
- Diarrhea.
- Conjunctivitis.
- Headache.
- A rash on skin, or discoloration of fingers or toes.

Serious symptoms:

- Difficulty breathing or shortness of breath.
- Chest pain or pressure.
- Loss of speech or movement.

Seek immediate medical attention if you have serious symptoms. Always call before visiting your doctor or health facility. People with mild symptoms who are otherwise healthy should manage their symptoms at home. On average it takes 5–6 days from when someone infected with the virus for symptoms to show, however it can take up to 14 days (WHO, 2020).

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 Mynice Optoelectronics (Myanmar) Co., Ltd representative from Shwe Lin Ban Industrial Zone and representative from General Administration Department (Hlaing Thar Yar Township). Small issues will be solved at the Grievance Committee stage and other unsolved problems will be

submitted to higher responsible authorities and finally the responsible person decided by the court in legal terms. The following diagram show steps of Grievance Redress Mechanism of Proposed Factory Project.

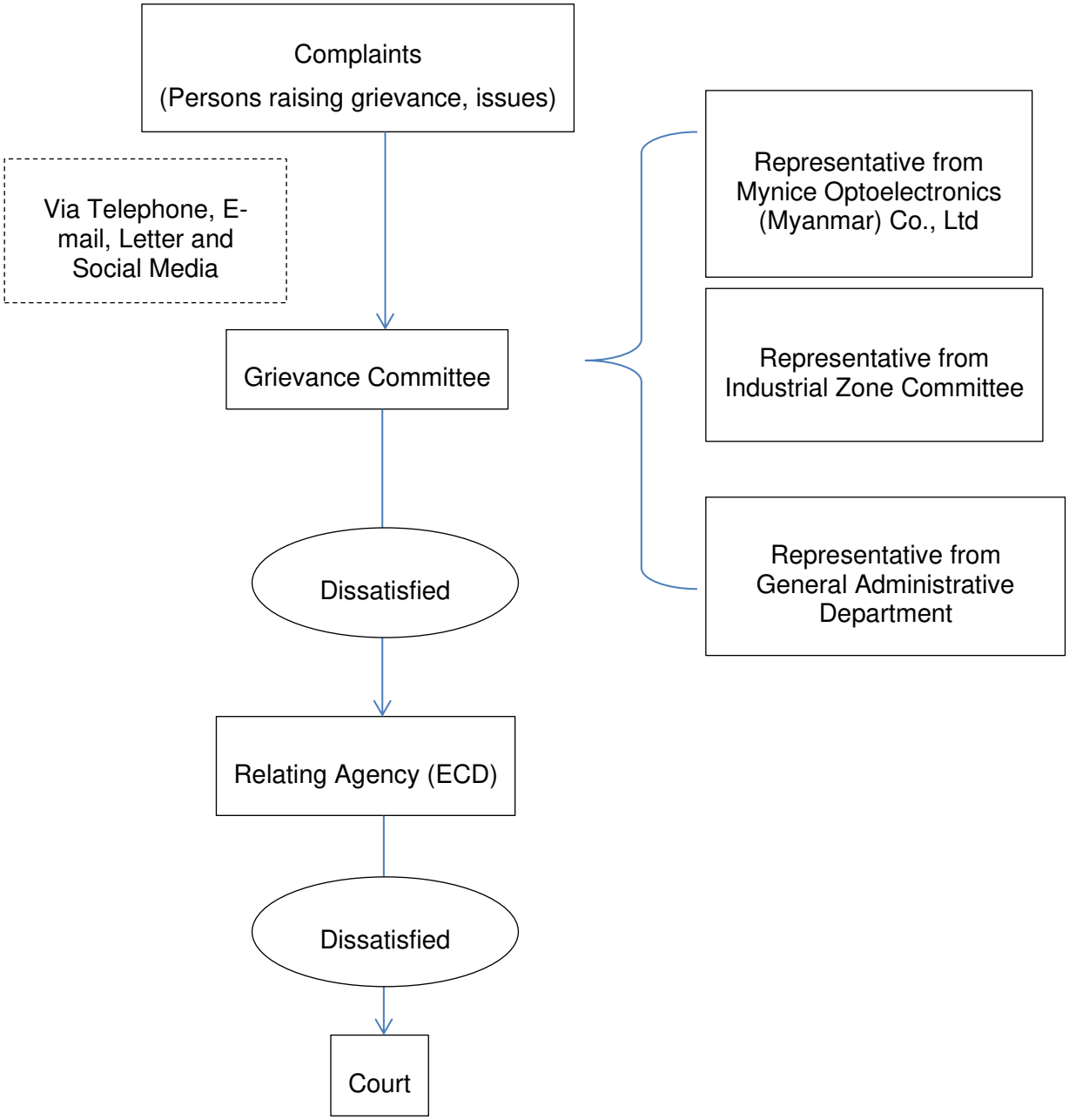


Figure 6-1 Grievance Redress Mechanism Flow Diagram

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 Mynice Optoelectronics (Myanmar) Co., Ltd consists of three main sectors; Health, Education and Communities Development Sector. CSR activities will conduct in compliance with MIC's guideline for implementation of CSR program.

Mynice Optoelectronics (Myanmar) Co., Ltd has a plan to implement and donate 2 percent of the net profit per year for Corporate Social Responsibility (CSR) and Employee Welfare Arrangement.

Table 6-4 CSR plan at Mynice Optoelectronics (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 DISCLOSURE

7.1. PUBLIC CONSULTATION PROCESS

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

Public consultation conducted as part of this EMP project has three 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 Solutions Company Limited Facebook page (https://drive.google.com/file/d/1Fq_N-9BgFvSHFHJ6CWpgC2PZe2KIB83j/view?usp=drivesdk) declared in 23rd September, 2022 due to current situation. The suggestion, complain and comments from the public, organization and stakeholder are warmly welcome and accept via mailing, comment, telephoning and messengers.

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

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

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

8. CONCLUSION & RECOMMENDATION

8.1. CONCLUSION

Environmental Management Plan (EMP) has been prepared for Mynice Optoelectronics (Myanmar) Co., Ltd is located at Plot No.(86-Ka), Myay Taing Block No-25, Shwe Lin Ban Sethmu Myo, Hlaing Thar Township, Yagon Region. The main objective of the study is specially focusing on the required environmental management measures or creating environmentally friendly workplace. An EMP has carried out for the factory according to the requirement of the proponent as it has been prepared for optoelectronic devices manufacturing factory.

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

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

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

In conclusion, it has figured out that, the proposed optoelectronic devices manufacturing factory is going to generate local employment opportunities and enhance capabilities and working skills of local employees. Consequently, their socio-economic standard is expecting to be improving and undertaking corporate social responsibilities (CSR) as recommended. COVID-19 preventive measures are well following and implementing according to WHO guidelines. The study further concluded that positive impacts will be of immense benefit to the local community and national development as well.

8.2. RECOMMENDATION

This is recommending that;

- All appropriate environmental management measures detailed in this report, together with any other environmental management commitments should implement throughout the entire life of the factory
- Solid wastes and liquid wastes need to dispose according to YCDC rules and regulation
- Should need to provide the workers proper training and it should be ensuring that workers use PPE during factory operation area.
- Daily, monthly, and annual action plan shall be formulate 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.
- The proposed project should need to operate the production processes with minimum impact on environmental and society
- Mynice Optoelectronics (Myanmar) Co., Ltd will use 2% of their income as CSR Plan.
- According to this project, local people especially who lived in near that industry, will get work chance.
- As EMP project, will reduce the impacts on the environment.

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

9. REFERENCE

[1] General Administrative Department (Hlaing Thar Yar Township), Hlaing Thar Yar Township Data (2019).

[2] Hla Hla Aung, Potential Seismicity of Yangon Region (Geological Approach), “Yangon Surface Displacement as Detected by Insar Time Series Analyisi” July 2011.

[3] Ministry of Natural Resources and Environmental Conservation (MONREC), “Environmental Impact Assessment Procedure” December 2015.

[4] Ministry of Natural Resources and Environmental Conservation (MONREC), “National Environmental Quality (Emission) Guidelines” December 2015.

