ENVIRONMENTAL MANAGEMENT PLAN

FOR

KAI SHENG (MYANMAR) INDUSTRIAL COMPANY LIMITED

Prepare for;

KAI SHENG (MYANMAR) INDUSTRIAL COMPANY LIMITED

Plot No.86, Myay Taing Block No. (42), Industrial Zone, Shwe Pyi Thar Township, Yangon, Myanmar

July, 2021

LETTER OF ENDORSEMENT BY THE PROJECT PROPONENT

This Environmental Management Plan (EMP) for Kai Sheng (Myanmar) Industrial Company Limited was prepared by company organization itself. This Environmental Management Plan has been done with reasonable skills, care and diligence in accordance with the stipulations of Environmental Impact Assessment Procedure (Paragraph 76-82). I hear by signed this report on behalf of the Kai Sheng (Myanmar) Industrial Company Limited to certify that all the information in it are true and convincing to the best of our knowledge. I hereby issue my letter of endorsement to confirm:

(a) The accuracy and completeness of the EMP;

(b) That the EMP has been prepared in strict compliance with applicable laws including the EIA Procedure; and

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

Signed

Name : ……

Position : ……

Organization : ……

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BOD	Biochemical Oxygen Demand
CFM	Cubic Feet per Minute
CMP	Cutting, Making and Packaging
COD	Chemical Oxygen Demand
dB	Decibel
Dept	Department
EMP	Environmental Management Plan
HOD	Head of Department
HR	Human Resource
LBS	Pound
MIC	Myanmar Investment Commission
NSRs	Noise Sensitive Receivers
NEQG	National Emitting Quality Guideline
OSH	Occupational Safety and Health
PPE	Personal Protective Equipment
SLM	Sound Level Meter
MEMs	Mitigation Environment Measure

အနှစ်ချုပ်အစီအရင်ခံစာ

၁။ နိဒါန်း

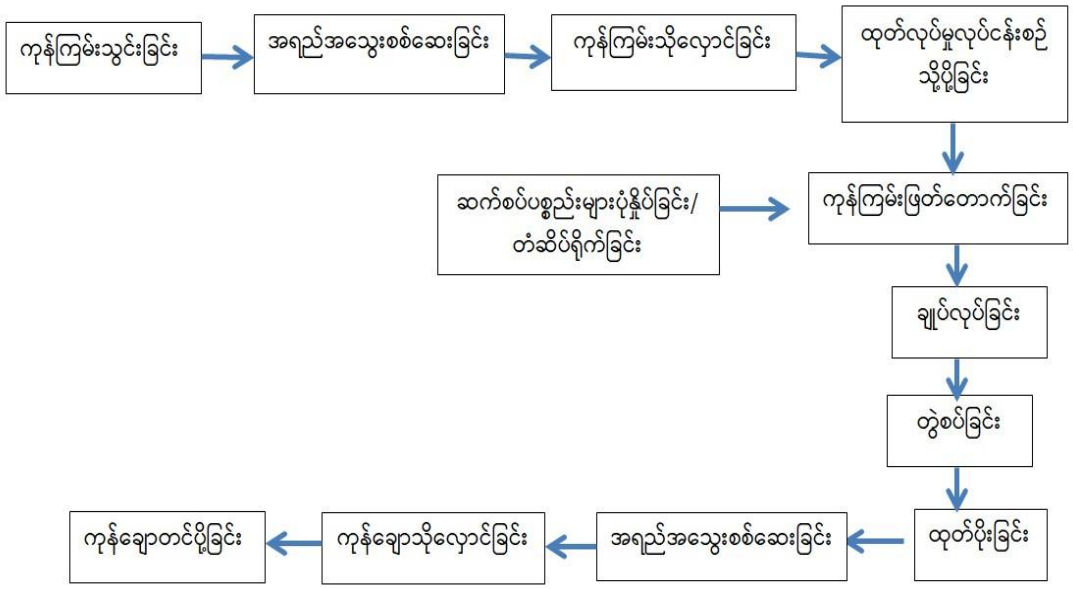
Kai Sheng (Myanmar) Industrial Company Limited သည် မြန်မာကုမ္ပဏီများ အက်ဥပဒေအရဖွဲ့စည်းထားသော ပုဂ္ဂလိကကုမ္ပဏီလီမိတက်ဖြစ်သည်။ Kai Sheng (Myanmar) Industrial Company Limited သည်မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုနှင့်ကုမ္ပဏီများညွှန်ကြားမှု ဦးစီးဌာန(DICA)တွင် မှတ်ပုံတင်နံပါတ်(၁၂၀၆၅၈၀၀၈) ရရှိပြီးဖြစ်ပါသည်။ Kai Sheng (Myanmar) Industrial Company Limited ၏အိတ်အမျိုးမျိုးချုပ်လုပ်ခြင်းစက်ရုံသည် မြေကွက်အမှတ်(၈၆)၊ မြေတိုင်းရပ်ကွက် အမှတ်(၄၂)၊ စက်မှုဇုန်၊ ရွှေပြည်သာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီးတွင် တည်ဆောက်ထားရှိသည်။ စီမံကိန်းဧရိယာမှာ (၀.၇၀၆၅)ဧက အသုံးပြုမည်ဖြစ်ပြီး ရုံး၊ စက်ရုံ၊ လုံခြုံရေးဂိတ်၊ ကုန်ကြမ်းသိုလှောင်သည့်နေရာများ ပါဝင်တည်ဆောက်ထားသည်။ စက်ရုံ၏ တည်နေရာမှာလတ္တီကျူ (16°54'3.44"N)နှင့် လောင်ဂျီကျူ (96°13'17.13"E)တွင် တည်ရှိပါသည်။ Kai Sheng (Myanmar) Industrial Company Limitedမှ အိတ်အမျိုးမျိုးချုပ်လုပ်ခြင်းစက်ရုံအတွက် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan)ကို စီမံကိန်းအဆိုပြုသူ Kai Sheng (Myanmar) Industrial Company Limited စက်ရုံ၏တာဝန်ရှိသူများမှ ၂၀၂၁ခုနှစ်၊ ဂျူလိုင်လအတွင်းတွင် စတင်စုစည်းရေးသားပြုစုခြင်းဖြစ်ပါသည်။