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

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

APPENDIX A
Company Document

YRIC's Endorsement

ပုံစံ (၅-ခ)

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်

ရန်ကုန်တိုင်းဒေသကြီးရင်းနှီးမြှုပ်နှံမှုကော်မတီ

အတည်ပြုမိန့်

အတည်ပြုမိန့်အမှတ် ရကတ- ၃၄၆/၂၀၂၀ ၂၀၂၀ ပြည့်နှစ် ဖေဖော်ဝါရီလ ၇ ရက်

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

(၁) ရင်းနှီးမြှုပ်နှံသူ/ကမကထပြုသူအမည် MR. WANG HUA

(၂) နိုင်ငံသား CHINESE

(၃) နေရပ်လိပ်စာ ROOM 21B, UNIT 1, BUILDING A, NO.149, QINGHUI LONGGANG DISTRICT, ZHONGHAI , KANGCHENG GARDEN, SHENZHEN, GUANGDONG, THE PEOPLE'S REPUBLIC OF CHINA

(၄) ပင်မအဖွဲ့အစည်းအမည်နှင့်လိပ်စာ MYNICE OPTOELECTRONICS CO., LTD, ROOM 11, 27TH FLOOR, K.WAH INTERNATIONAL CENTER, 191, JAVA ROAD, NORTH POINT, HONG KONG

(၅) ဖွဲ့စည်းရာအရပ် HONG KONG

(၆) ရင်းနှီးမြှုပ်နှံသည့်လုပ်ငန်းအမျိုးအစား CMP စနစ်ဖြင့် OPTOELECTRONIC DEVICES အမျိုးမျိုး ထုတ်လုပ်ခြင်း လုပ်ငန်း

(၇) ရင်းနှီးမြှုပ်နှံသည့်အရပ်ဒေသ(များ) မြေကွက်အမှတ်-(၈၆-က)၊ မြေတိုင်းရပ်ကွက် အမှတ် -၂၅၊ ရွှေလင်ဇန်းစက်မှုမြို့၊ လှိုင်သာယာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး

(၈) နိုင်ငံခြားမတည်ငွေရင်း ပမာဏ အမေရိကန်ဒေါ်လာ ၁.၀၀၀ သန်း

(၉) နိုင်ငံခြားမတည်ငွေရင်းယူဆောင်လာရမည့်ကာလ အတည်ပြုမိန့် ရရှိသည့် နေ့မှ ၁ နှစ်အတွင်း

(၁၀) စုစုပေါင်း မတည်ငွေရင်းပမာဏ(ကျပ်) အမေရိကန်ဒေါ်လာ ၁.၀၀၀ သန်း နှင့် ညီမျှသော မြန်မာကျပ်ငွေ

(၁၁) တည်ဆောက်မှုကာလ ၁ နှစ်

(၁၂) ရင်းနှီးမြှုပ်နှံမှုခွင့်ပြုသည့်သက်တမ်း ၂၅ နှစ်

(၁၃) ရင်းနှီးမြှုပ်နှံမှုပုံစံ ရာခိုင်နှုန်းပြည့်နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု

(၁၄) မြန်မာနိုင်ငံတွင်ဖွဲ့စည်းမည့်ကုမ္ပဏီအမည် MYNICE OPTOELECTRONICS (MYANMAR) COMPANY LIMITED

YRIC 3462020

(ဖြိုးမင်းသိန်း)

ဥက္ကဋ္ဌ

Form (5-B)

THE REPUBLIC OF THE UNION OF MYANMAR

Yangon Region Investment Committee

ENDORSEMENT

Endorsement No. YGN –346/2020 Date 7 February 2020

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

(1) **Name of Investor** MR. WANG HUA

(2) **Citizenship** CHINESE

(3) **Residence Address** ROOM 21B, UNIT 1, BUILDING A, NO.149, QINGHUI LONGGANG DISTRICT, ZHONGHAI , KANGCHENG GARDEN, SHENZHEN, GUANGDONG, THE PEOPLE'S REPUBLIC OF CHINA

(4) **Name and Address of Principal Organization** MYNICE OPTOELECTRONICS CO., LTD, ROOM 11, 27TH FLOOR, K.WAH INTERNATIONAL CENTER, 191, JAVA ROAD, NORTH POINT, HONG KONG

(5) **Place of Incorporation** HONG KONG

(6) Type of business MANUFACTURING OF VARIOUS KINDS OF OPTOELECTRONIC DEVICES ON CMP BASIS

(7) **Place(s) of investment Project** PLOT NO. (86-KA), MYAY TAING BLOCK NO-25 , SHWE LIN BAN SETHMU MYO, HLAING THAR YAR TOWNSHIP, YANGON REGION

(8) **Foreign Capital Amount** US$ 1.000 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$ 1.000 MILLION

(11) **Construction/ Preparation Period** 1 YEAR

(12) **Validity of Endorsement** 25 YEARS

(13) **Form of Investment** WHOLLY FOREIGN OWNED

(14) **Name of Company Incorporated in Myanmar** MYNICE OPTOELECTRONICS (MYANMAR) COMPANY LIMITED

YRIC 3462020

7/2/2020

(Phyo Min Thein)

Chairman

APPENDIX B
Transitional Consultant Registration Certificate

THE REPUBLIC OF THE UNION OF MYANMAR

Ministry of Natural Resources and Environmental Conservation

Environmental Conservation Department

CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION

(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

No. 00068 Date 24 MAY 2019

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

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

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

Director General

Environmental Conservation Department

Ministry of Natural Resources and Environmental Conservation

Areas of Expertise Permitted

(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

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

ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး
ဦးစီးဌာန

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

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

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

EXTENSION (သက်တမ်းတိုးပြင်ခြင်း)
The VALIDITY of this certificate is extended for one year from (1.1.2022) to (31.12.2022)
ကျိုလက်မှတ်အား(၁-၁-၂၀၂၂)ရက်နေ့မှ(၃၁-၁၂-၂၀၂၂)
ရက်နေ့အထိ တစ်နှစ်သက်တမ်းတိုးပြင်သည်။
Soe Naing 25.3.2022
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

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

(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၅၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)

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

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

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

Areas of Expertise Permitted
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Geology and Soil

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

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

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

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for nine months from (1.4.2019) to (31.12.2019)
ဤလက်မှတ်အား (၁-၄-၂၀၁၉) ရက်နေ့မှ (၃၁.၁၂.၂၀၁၉) ရက်နေ့အထိ (၉)လသက်တမ်း တိုးမြှင့်သည်။
For Director General
(Soe Naing, Director)
Environmental Conservation Department

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

APPENDIX C
Monitoring Result

Air Result

MYANWEI
ENVIRONMENTAL SOLUTIONS
No. 49 (B), Inya Yeik Thar Street, Mayangone Township, Yangon Region, The Republic of the Union of Myanmar.
Office: (+95) 95185776, Mobile: (+95) 9421137569; Website: www.myanweiconsulting .com

Project Name:	Mynice Optoelectronics (Myanmar) Company Limited
Project Location:	Plot No.(86-Ka), Myay Taing Block No-25, Shwe Lin Ban Sethmu Myo, Hlaing Thar Township, Yagon Region.
Sampling Date:	19 May, 2022
Sampling Time:	10:00 am to 4:00 pm
Sampling Condition:	Moderate
Sampling By:	Environmental Team Represented by Myanwei Environmental Solutions Company Limited

Instrument	Type	Sampling Rate	Location
MYANWEI-AQM-09	Environmental Perimeter Air Station	1 second to 21 weeks	Operation Area (Outdoor)

National Environmental Quality (Emission) Guideline

Parameter	Averaging period	Guideline value	Unit
PM 10b	24-hour	20 50	($\mu g/M^3$)
PM 2.5b	24-hour	10 25	($\mu g/M^3$)
NH3	-	-	
CO	-	-	
NO2	1-hour	40 200	
SO2	10 minute	20 500	
VOC	-	2/20/50/75/100/1 150 c,d	mg/Nm^3

a. Particulate matter 10 micrometer or less in diameter
b. Particulate matter 2.5 micrometer or less in diameter

Monitoring Result

Parameters	Observed value	Guideline value	Unit	Organization	Period
PM_{10}	11.6	50	$\mu g/m^3$	NEQG	8 hrs
$PM_{2.5}$	16.6	25	$\mu g/m^3$	NEQG	8 hrs
SO_2	13.1	20	$\mu g/m^3$	NEQG	10 mins
NO_2	44.9	200	$\mu g/m^3$	NEQG	1 hr
O_3	23.9	100	$\mu g/m^3$	NEQG	8 hrs

LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED.