၂။ Kai Sheng (Myanmar) Industrial Company Limitedမှ အိတ်အမျိုးမျိုးချုပ်လုပ်ခြင်းလုပ်ငန်းစဉ်

Kai Sheng (Myanmar) Industrial Company Limited စက်ရုံသည် CMPထုတ်လုပ်မှုစနစ်ဖြင့် အိတ်အမျိုးမျိုးကိုချုပ်လုပ်၍ထုတ်လုပ်သည်။ ထုတ်ကုန်အများစုကို ပြည်ပသို့တင်ပို့သည်။ ပုံမှန်ထုတ်လုပ်မှု လုပ်ငန်းအဆင့်များကို အောက်ပါပုံ(က)တွင် ဖော်ပြထားပါ သည်။

အဓိကထုတ်လုပ်မှုလုပ်ငန်းစဉ်များမှာ ပြည်ပမှတင်သွင်းထားသောကုန်ကြမ်းများကို ချည်ဖြတ်ခြင်း၊ ပြန်လည်ပြုပြင်ချုပ်လုပ်ခြင်း၊ ထုတ်ပိုးခြင်းစသည့်လုပ်ငန်းစဉ်တို့ပါဝင်သည်။ ထုတ်လုပ်မှုလုပ်ငန်းစဉ်တွင် စွန့်ပစ်အရည်ထွက်ရှိမှုမရှိသော်လည်း ဘွိုင်လာနှင့်မီးစက်အသုံးပြုမှု

တွင် အခိုးအငွေ့ထုတ်လွှတ်မှုအနည်းငယ်မျှသာရှိပါသည်။ ဤလုပ်ငန်းစဉ်တွင် အစိုင်အခဲစွန့်ပစ်ပစ္စည်းများထွက်ရှိမှုသည်အဓိကအားဖြင့်လုပ်ငန်းစဉ်အားလုံးတွင်ပါဝင်နိုင်သည်။ ထိုအစိုင်အခဲစွန့်ပစ်ပစ္စည်းများကို ရွှေပြည်သာမြို့နယ်၊ စည်ပင်သာယာရေးကော်မတီ၏ ခွင့်ပြုချက်ဖြင့် စွန့်ပစ်ရန် စီစဉ်ထားရှိသည်။



ပုံ (က) **Kai Sheng (Myanmar) Industrial Company Limited**၏

အိတ်အမျိုးမျိုးချုပ်လုပ်ခြင်းပုံမှန်ထုတ်လုပ်မှု လုပ်ငန်းစဉ်

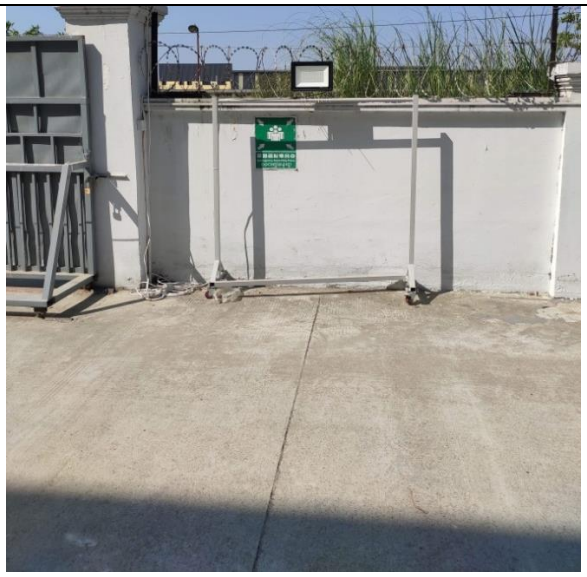
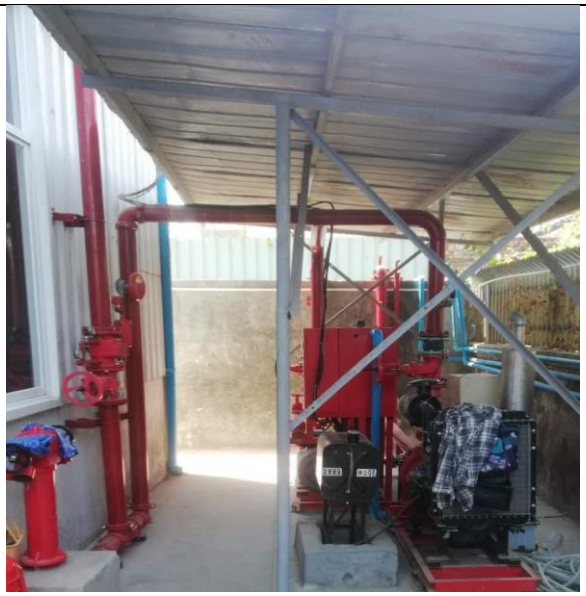
၃။ လက်ရှိပတ်ဝန်းကျင်အခြေအနေ

Kai Sheng (Myanmar) Industrial Company Limited ၏အိတ်အမျိုးမျိုးချုပ်လုပ်ခြင်းသည် လက်ရှိအခြေအနေတွင်ထုတ်လုပ်နေပြီဖြစ်သည်။စက်ရုံရှိလက်ရှိအခြေအနေများ၏ စစ်ဆေးမှု ရလဒ်များကို ဇယား (က) တွင်ပြထားသည်။

ဇယား (က) စက်ရုံ၏ လက်ရှိအခြေအနေများ၏ စစ်ဆေးတွေ့ရှိမှု အခြေအနေများ

စဉ်	စစ်ဆေးတွေ့ရှိမှု အခြေအနေများ	မှတ်ချက်
၁	စက်ရုံဝင်ပေါက်	
၂	ရေဆိုးမြောင်းစနစ်	
၃	အလုပ်သမားများအတွက် ကိုယ်လက်သန့်စင်နေရာထားရှိခြင်း	
၄	ယင်လုံအိမ်သာများထားရှိခြင်း	

၅	မီးသတ်ဆေးဗူးများထားရှိခြင်း	
၆	မီးသတ်ပိုက်များနှင့် အရေးပေါ်အချက်ပေးခလုတ်များ တပ်ဆင်ထားခြင်း	
၇	အရေးပေါ်ထွက်ပေါက်များကို ဖော်ပြထားခြင်း	

၈	အရေးပေါ်စုရပ်ထားရှိခြင်း	
၉	အရေးပေါ်မီးသတ်စနစ်အတွက် မီးသတ်ကန်ထားရှိခြင်း	
၁၀	စက်ရုံအတွင်း သန့်စင်သော လေရရှိစေရန် လေထုတ်ပန်ကာများ တပ်ဆင်ထားခြင်း	

၁၁	စက်ရုံဝင်းအတွင်း အမှိုက်ကန်ထားရှိခြင်း	
၁၂	သောက်သုံးရေအတွက် ရေသန့်စင်စနစ် တပ်ဆင်ထားခြင်း	
၁၃	စက်ရုံဝင်းအတွင်း အလင်းရောင် အပြည့်အဝရရှိရန် တပ်ဆင်ထားခြင်း	