Noise Result

MYANWEI
ENVIRONMENTAL SOLUTIONS
No. 49 (B), Inya Yeik Thar Street, Mayangone Township, Yangon Region, The Republic of the Union of Myanmar.
Office: (+95) 95185776, Mobile: (+95) 9421137569; Website: www.myanweiconsulting .com

Project Name:	Mynice Optoelectronics (Myanmar) Company Limited
Project Location:	Plot No.(86-Ka), Myay Taing Block No-25, Shwe Lin Ban Sethmu Myo, Hlaing Thar Township, Yagon Region.
Sampling Date :	19 May, 2022
Sampling Time:	1:00 pm to 4:00 pm
Sampling Condition:	Normal Condition
Sampling By:	Environmental Team Represented By Myanwei Environmental Solutions Company Limited

Instrument	Type	Sampling Rate	Location
Digital Sound Level Meter	GM 1356 USB	30 -130 dB	Operation Area

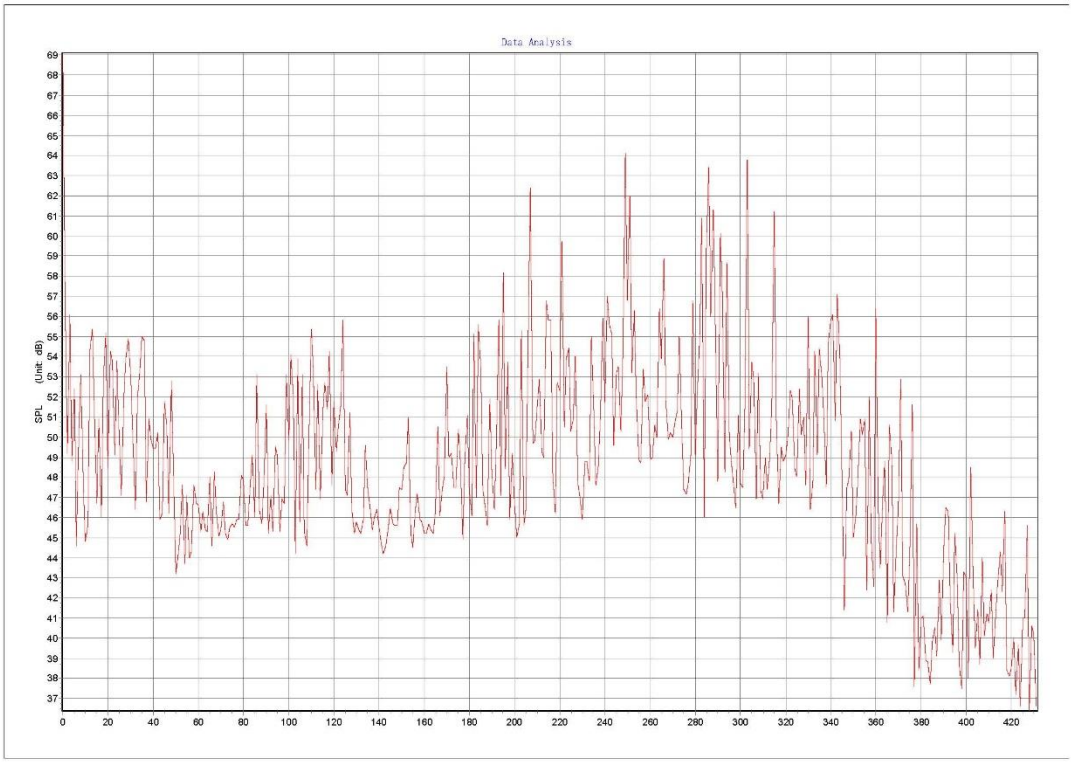
No	Place	Lat/Long	Result	Standard	Remark
1	Operation Area	16°54'35.78"N 96° 3'22.81"E	48.6 dBA	70 dBA	Normal

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.

Noise Graph


Data Analysis
SPL (Unit: dB)
69
68
67
66
65
64
63
62
61
60
59
58
57
56
55
54
53
52
51
50
49
48
47
46
45
44
43
42
41
40
39
38
37
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
320
340
360
380
400
420

Light Result

MYANWEI
ENVIRONMENTAL SOLUTIONS

No. 49 (B), Inya Yeik Thar Street, Mayangone Township, Yangon Region, The Republic of the Union of Myanmar.
Office: (+95) 95185776, Mobile: (+95) 9421137569; Website: www.myanweiconsulting.com

Project Name:	Mynice Optoelectronics (Myanmar) Company Limited
Project Location:	Plot No.(86-Ka), Myay Taing Block No-25, Shwe Lin Ban Sethmu Myo, Hlaing Thar Township, Yagon Region.
Sampling Date:	19 May, 2022
Sampling Time:	10:00 am to 4:00 pm
Sampling Condition:	Normal
Sampling By:	Environmental Team Represented By Myanwei Environmental Solutions Company Limited

Instrument	Type	Sampling Rate	Location
Uni-T (Luminometer)	UT380 Series	100 times/second	16°54'35"N and 96° 3'22"E

No	Measure area	Unit	Result	Standard	Remark
1.	Wire Bonding Area	Lux	646	1000	
2.	QC Inspection Area	Lux	660	900	
3.	Injection Area	Lux	862	600	
4.	Packing Area	Lux	746	600	

IESNA Lighting Handbook

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.

APENDIX D
Power Point Presentation Slides

MYNICE OPTOELECTRONICS (MYANMAR) COMPANY LIMITED ၏
CMP စနစ်ဖြင့်
Optoelectronic Devices အမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်း

ပတ်ဂန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် အစီရင်ခံစာ (မူကြမ်း) အတွက်
သက်ဆိုင်သူများနှင့် တွေ့ဆုံဆွေးနွေးပွဲ အခမ်းအနား။

စက်တင်ဘာလ ၂၃ ရက်၊ ၂၀၂၂ ခုနှစ်။

Preparaed By

Myanwei Environmental Solutions Co., Ltd.

MYANWEI

အစည်းအဝေး အကြောင်းအရာ

၁။ MYNICE OPTOELECTRONICS (MYANMAR) COMPANY LIMITED အားမိတ်ဆက်ခြင်း

၂။ ပတ်ဂန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်အား မိတ်ဆက်ခြင်း

၃။ သက်ရောက်မှုဆန်းစစ်ခြင်း ရလဒ်များနှင့် ထိခိုက်မှုအဆင့်သတ်မှတ်ချက်များ

၄။ ပတ်ဂန်းကျင်အပေါ် သက်ရောက်မှုများနှင့် ဖြေလျော့ရေးနည်းလမ်းများ

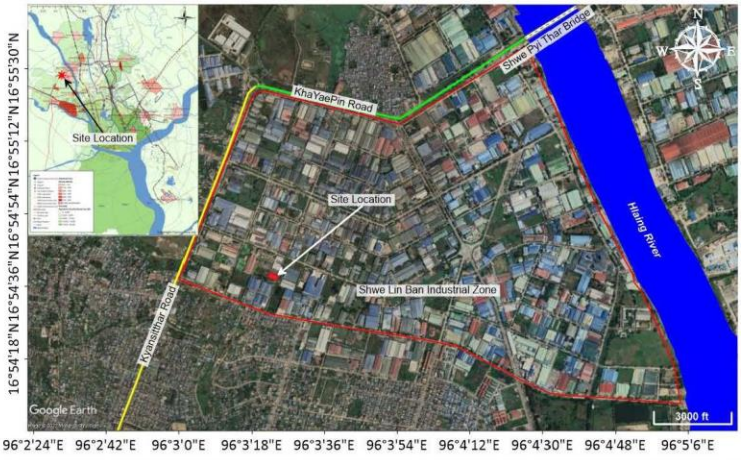
၅။ ပတ်ဂန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ် နှင့်

၆။ စက်ရုံ၏ဆောင်ရွက်ချက်များ

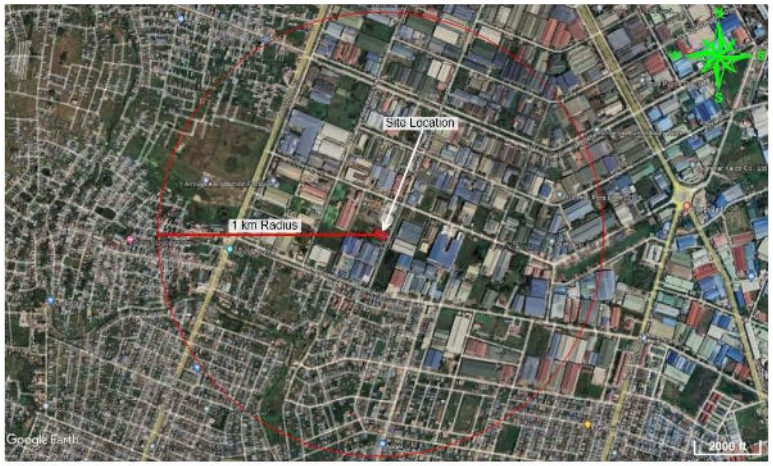
MYNICE OPTOELECTRONICS (MYANMAR) COMPANY LIMITED
စက်ရုံပြင်ပအဆောက်အဦးပုံစံ