၄။သက်ရောက်မှု ဆန်းစစ်ခြင်းနှင့် ကုစားခြင်း

Kai Sheng (Myanmar) Industrial Company Limited၏ အိတ်အမျိုးမျိုး ချုပ်လုပ်ခြင်းသည် လုပ်ငန်းအဆင့်ဆင့်ပေါ်မူတည်၍ သက်ရောက်မှုဆန်းစစ်ခြင်းနှင့် ကုစားခြင်းကို အောက်ဖော်ပြပါ ဇယား(ခ)နှင့် (ဂ)တွင် ဖော်ပြထားပါသည်။

ဇယား (ခ) ပတ်ဝန်းကျင်အပေါ် သက်ရောက်စေမည့် အကြောင်းအချက်များနှင့် သက်ရောက်မှုများ

စဉ်	လုပ်ငန်းစဉ်	သက်ရောက်မှုဖြစ်ပေါ်စေသည့် အကြောင်းအချက်	သက်ရောက်မှု
၁	ကုန်ကြမ်း၊ ကုန်ချော ပစ္စည်းများ ကိုင်တွယ် ထိန်းသိမ်းခြင်း	ကုန်ကြမ်းကုန်ချောပစ္စည်းများ အတင်အချ ပြုလုပ်ခြင်း	ထိခိုက်ပွန်းရှခြင်း အလေးအပင်မရာမှ ဒဏ်ဖြစ်ခြင်း၊
		ထုပ်ပိုးစွန့်ပစ်ခြင်း	အစိုင်အခဲစွန့်ပစ်ပစ္စည်း၊
၂	ချည်ကြိုးများ ဖြတ်တောက်ခြင်း	ချည်ကြိုးဖြတ်စက် အသုံးပြုခြင်း	ထိခိုက်ပွန်းရှခြင်း အလေးအပင်မရာမှ ဒဏ်ဖြစ်ခြင်း၊
၃	အပ်ချုပ်ခြင်းနှင့် ချုပ်ရိုးဇစ်တပ်ခြင်း	ချည်ဖြတ်တောက်မှု၏ အပိုင်း အစများ, အပ် နှင့် ထိတွေ့ခြင်း	ထိခိုက်ပွန်းရှခြင်း၊ စက်ယန္တရားအန္တရာယ်၊ ဆူညံသံ၊ အစိုင်အခဲ စွန့်ပစ်ပစ္စည်း၊
၄	တံဆိပ်၊နံပါတ်များ တပ်ဆင်ခြင်း စစ်ဆေးခြင်း ပြန်လည်ပြုပြင်ခြင်း	ချည်ဖြတ်တောက်မှု၏ အပိုင်းအစများ၊ အပ်များ နှင့် ထိတွေ့ခြင်း	ထိခိုက်ပွန်းရှခြင်း၊ အစိုင်အခဲစွန့်ပစ်ပစ္စည်း
၅	ထုပ်ပိုးခြင်းနှင့် သိုလှောင်ခြင်း	စက္ကူပုံးစွန့်ပစ်ခြင်း	အစိုင်အခဲစွန့်ပစ်ပစ္စည်း
		အိတ်ခွံများစွန့်ပစ်ခြင်း	အစိုင်အခဲစွန့်ပစ်ပစ္စည်း
		ပစ္စည်းများအတင်အချ ပြုလုပ်ခြင်း	အလေးအပင်မရာမှ ဒဏ်ဖြစ်ခြင်း၊
၆	ကုန်ချောသိုလှောင် သိမ်းဆည်းထားခြင်း	ကုန်ချောပစ္စည်းများ အတင်အချ ပြုလုပ်ခြင်း	ထိခိုက်ပွန်းရှခြင်း အလေးအပင်မရာမှ ဒဏ်ဖြစ်ခြင်း၊

ဇယား (၈) ကုစားရန် နည်းလမ်းများ

သက်ရောက်မှု	ရင်းမြစ်	ကုစားခြင်း
မီးဘေးအန္တရာယ်	- စက်ရုံ၏ တားမြစ်နယ်မြေအတွင်း ဆေးလိပ်သောက်ခြင်း။ - ဝန်ပိုလျှပ်စစ်ဓာတ်အားအသုံးပြုမှု ကြောင့် ဝါယာရှော့ခ်ဖြစ်ခြင်း။ - မီးစက်မောင်းနှင်ရန်အတွက် ဒီဇယ်သိုလှောင်မှု	(၁)စက်ရုံဝင်းအတွင်းဆေးလိပ်သောက် ခြင်းကိုလုံးဝပိတ်ပင်တားမြစ် ခြင်း (၂)အရေးပေါ်ထွက်ပေါက်များကိုရှင်းလင်းစွာ ဖော်ပြခြင်း (၃)ထွက်ပေါက်လမ်းများကိုအမြဲသန့်ရှင်း အောင်ထားခြင်း (၄)မီးသတ်ဆေးဘူးများကို ပုံမှန်စစ်ဆေး၊ ဖြည့်တင်းခြင်း (၅)မီးငြိမ်းမှု ဇာတ်တိုက်လေ့ကျင့်ခန်းများ ပုံမှန်ပြုလုပ်ခြင်း
အစိုင်အခဲစွန့်ပစ် ပစ္စည်း	- ချည်ကြိုးအပိုင်းအစများ ဖြတ်တောက်မှုအပိုင်းအစများ၊ - ထုပ်ပိုးစွန့်ပစ်ပစ္စည်း - ပလပ်စတစ်အမှိုက်များ - အထွေထွေအမှိုက်များ	(၁) ပုံမှန်သန့်ရှင်းရေးလုပ်ရန် (၂)အမှိုက်အိတ်များဖြင့် နိုင်လွန်အထည် စွန့်ပစ်ပစ္စည်းထုပ်ပိုး ထားခြင်း (၃)စွန့်ပစ်အိတ်များကိုစနစ်တကျသိုလှောင် ခြင်း (၄)စွန့်ပစ်ပစ္စည်းစုဆောင်းသူကိုပုံမှန်ခေါ်ယူ ခြင်း (၅)အမှိုက်ပုံးများလုံလောက်စွာထားခြင်း
ထိခိုက်နိုင်မှု	-ကုန်ကြမ်း၊ကုန်ချော ပစ္စည်းများ အတင်အချပြုလုပ်ခြင်း - အလေးချိန်ပိုသော ပစ္စည်းများ သယ်ဆောင်ခြင်းမှထိခိုက်ခြင်း - ဖြတ်စက်ကိုင်တွယ်အသုံးပြု ခြင်း၊ အပ်နှင့်ထိခိုက်မိခြင်း	(၁) ကုန်ပစ္စည်းများ အလွယ်တကူမရန် အထောက်အကူပြု သယ်ဆောင်ကိရိယာ အသုံးပြုခြင်း (၂) ထိခိုက်ပွန်းရှနိုင်သည့် ပစ္စည်းများ ကိုင်တွယ်ရာတွင် လက်အိတ် အသုံးပြုခြင်း (၃) စက်တွင် အကာအရံတပ်ဆင်ခြင်း

ဆူညံသံ	- မီးစက်နှင့်စက်များ မောင်းနှင်အသုံးပြုခြင်း	(၁) စက်ပစ္စည်းများအား ပုံမှန်ပြုပြင်ထိန်းသိမ်းမှုများ ပြုလုပ်ခြင်း (၂) မီးစက်အသုံးပြုခြင်း နေရာတွင် အသံလုံအကာအကွယ် တပ်ဆင်ခြင်း
စက်ယန္တရား အန္တရာယ်	- ရေနွေးငွေ့ဖြင့် ပေါင်းခံစက်အသုံးပြုခြင်း - ခေါက်စက်ကိုအသုံးပြုခြင်း	(၁) လုပ်ငန်းခွင် အန္တရာယ် ကာကွယ်ရေးပစ္စည်းများ (မျက်မှန်၊ လက်အိတ်၊ နားကြပ်) တို့ကို မပျက်မကွက် ဝတ်ဆင်ခြင်း (၂) စက်ပေါ်တွင် အမှိုက်၊ ဖုန်၊ ဆီတင်ကျန်မှုရှိ/ မရှိ စစ်ဆေးပြီး ပုံမှန်သန့်ရှင်းခြင်း (၃) ဆီယိုစိမ့်မှုရှိ/ မရှိ စစ်ဆေးပြီး လိုအပ်သော ဆီပမာဏဖြည့်ခြင်း (၄) စက်ယန္တရားများ လည်ပတ်ရာနေရာတွင် မီးလောင်ပေါက်ကွဲနိုင်သော ပစ္စည်းများ မရှိ အောင်ကြိုတင်ရှင်းလင်းခြင်း (၅) စက်ယန္တရားများ လည်ပတ်ရာနေရာတွင် လုံခြုံရေး အကာအကွယ်များ တပ်ဆင်ခြင်း (၆) စက်တွင် ပါဝင်သောမော်တာ ပတ္တာကြိုး၊ ဂီယာ၊ ချိန်းကြိုး နှင့် ရွှေ့လျားအစိတ်အပိုင်းများကို ပုံမှန်စစ်ဆေးခြင်း (၇) စက်ယန္တရား၏ အစိတ်အပိုင်းများကို စနစ်တကျ တပ်ဆင်ခြင်း (၈) စက်စတင် အသုံးမပြုမီ စက်၏ လျှပ်စစ်ကြိုးများကို စစ်ဆေးပြီး ပေါက်ပြဲ