1.Transformer 2.Fire Safety Pump & Underground Water Tank 3.Security Gate 4.Dormitory and Kitchen 5.Overhead Tank
6.Office 7.Generator 8.Canteen 9.Rawmaterials Storage Area 10.Operation Area 11.Toilets

MYNICE OPTOELECTRONICS (MYANMAR) COMPANY LIMITED တည်နေရာပြမြေပုံ



MYNICE OPTOELECTRONICS (MYANMAR) COMPANY LIMITED
အနီးပတ်ဝန်းကျင်ပြမြေပုံ

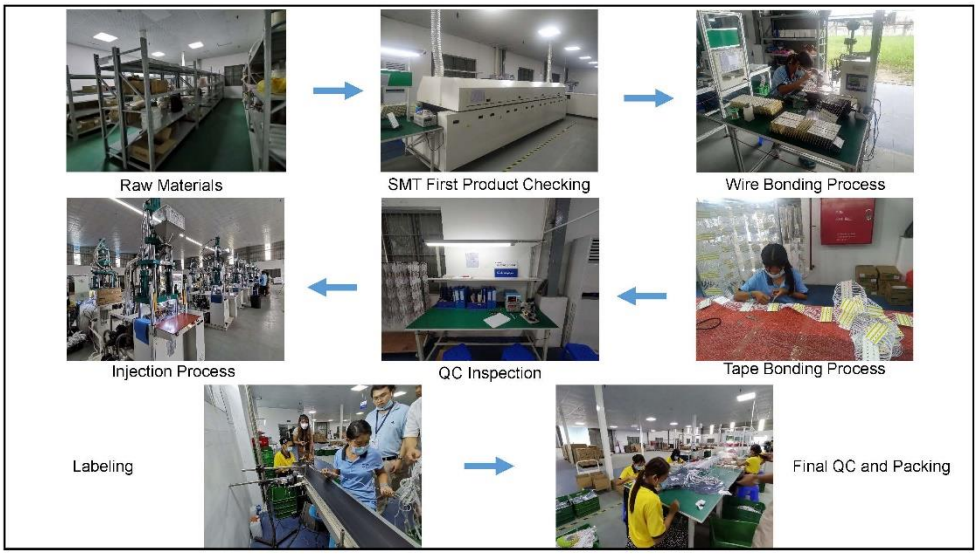


MYNICE OPTOELECTRONICS (MYANMAR) COMPANY LIMITED

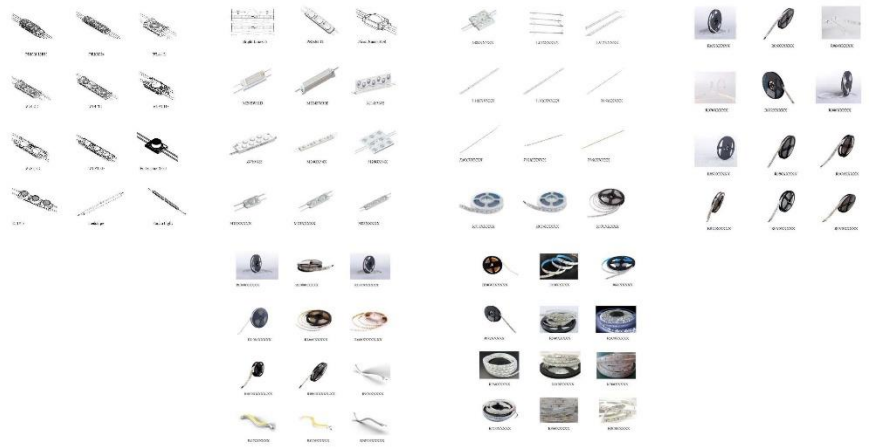
လုပ်ငန်းအမျိုးအစား	CMP စနစ်ဖြင့် Optoelectronic Devices အမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်း။
ခွင့်ပြုမိန့်အမှတ်	(ခွင့်ပြုမိန့်အမှတ်- ရကတ-၃၄၆/၂၀၂၀)၂၀၂၀ ပြည်နှစ်၊ ဖေဖော်ဝါရီလ၊ ၇ ရက်။
ရင်းနှီးမြှုပ်နှံမှု	၁၀၀ ရာခိုင်နှုန်း နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု။
မြေဧရိယာ	စုစုပေါင်း ၁.၃၈၄၄ ဧကအနက်မှ ၀.၃၈၃ ဧက
အဆောက်အအုံ	တစ်ထပ်စက်ရုံအဆောက်အဦး (၁၀၀ X ၁၆၀) ပေ နှစ်ထပ်ရုံးခန်းအဆောက်အဦး (၁၉ × ၃၅) ပေ
ရင်းနှီးမြှုပ်နှံသည့်ကာလ	၂၅ နှစ် ရင်းနှီးမြှုပ်နှံမှု။
စက်ရုံလိပ်စာ	မြေကွက်အမှတ် (၈၆-က)၊ မြေတိုင်းရပ်ကွက်အမှတ်- ၂၅၊ ရွှေလင်ဝန်းစက်မှုမြို့၊ လှိုင်သာယာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး။

လုပ်ငန်းလည်ပတ်ရန်အခြေခံလိုအပ်ချက်များ

ရေအသုံးပြုမှုအခြေအနေ	
ရေအရင်းအမြစ်	အဝီစိတွင်းရေ (၁ တွင်း)
အဓိကလိုအပ်ချက်	
ခန့်အပ်မည့်လုပ်သားဦးရေ	၂၆၁ ဦး
အဓိကကုန်ကြမ်း	ပိတ်လိပ်အမျိုးမျိုး၊ ချည်မျှင်၊ အပ်ချည်၊ လေဘယ်၊ သားရေကြိုး၊ ကြယ်သီး၊ ဖစ်အမျိုးမျိုး နှင့် ဆက်စပ်ပစ္စည်းများ။
နှစ်စဉ်ထွက်ကုန်ပစ္စည်းပမာဏ	နှစ်စဉ် ပျမ်းမျှထုတ်ကုန်အရေအတွက် (၂၆,၇၃၀,၀၀၀ မှ ၂၉,၄၀၃,၀၀၀)

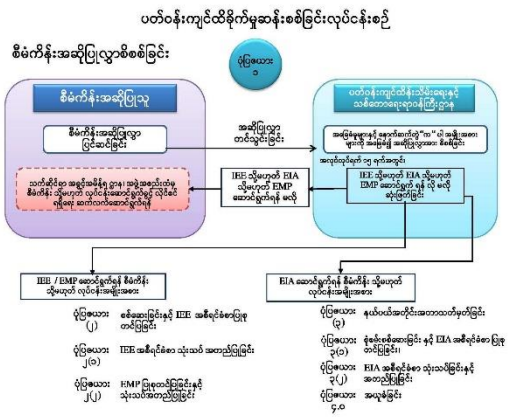


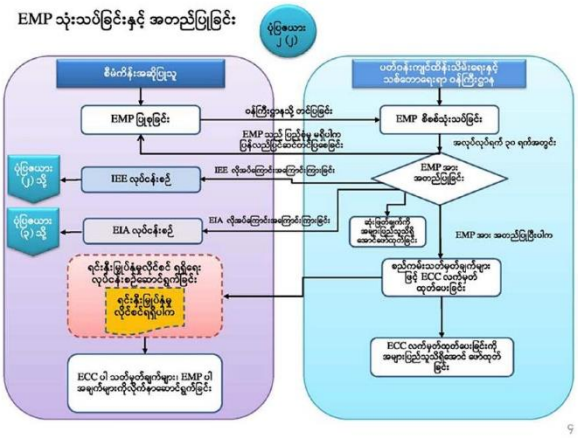
MYNICE OPTOELECTRONICS (MYANMAR) COMPANY LIMITED ၏ ထုတ်ကုန်များ



ပတ်ပန်းကျင်စီမံခန့်ခွဲမှု လုပ်ငန်းအား မိတ်ဆက်ခြင်း

ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှု လုပ်ငန်းစဉ်





ရန်ကုန်တိုင်းဒေသကြီးရင်းနှီးမြှုပ်နှံမှုကော်မတီအတည်ပြုမိန့်


Form (6-B)

THE REPUBLIC OF THE UNION OF MYANMAR

Yangon Region Investment Committee

ENDORSEMENT

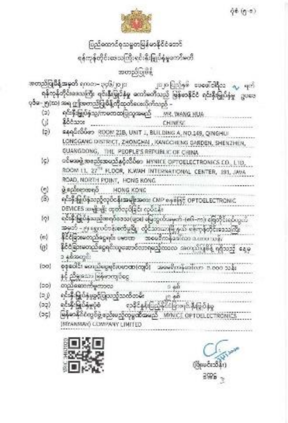
Endorsement No. YGN -346/2020 Date ? February 2020

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

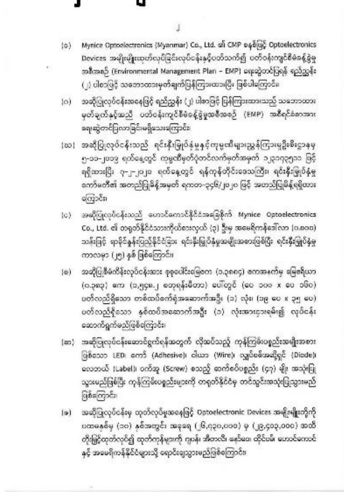
(1) Name of Investor MR. WANG HUA
(2) Citizenship CHINESE
(3) Residence Address ROOM 21B, UNIT 1, BUILDING A, NO.149, QINGHUI LONGGANG DISTRICT, ZHONGHAI, KANGCHENG GARDEN, SHENZHEN, GUANGDONG, THE PEOPLE'S REPUBLIC OF CHINA
(4) Name and Address of Principal Organization MYNICE OPTOELECTRONICS CO., LTD, ROOM 11, 27TH FLOOR, K.WAH INTERNATIONAL CENTER, 191, JAVA ROAD, NORTH POINT, HONG KONG
(5) Place of Incorporation HONG KONG
(6) Type of business MANUFACTURING OF VARIOUS KINDS OF OPTOELECTRONIC DEVICES ON CMP BASIS
(7) Place(s) of investment Project PLOT NO. (86-KA), MYAY TAING BLOCK NO-25, SHWE LIN BAN SETHMU MYO, HLAING THAR YAR TOWNSHIP, YANGON REGION
(8) Foreign Capital Amount US$ 1.000 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$ 1.000 MILLION
(11) Construction/ Preparation Period 1 YEAR
(12) Validity of Endorsement 25 YEARS
(13) Form of Investment WHOLLY FOREIGN OWNED
(14) Name of Company Incorporated in Myanmar MYNICE OPTOELECTRONICS (MYANMAR) COMPANY LIMITED

(Phyo Min Thein)

Chairman



ပတ်ဝန်းကျင်သဘောထားမှတ်ချက်



သက်ရောက်မှုဆန်းစစ်ခြင်းရလာဒ်များနှင့် ထိခိုက်မှုအဆင့်သတ်မှတ်ချက်များ

စီမံကိန်းပတ်ဝန်းကျင်အနေအထား

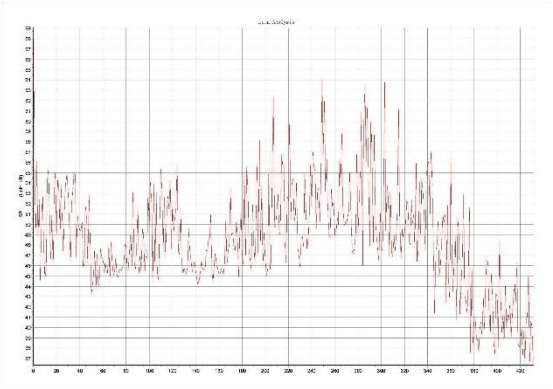
စဉ်	အကြောင်းအရာ	ဖော်ပြချက်
၁။	ကိုဩဒိနိတ်အမှတ်	မြောက်လတ္တီကျူ ၁၆°၅၈'၄၂.၄၉"နှင့် အရှေ့လောင်ဂျီကျူ ၉၆°၃'၄၂.၁"
၂။	ရာသီဥတုအခြေအနေ	ရန်ကုန်တိုင်းဒေသကြီး နှစ်စဉ်ပျမ်းမျှအမြင့်ဆုံးအပူချိန် ၄၅°C၊ အနိမ့်ဆုံးအပူအချိန် ၁၂.၅°C
၃။	စက်ရုံနေရာတွင်မြေအသုံးချမှု	စက်မှုလုပ်ငန်းနှင့်သက်ဆိုင်သောမြေအသုံးချမှုပုံစံ (စက်မှုဇုန်)
၄။	လမ်းပန်းဆက်သွယ်ရေး	ခရေလမ်းနှင့် အနော်ရထာလမ်းမကြီး။
၅။	သစ်တောဖရိယာ	မရှိ
၆။	ကန့်သတ်ကာကွယ်ထားသော ဖရိယာ	မရှိ
၇။	တိုင်းတာမှုရလဒ်	❑ ဆူညံသံ တိုင်းတာခြင်း ❑ လေထုအရည်အသွေး တိုင်းတာခြင်း ❑ အပူချိန် နှင့် စိုထိုင်းမှု အရည်အသွေး တိုင်းတာခြင်း

ဆူညံသံတိုင်းတာမှု

Date & Time	Location	GPS location	Noise Result	NEQ Guideline
19 May 2022	Operation Area	16°54'35.78"N 96° 3'22.81"E	48.6 dBA	70 dBA

အထက်ဖော်ပြပါ ဆူညံသံတိုင်းတာမှုရလဒ်များအရ
Mynice Optoelectronics (Myanmar) Co., Ltd ၏ဆူညံသံမှာ National Environmental Quality (Emission) Guideline အတွင်းတည်ရှိနေသည်ကို ဆန်းစစ်တွေ့ရှိရပါသည်။

Mynice Optoelectronics (Myanmar) Co., Ltd. ၏ဆူညံသံတိုင်းတာမှုပြ ဂရပ်



လေထုတိုင်းတာမှု

Parameters	Observed value	Guideline value	Unit	Organization	Working Period
PM_{10}	11.6	50	$\mu g/m^3$	NEQG	8 hrs
$PM_{2.5}$	16.6	25	$\mu g/m^3$	NEQG	8 hrs
SO_2	13.1	500	$\mu g/m^3$	NEQG	8 hrs
NO_2	44.9	200	$\mu g/m^3$	NEQG	8 hrs
O_3	23.9	100	$\mu g/m^3$	NEQG	8 hrs

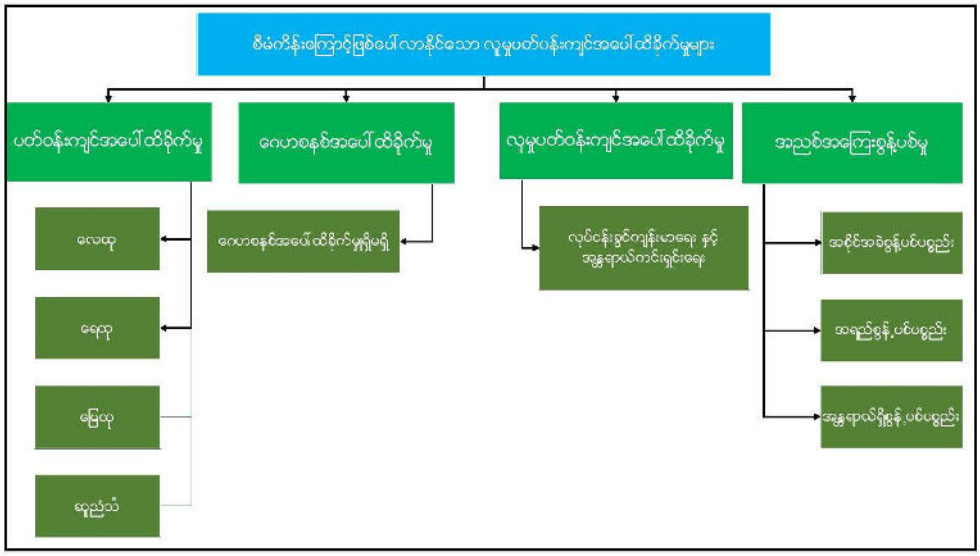
လေထုတိုင်းတာမှုမှတ်တမ်းများ

အလင်းရောင်တိုင်းတာမှု

No.	Location	Measure value (Lux)	Standard*	Remark
1	Wire Bonding Area	646	1000	Below
2	QC Inspection Area	660	900	Below
3	Injection Area	862	600	Above
4	Packing Area	746	600	Above

စက်ရုံအတွင်းအလင်းရောင်တိုင်းတာမှုမှတ်တမ်းများ

ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများနှင့် ဖြေလျော့ရေးနည်းလမ်းများ