		ပျက်စီး နေလျှင် ပြုပြင်လဲလှယ်ခြင်း (၉) စက်စတင်အသုံးမပြုမီ ကြိုတင် စစ်ဆေးရမည့် အချက်များကို စာရင်း ပြုလုပ် ထားပြီး အလွယ်တကူ မြင်နိုင်မည့် နေရာတွင် ကပ်ထားခြင်း (၁၀) စက်ယန္တရားများကို ကျမ်းကျင် ဝန်ထမ်း များသာလျှင် ကိုင်တွယ် အသုံးပြု ခြင်း (၁၁) စက်ယန္တရားများတွင်စက်လည် ပတ်မှု အရေးပေါ် ရပ်နားသည့် ခလုတ် /စနစ်များကို အလွယ်တကူမြင်နိုင်သည့်နေရာတွင် တပ်ဆင်ခြင်း
ဖုန်၊ အနုံ့အသက်	ပစ္စည်းများနေရာချခြင်းကြောင့် ဖုန်၊ အမှုန်အမွှားထွက်ရှိခြင်း	(၁) လုပ်သားများအတွက် နှာခေါင်းစည်းများ အလုံအလောက်စီစဉ် ထားရှိခြင်း (၂) အမှုန်အမွှားထွက်ရှိသည့် အလုပ်နေရာတွင် လုပ်သားများ နှာခေါင်းစည်းအသုံးပြုမှုကို ပုံမှန်စစ်ဆေး ကြပ်မတ်ခြင်း (၃) အမှုန်ထုတ်လွှတ်မှု တိုင်းတာသည့် ကိရိယာတပ်ဆင်ခြင်း (၄) အမှုန်ထုတ်လွှတ်မှု ၅၀ထက် ကျော်လွန် လျှင်လုပ်ငန်းအားလုံးကို ခေတ္တရပ်နား ထားခြင်း (၅) အမှုန်အမွှားစုပ်စက် အသုံးပြုခြင်း

EXECUTIVE SUMMARY

1. Introduction

Kai Sheng (Myanmar) Industrial Company Limited is a Private Company Limited incorporated under the Myanmar Companies Act. Kai Sheng (Myanmar) Industrial Company Limited is a specialized company in Registration Department (DICA) with registration Number (120658808). The company is located at Plot No.86, Myay Taing Block No. (42), Industrial Zone, Shwe Pyi Thar Township, Yangon, Myanmar. The list of Directors of the project owner is shown in following table.

Figure (A) Location of Kai Sheng (Myanmar) Industrial Company Limited

The project area is (0.7065) acre it's contain land includes office, factory, security office, raw materials storage area, and canteen and product storage area. The factory is located latitude 16°56'47.88"N and longitude 96° 5'52.74"E. The plant is starting operation process and production in current condition.

2. Project Operation

The factory produces garment with CMP production scheme. Majority of the products are exported. Routine production works can be seen in the following flow diagram.

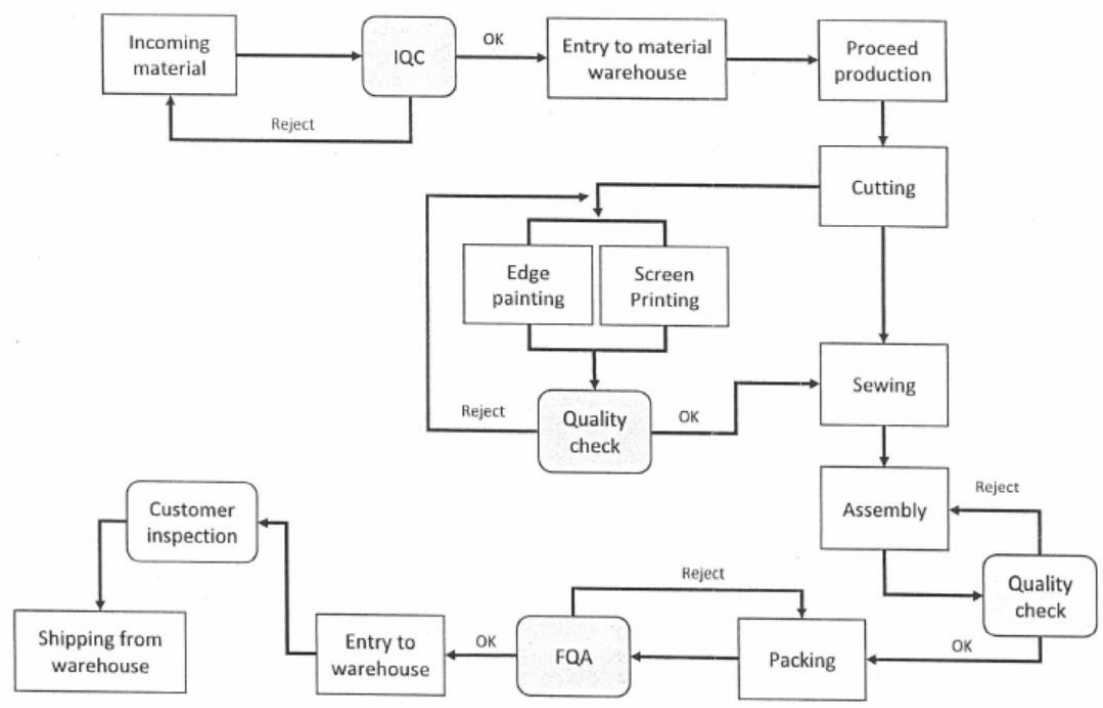


Figure (B) Process Flow Diagram for Kai Sheng (Myanmar) Industrial Company Limited

Primary production scheme is raw materials storing, cutting, sewing, and quality inspection and packing. The production process is labor intensive which is a trademark of CMP industry. The production process produces no liquid effluent and slightly gaseous emission from boiler. The process produce solid waste mainly consists of all process and these solid wastes are managed to collect by the government waste collector.

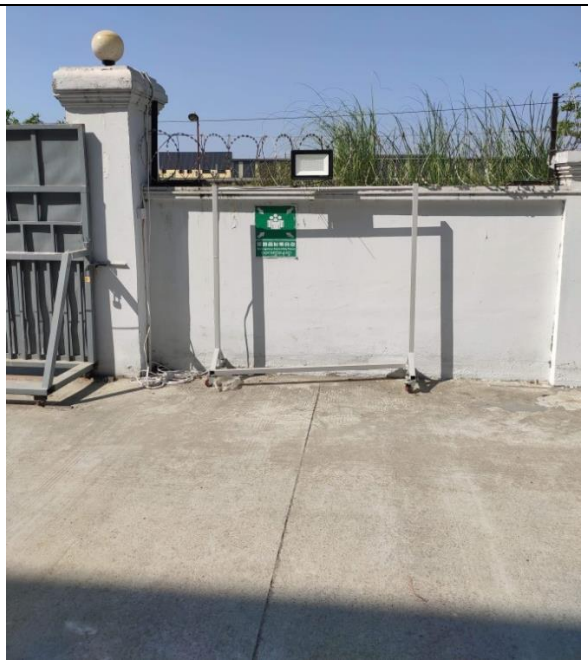
2. Current Conditions of the Factory

Kai Sheng (Myanmar) Industrial Company Limited is not start operation process in current condition. Inspection Results of Current Conditions of the Factory is shown in table A.

Table (A). Inspection Results of Current Conditions of the Factory

Sr.	Particular	Remark
1	Factory Entrance	
2	Drainage system	
3	Providing washing area for labor	

4	Toilets are provided	
5	Fire extinguishers are provided within the factory compound	
6	Fire hose cabinets and fire alarm is provided for emergency cases	

7	Emergency exits sign are installed	
8	Assembly point for emergency case	
9	Constructed firefighting unit with high pressure pump	

10	Installed exhaust fans for air cleaning	
11	Solid waste disposal area is set in factory compound	
12	Drinking Water treatment system was installed for labor	
13	Installed fully light in factory compound area	

3. Impact Assessment and Mitigation

This factory of impact assessment and mitigation is described in table (B) and (C) depend on production process.