သက်ရောက်မှု	စီမံကိန်းဆောင်ရွက်ချက်	လျော့နည်းစေရန် အရေးယူဆောင်ရွက်မှု
စီမံကိန်းလည်ပတ်ချိန်		
လေထုအရည်အသွေး	• သယ်ယူပို့ဆောင်ရေးသုံး မော်တော်ယာဉ်ပို့ကြောင့် ဖုန်မှုန့်နှင့် ဖန်လုံအိမ်ဓါတ်ငွေ့ထွက်ခြင်း • လုပ်ငန်းခွင်အတွင်းဖုန်မှုန့် ထွက်ခြင်းအရေးပေါ်သုံး မီးစက်မှာ ပွန့်ထုတ်အခိုးအငွေ့ ထွက်ခြင်း	• မီးစက် ပိုက်တွင် မီးခိုးမပါင်းသိုင် ပယ်ဆင်ခြင်းဖြင့် အခိုးအငွေ့ကြောင့် ပတ်ဝန်းကျင် ထိခိုက်မှုကို လျော့ချခြင်း၊ • စက်ရုံအတွင်းနှင့် အနီး အနားတွင် သစ်ပင်ပန်းမံ စိုက်ပျိုးခြင်းဖြင့် carbon ထွက်ရှိမှုကို လျော့ချပေးခြင်း၊ • စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။
မြေဆီလွှာညစ်ညမ်းမှု	• မတော်တဆ စက်ပစ္စည်း၊ မော်တော်ယာဉ်များမှ ဆီယိုဖိတ်ခြင်း	• ထိခိုက်မှုလျော့ချရန်မလိုပါ။
ရေအရည်အသွေး	• မီးဖိုချောင်သုံးမှုထွက်ရှိခြင်း	• ထိခိုက်မှုလျော့ချရန်မလိုပါ။
ဆူညံသံနှင့် တုန်ခါမှု	• မီးစက်နှင့် မော်တော်ယာဉ် အသုံးပြုမှုတို့ကြောင့် ပတ်ဝန်းကျင်အပေါ် ဆူညံမှု	• ဆူညံသံများသောစက်ရုံလုပ်ငန်းနေရာများတွင် တစ်ကိုယ်ရည်သုံး ကာကွယ်ရေးပစ္စည်းများ တပ်ဆင်အသုံးပြုစေခြင်း၊ • အသံထုတ်လွှတ်မှုနည်းသော စက်ပစ္စည်းများ အသုံးပြုခြင်းနှင့် မီးစက်ခန်း၊ ကွန်ပရက်ဆာခန်းများ သီးသန့်ထားရှိစေခြင်း။
ကုန်းနေ အပင်နှင့် သတ္တဝါများ၊ ရေနေသတ္တဝါများ	• Optoelectronic Devices အမျိုးမျိုး ထုတ်လုပ်ခြင်း လုပ်ငန်း	• စက်ရုံ၏မီးဘေးအန္တရာယ်ကာကွယ်ရန်အတွက် မီးသတ်ဗူး၊ မီးသတ်ပိုက်၊ မီးသတ်ခေါင်း များထားရှိခြင်း၊ • မီးသတ်ဆိုင်ရာစက်ပစ္စည်းကိရိယာများကိုပုံမှန်စစ်ဆေးခြင်း၊ အရေးပေါ်အခြေနေအတွက် မီးသတ်ရေကန်အဆင်သင့်ထားရှိခြင်း၊ • စက်ရုံအတွင်းအရေးပေါ် အချက်ပေးစနစ်များထားရှိခြင်း။ • အရေးပေါ် ထွက်ပေါက်များတစ်လျှောက်တွင် ကုန်ပစ္စည်းများပိတ်ဆို့ခြင်းမရှိအောင်ရှင်းလင်းထားရှိခြင်း။

သက်ရောက်မှု	စီမံကိန်းဆောင်ရွက်ချက်	လျော့နည်းစေရန် အရေးယူဆောင်ရွက်မှု
မီးဘေးအန္တရာယ်	• ကုန်ကြမ်းသိုလှောင်မှု နှင့် လျှပ်စစ်သုံးပွဲ ပေါ့လျော့မှု	• ကုန်ကြမ်းများအား သီးသန့်ထားရှိခြင်း၊လျှပ်စစ်သုံးပွဲမှုများအား ပနင်ပာကျ အသုံးပြုစေခြင်း
လုပ်ငန်းခွင် ဘေးအန္တရာယ်	• စက်ပစ္စည်းများလည်ပတ်ခြင်းကြောင့် မတော်တဆထိခိုက်မှုများ ဖြစ်ပေါ်နိုင်ခြင်း။ • ပစ္စည်းတင်ချပြုလုပ်ခြင်း၊ ဖြတ်တောက်ခြင်း၊ ရောနှောခြင်း၊ ဖိနှိပ်ခြင်း၊ ထုတ်ပိုးခြင်း၊	• အရေးပေါ်အခြေအနေများအတွက် စက်ပစ္စည်းကိုင်တွယ်မှုသင်တန်းပေးခြင်း၊ ကြက်ခြေနီသင်တန်းပေးခြင်း၊ မီးသတ်သင်တန်းပေးခြင်း၊ • လုပ်ငန်းခွင်တွင်း အလုပ်သမားများ အလင်းရောင်ကောင်းစွာရရှိစေရန်နှင့် အမြင်အာရုံမထိခိုက်စေရန် အလင်းရောင်များကို လုံလောက်စွာထားရှိခြင်း။ • အလုပ်သမားများအတွက်တစ်ကိုယ်ရေကာကွယ်ရေးသုံးပစ္စည်းများဖြစ်သည့် နားကြပ်၊ လက်အိတ်၊ ဦးထုပ်၊ မျက်မှန် များ အသုံးပြုစေခြင်း။ • လျှပ်စစ်အန္တရာယ်မဖြစ်စေရန် နှင့် ပြုပြင်ထိန်းသိမ်းမှုများ ပြုလုပ်ရန်အတွက် ပန်ယမ်းထားရှိ၍ ပုံမှန်စစ်ဆေးခြင်း။
ကျန်းမာရေး	• အရေးပေါ် မီးစက်များမှဆူညံသံများထွက်ပေါ်လာခြင်း၊	အရေးပေါ်အခြေအနေများအတွက် ပစ္စည်းကိုင်တွယ်မှုသင်တန်းပေးခြင်း၊ တစ်ကိုယ်ရေကာကွယ်သုံးပစ္စည်းများအသုံးပြုစေခြင်း

သက်ရောက်မှု	စီမံကိန်းဆောင်ရွက်ချက်	လျော့နည်းစေရန် အရေးယူဆောင်ရွက်မှု
စွန့်ပစ်အစိုင်အခဲ	• ယုတ်လုပ်ရာတွင် ကျန်ရှိသော ပိတ်စ အပိုင်းအစများ၊ ဓါးဖိုမျောင်နှင့် ရုံးတွင်းမှစွန့်ပစ်ပစ္စည်းများ	• စက်ရုံအတွင်း အမှိုက်ပုံးများထားရှိခြင်း။ • သတ်မှတ်ထားသောနေရာတွင် အမှိုက်စို အမှိုက်ခြောက်များခွဲခြားမှန့်ပစ်ခြင်း။ • အမှိုက်များကို ရန်ကုန်စည်ပင်သာယာရေးကော်မတီနှင့် ချိတ်ဆက်၍စွန့်ပစ်ခြင်း။
စွန့်ပစ်အရည်	• နေအိမ်၊ စားသောက်ဆောင် တို့မှစွန့်ထုပ်ရေ၊ ဘိုင်လာစွန့်ပစ်ရေ နှင့် မီလ္လာကန်စနစ်	• ဆီကန်၊ မိလ္လာကန်များ ကိုပုံမှန်စစ်ဆေးခြင်း၊ သန့်ပင်ခြင်းများပြုလုပ်ခြင်းဖြင့် မှန့်ပစ်အရည်များ စီမံဝင်မှုများကိုလျော့ကျစေနိုင်ခြင်း။
အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများ	စက်များမှဆီလိုစီမှုများ၊ နိုင်လွန်ပိတ်စများ၊ တစ်ခြားမီးလောင်လွယ်သောအမှိုက်များ	• အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်းများသိုလှောင်မှု အားထိန်းသိမ်းခြင်း စစ်ဆေးခြင်း၊ • အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများကို ရန်ကုန်မြို့တော်စည်ပင်သာယာရေး ကော်မတီ (သို့မဟုတ်) လိုင်စင်ရ • အမှိုက်စွန့်ပစ်ရေးဆိုင်ရာအဖွဲ့အစည်းများ (ဥပမာ DOWA or YCDC) နှင့်ချိတ်ဆက်၍စွန့်ပစ်ခြင်း၊

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

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်

ဧလထုညစ်ညမ်းမှုလျော့ချရေး

ရည်ရွယ်ချက်	**စီမံကိန်းကြောင့် စက်ရုံမှ ထွက်သော ဓာတ်ငွေ့များနှင့် မီးစက်များမှ ထွက်ရှိသော ဓာတ်ငွေ့များကြောင့် ဧလထုညစ်ညမ်းမှုကို ဧလျော့ချရန်**
လိုက်နာရမည့် စည်းကမ်း	**အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရေးအသွေး(ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ (၂၀၁၅)**
စီမံခန့်ခွဲမှု အစီအစဉ်	▪ စက်ရုံအတွင်းနှင့် အနားဝန်းကျင်တွင် သစ်ပင်ပန်းမန်စိုက်ပျိုးခြင်း ▪ စက်ရုံအတွင်း မည်သည့်စွန့်ပစ်ပစ္စည်းများအား မီးရှို့ဖျက်စီးခြင်း မပြုလုပ်ခြင်း ▪ လုပ်သားများအား Personal Protective Equipment (PPE) ဟုခေါ်ဆိုသော အကာအကွယ်ပစ္စည်းများဖြစ်သည့် လေကာ/ဧနကာမျက်မှန်များ၊ နှာခေါင်းစည်း၊ စသည်တို့အားထောက်ပံ့ခြင်း၊ အသိပညာပေး သင်တန်းများ ပေးခြင်း
တာဝန်ယူရမည့် ပုဂ္ဂိုလ်	▪ ပြုပြင်ထိန်းသိမ်းရေးအရာရှိ - ဧလထုညစ်ညမ်းမှုလျော့ချရေးနည်းလမ်းများ ▪ ထုတ်လုပ်ရေးမန်ဧနေဂျာ- လုပ်ငန်းခွင်ဧလထုသန့်ရှင်းရေး ▪ မန်ဧနေဂျာ - ပတ်ဝန်းကျင်ဧလအရည်အသွေးတိုင်းတာရန် (ThirdParty) ဖြင့်ညှိနှိုင်းဆောင်ရွက်ရန်

ဆူညံသံလျှော့ချရေး

ရည်ရွယ်ချက်	ဒေးပတ်ဝန်းကျင်ဆူညံမှုဖြစ်ပေါ်စေရန် နှင့် စက်ရုံရှိ ဝီးစက်နှင့် အခြားစက်ပစ္စည်းများ ကြောင့် လုပ်သားများအပေါ် ထိခိုက်မှု ဇလျှော့ချရန်
လိုက်နာရမည့် စည်းကမ်း	▪ **ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်း (၂၀၁၅)** ▪ **အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး(ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ (၂၀၁၅)**
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ ဝီးစက်၊လေမှုတ်စက်တို့ကို ဆူညံသံထိန်းချုပ်နိုင်သော ခန်းဖွဲ့စည်းမှုပုံစံ တည်ဆောက် ထားခြင်း ▪ လုပ်ငန်းသုံးယာဉ်များကိုဆူညံသံလျှော့ချရန်သတ်မှတ်အရှိန်ထက်ကျော်လွန်မမောင်းစေခြင်း ▪ လုပ်သားများအား Personal Protective Equipment (PPE) ဟုခေါ်သော အကာအကွယ်ပစ္စည်းများဖြစ်သည့် နားအကာကွယ်ရေးပစ္စည်းများ စသည်တို့အား ထောက်ပံ့ခြင်း၊ အသိပညာပေး သင်တန်းများ ပေးခြင်း
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	မန်နေဂျာ - ဆူညံသံတိုင်းတာရန် (ThirdParty) ဖြင့်ညှိနှိုင်းဆောင်ရွက်ရန်

အစိုင်အခဲစွန့်ပစ်မှု ထိန်းသိမ်းရေး

ရည်ရွယ်ချက်	စွန့်ပစ်အမှိုက်ထွက်ရှိမှုဇလျှော့ချရေးနှင့် စွန့်ပစ်အမှိုက်ကြောင့် ပတ်ဝန်းကျင်ညစ်ညမ်းမှုကို ဇလျှော့ချရန်
လိုက်နာရမည့်စည်းကမ်း	▪ **ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်း (၂၀၁၅)** ▪ **National Waste Management Strategy and Action Plan (Draft 2018)**
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ စက်ရုံမှ မည်သည်စွန့်ပစ်ပစ္စည်းမှ မြစ်၊ ချောင်း၊ အင်း၊ အိုင် အတွင်းသို့ မစွန့်ပစ်ရ ▪ စက်ရုံတွင် စွန့်ပစ်ပစ္စည်းများကို ပြန်လည်အသုံးပြုနိုင်သောပစ္စည်း(ဆိုးဆေး၊ ဓာတ္တုဖာ၊ ပလက်စတစ်၊ စသည်ဖြင့်) များကို ပြည်တွင်းဝယ်ယူသူများထံ ပြန်လည်ရောင်းချခြင်း ▪ စွန့်ပစ်ရန်ပစ္စည်း(လုပ်သားများမှစွန့်ပစ်ပစ္စည်းနှင့်ဝီးဖို့ချောင်ထွက်ပစ္စည်းများ)ကို မြို့ဇတာ်ဝည်ပင်သာယာဇရေးအဖွဲ့အစည်း ကို နေ့စဉ်ခေါ်ယူပြီး သိမ်းဆည်းဇခြင်း ▪ အန္တရာယ်ရှိပစ္စည်း (စက်ဆီအဟောင်းများ၊ လျှပ်စစ်ပစ္စည်းအပျက်များ၊ သံထည်ပစ္စည်း) များကို ဝယ်ယူသူထံမှပြန်လည် သိမ်းဆည်းဇခြင်း ▪ စက်ရုံတွင် အမှိုက်စွန့်ပစ်ရန် အတွက် အမှိုက်ပုံးများကို စီမံထားခြင်း ▪ စက်ရုံဝန်းထဲမ်းအားလုံးကို စနစ်တကျ အမှိုက်စွန့်ပစ်ရန် တိုက်တွန်းနှိုးဆော်ထားခြင်း
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	▪ မန်နေဂျာ - စက်ရုံအတွင်းသန့်ရှင်းဇရေးအတွက်စီမံခန့်ခွဲရန်တာဝန်ရှိသည် ▪ အမှိုက်စွန့်ပစ်မှု ပုံမှန်ပြုလုပ်ရန်နှင့် စွန့်ပစ်ပစ္စည်းသယ်ယူသူများကို ပုံမှန်ပြုလုပ်ရန် တာဝန်ယူဆောက်ရွက်ရန်

စွန့်ပစ်အရည် ထိန်းသိမ်းရေး

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

စွမ်းအင်သုံးစွဲမှု ထိန်းသိမ်းရေး

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

မြေအောက်ရေသုံးစွဲမှု

ဥပဒေပြဋ္ဌာန်းချက်	ရေသုံးစွဲမှုလျော့ချရေး
လိုက်နာရမည့်စည်းကမ်း	The Underground Water Act (1930)
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ ရေအသုံးပြုမှု သိရှိနိုင်သော မီတာတပ်ဆင်ခြင်း ▪ ဝန်ထမ်းများအားအာသီပညာပေးခြင်းနှင့် လိုက်နာဆောင်ရွက်ရန် တိုက်တွန်းခြင်း ▪ စက်ရုံရှိတာဂန်ရှိပုဂ္ဂိုလ်များအား (Third Party) နေ့ဖြင့်မြေအောက်ရေအကျိုးရှိရှိအသုံးချရန်စည်းကမ်းချက်နဲ့အညီ လမ်းညွှန်ထားခြင်း။
တာဝန်ယူရမည့် ပုဂ္ဂိုလ်	မန်နေဂျာ ▪ ရေ အသုံးပြုမှုစာရင်း စစ်ဆေးခြင်း ▪ ဝန်ထမ်းများလိုက်နာဆောင်ရွက်မှု စစ်ဆေးခြင်း

အရေးပေါ်အခြေအနေတုန့်ပြန်မှု

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

ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်မှု

ကဏ္ဍ	အချိုးအစား	ကြိမ်နှုန်း	နေရာ	တာဝန်ရှိသူ
စီမံကိန်းတည်ဆောက်နေစဉ်				
လေထု	SO2, NO2, CO, CO2, PM2.5, PM10	တစ်ကြိမ် (တည်ဆောက်နေစဉ်အတွင်း)	စီမံကိန်းဧရိယာ	Environmental Management Team's Mynice Optoelectronics (Myanmar) Co., Ltd. and Third Party
ရေထု	pH, Apparent Colour, Turbidity, TDS, Total solids, Chloride, Free Cyanide, Nitrate, Arsenic, Cadmium, Copper, Iron, Lead and Zinc	တစ်ကြိမ် (တည်ဆောက်နေစဉ်အတွင်း)	အနှီးဆုံး မြေ၊ ချောင်း၊ မြေအောက်ရေ	Environmental Management Team's Mynice Optoelectronics (Myanmar) Co., Ltd. and Third Party
ဆူညံသံ	dBA	တစ်ကြိမ် (တည်ဆောက်နေစဉ်အတွင်း)	စီမံကိန်းဧရိယာ	Environmental Management Team's Mynice Optoelectronics (Myanmar) Co., Ltd. and Third Party
မီးခေါး	မီးသွေယ်တန်းမှု	တစ်လ တစ်ကြိမ်	စီမံကိန်းဧရိယာ	Environmental Management Team's Mynice Optoelectronics (Myanmar) Co., Ltd. and Third Party
လုပ်ငန်းခွင်ကျန်းမာရေး နှင့် လုံခြုံမှု	မတော်တဆမှုများ၊ ဆောက်လုပ်ရေးလုပ်သားများအတွက် တစ်ကိုယ်ရေကာကွယ်သုံးပစ္စည်းများပေးခြင်း	တစ်လ တစ်ကြိမ်	ဆောက်လုပ်ရေး လုပ်သားများ	Environmental Management Team's Mynice Optoelectronics (Myanmar) Co., Ltd. and Third Party
အမှိုက်စွန့်ပစ်မှု	အစိုင်အခဲ ၊ အရည်	တစ်ပတ်တစ်ကြိမ်	စီမံကိန်းဧရိယာ	Environmental Management Team's Mynice Optoelectronics (Myanmar) Co., Ltd. and Third Party

ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်မှု

ကဏ္ဍ	အချိုးအစား	ကြိမ်နှုန်း	နေရာ	တာဝန်ရှိသူ
စီမံကိန်းလည်ပတ်ချိန်				
လေထု	$PM_{2.5}$, PM_{10}, SO_2, NO_2,	တစ်နှစ် ၂ကြိမ်	ထုပ်လုပ်မှု ဧရိယာအတွင်း	Mynice Optoelectronics (Myanmar) Company Limited
ဆူညံသံ	ဆူညံသံ ပမာဏ	တစ်ပတ် ၂ကြိမ်	၂ နေရာ (ထုပ်လုပ်မှု ဧရိယာ အတွင်း)	Mynice Optoelectronics (Myanmar) Company Limited
အမှိုက်စွန့်ပစ်မှု	အစိုင်အခဲ၊ အရည် နှင့် အန္တရာယ်ရှိပစ္စည်း	အပတ်စဉ်	စက်ရုံအတွင်း ပြန်လည်အသုံးပြုရန်နှင့် စွန့်ပစ်ရန်ဟူ၍ အမှိုက်ပုံများအား ခွဲခြားခြင်း	Mynice Optoelectronics (Myanmar) Company Limited
မီးခေးအန္တရာယ်	မီးသတ်ဆေးဘူးပစ္စည်းများနှင့်အရေးပေါ်ဖုန်းနံပါတ်များ	လစဉ်	စက်ရုံဧရိယာ အတွင်း	Mynice Optoelectronics (Myanmar) Company Limited
အလင်းရောင်ပြင်းပြမှု	အလင်းရောင်ပေးခြင်း	တစ်နှစ် ၂ကြိမ်	ထုတ်လုပ်မှု ဧရိယာအတွင်း (ပိတ်ဖတ်ခြင်းနှင့် အရည်အသွေး စစ်ဆေးခြင်း)	Mynice Optoelectronics (Myanmar) Company Limited
လုပ်ငန်းဖြတ်သိမ်းခြင်းကာလ				
လေထု	PM2.5, PM10 , SO_2 , NO_2	ဖြတ်သိမ်းမှု ကာလအတွင်း ၁ကြိမ်	ထုပ်လုပ်မှု ဧရိယာအတွင်း	Mynice Optoelectronics (Myanmar) Company Limited
ဆူညံသံ	ဆူညံသံ ပမာဏ	တိုက်ကာလအတွင်း ၁ ကြိမ်	ဖြတ်သိမ်းမှု ဧရိယာ	Mynice Optoelectronics (Myanmar) Company Limited
ပြန်လည်မွမ်းမံခြင်း	သစ်ပင်များပြန်လည်စိုက်ပျိုးခြင်း		ဖျက်သိမ်းမည့် ဧရိယာ အားလုံး	Mynice Optoelectronics (Myanmar) Company Limited

ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်မှု ခန့်မှန်းကုန်ကျစရိတ်

စဉ်	အကြောင်းအရာ	အကြိမ်အရေအတွက်	ကုန်ကျစရိတ် (အမေရိကန် ဒေါ်လာ)
လျော့ချခြင်းအစီအစဉ်			
၁.	စက်ရုံအတွင်းလေအဝင်အထွက်အစီအစဉ်	၁နှစ် တကြိမ်	နှစ်စဉ် ဒေါ်လာ ၄၀၀
၂.	စက်ရုံဓရိယာအတွင်း သစ်ပင်များစိုက်ပျိုးခြင်း	၃လ တကြိမ်	၃လခြား ဒေါ်လာ ၁၄၀
၃.	အစိုင်အခဲအမှိုက်ပစ်ခြင်း	၁၂ ကြိမ်	နှစ်စဉ် ဒေါ်လာ ၂၀၀၀
၄.	တစ်ကိုယ်ရည်သုံး ကာကွယ်ရေးပစ္စည်းများ၀ယ်ယူခြင်း	၆ လ တကြိမ်	၆ လခြား ဒေါ်လာ ၃၀၀
၅.	ဆေးပစ္စည်များနှင့် ကျန်းမာရေးစစ်ဆေးခြင်း	၁ နှစ် တကြိမ်	နှစ်စဉ် ဒေါ်လာ ၁၀၀၀
အရေးပေါ်အစီအစဉ်			
၁.	မီးသတ်ဆေးဘူး	၃လ တကြိမ်	လစဉ် ဒေါ်လာ ၆၀၀
၂.	မီးသတ်အချက်ပြ စနစ်	၃လ တကြိမ်	
၃.	ရေးဦးသူနာပြု ပစ္စည်းများ	၃လ တကြိမ်	
စောင့်ကြပ်ကြည့်ရှုရေးအစီအစဉ်			
၁.	ရေဆိုးရေဘေ့စ်	၂ ကြိမ်	၁နှစ် ဒေါ်လာ ၄၀၀
၂.	ဆုည်သံ	၂ ကြိမ်	၁နှစ် ဒေါ်လာ ၆၀၀
၃.	စောင့်ကြပ်ကြည့်ရှုမှု အစီရင်ခံစာ	၁ ကြိမ်	ဒေါ်လာ ၂၀၀၀

လူမှုအကျိုးတူပူးပေါင်း ပါဝင်မှု

Mynice Optoelectronics (Myanmar) Company Limited တွင် CSR အတွက် အမြတ်ငွေ၏ ၂% ကို ကျန်းမာရေး၊ ပညာရေးနှင့် နယ်မြေဖွံ့ဖြိုးတိုးတက်ရေးတို့ အတွက် အသုံးပြုသွားမည် ဖြစ်ပါသည်။

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

စက်ရုံ၏ဆောင်ရွက်ချက်များ

Mynice Optoelectronics (Myanmar) Company Limited ဝန်ထမ်းများအတွက်သောက်ရေပြင်ဆင်ထားရှိမှု

Mynice Optoelectronics (Myanmar) Company Limited ၏ဂိုဒေါင်ထဲမ်းများအတွက်ဆေးဝါးများထားရှိမှု

Mynice Optoelectronics (Myanmar) Company Limited ၏ လျှပ်စစ်သုံးစွဲမှုအတွက်ပြင်ဆင်ထားရှိမှု

Mynice Optoelectronics (Myanmar) Company Limited ၏ မီးဘေးအန္တရာယ်တွက်ပြင်ဆင်ထားရှိမှုများ

စက်ရုံအတွင်းအမှိုက်စွန့်ပစ်မှုအခြေနေများ၊ ဂန်ထမ်းများအတွက်အိမ်သာထားရှိမှုများ နှင့် ရေမြောင်းထားရှိမှုအခြေနေများ

Thank You for Your Patient Attention...