Table B. Environmental Aspect and Impact

Sr.	Activity List	Aspect	Impact
1	Receiving	Overweight lifting	Injury from overweight lifting
		Packing waste	Solid waste generation
2	Fabric Cutting	Operation of cutting machine	Injury from cutting machine, Solid waste generation
3	Sewing , zipper stitching and iron	Pieces of thread cuts, needle	Solid waste generation, Injure by needle and heat injury
4	Finishing, Tag & Code	Pieces of thread cuts, needle cuts	Solid waste generation, Injure by needle
5	Packing	Packing waste	Solid waste generation
6	Storage	Pieces of plastic	Solid waste generation
		Overweight lifting	Injury from overweight lifting

Table C. Mitigation Measures

IMPACTS	Impact Source	Mitigation
Fire hazard	- Smoking in prohibited area - Wire shock by continuous electricity usage - Diesel storage for driving generator	1.Strictly prohibit smoking within factory compound 2.Clearly define and notify emergency exits 3.Passage ways must always be kept clean and clear 4.Regularly check and refill fire extinguishers 5.Exercise fire drill regularly

Solid Waste	- Pieces of nylon fabric - Pieces of thread cuts, needle cuts - Packing waste - Plastic waste - General waste	1.Packing nylon fabric waste in bags 2.Cleaning continuous and regularly 3.Stacking waste bags systematically 4.Calling waste collector regularly 5.Providing adequate dust bins
Physical hazard	- Injury from overweight lifting - Contact with cutting machine - Injury by needle	1.Using necessary lifting and carrying aid apparatus and machinery 2.Using metal hand gloves for cutting machine operators 3.Installing needle guards
Noise	- Operation of generator and machine	1. Carrying out regular maintenance works for all the equipment and generator 2. Installation cover in generator room for noise
Machinery hazard	- Operation machine	1.Wearing necessary PPE (goggle, hand gloves, ear muffs) 2.Regular inspection and cleaning of debris, dusts and oils on machine components 3. Regular inspection of lubricant leakage and refilling as necessary 4. Clearing work place of flammable materials before using machine 5. Installation safety guard on machine 6. Regular inspection of belt, gears, sprockets, chains, and other moving parts. 7. Systematically installing machine parts 8. Regular inspection of power cable 9. Preparing checklist, warning signs or lights of inspection for using machine and displaying at visible location near machine 10. Allow only qualified workers to

		operate or maintain machine. 11. Install emergency stop devices on machine to enable workers to shut off the equipment within easy reach of workers.in an emergency.
Emission dust	- Operation of fabric settling	1.Wearing necessary PPE (goggle, gloves) 2. Regular inspection and supervision of the usage of the masks for the workers working at odor producing areas 3. Installation of a particle monitoring meter 4. Temporarily stopping the works if PM 2.5 and PM 10 emission reached above 50 $\mu g/m^3$ in a day 5. Cleaning with dust collector

Environmental Management Plan

For

KAI SHENG (MYANMAR) INDUSTRIAL COMPANY LIMITED

1 PROJECT BACKGROUND

1.1 PROJECT DESCRIPTION

Kai Sheng (Myanmar) Industrial Company Limited is a Private Company Limited incorporated under the Myanmar Companies Act. Kai Sheng (Myanmar) Industrial Company Limited is a specialized company in Registration Department (DICA) with registration Number (120658808). The company is located at Plot No.86, Myay Taing Block No. (42), Industrial Zone, Shwe Pyi Thar Township, Yangon, Myanmar. The list of Directors of the project owner is shown in following table.

Table 1. List of the factory data of Kai Sheng (Myanmar) Industrial Company Limited

No.	Project Data	Description
1	Company Name	Kai Sheng (Myanmar) Industrial Company Limited
2	Project Type	Manufacturing of various kinds of bags on CMP basis
3	Location	Plot No.86, Myay Taing Block No. (42), Industrial Zone, Shwe Pyi Thar Township, Yangon, Myanmar
4	Project Owner	Mr. CHENG, WEN-CHIN (PP No.306644113)
5	Office Address	Plot No.86, Myay Taing Block No. (42), Industrial Zone, Shwe Pyi Thar Township, Yangon, Myanmar

1.2 PROJECT OBJECTIVE

The project involves the production of a wide range of garments using the CMP system, which produces high-quality products of international standard by hand to international orders, in order to increase workers' skills. Just as the project owner, so does the state to receive relevant sector taxes and foreign currency. To provide employment opportunities to the people around the project; and 2% of business profits to support public development that follow CSR policy.

1.3 PRESENTATION OF THE ENVIRONMENTAL TEAM

Kai Sheng (Myanmar) Industrial Company Limited was arranged for EMP study and reporting for Kai Sheng (Myanmar) Industrial Company Limited factory. EMP team consists of the following team and sector-wise participants.

Table 2. EMP Team Member

Sr.	Position	Area of Responsibility
1	Factory Manager	Reporting and Public Consultation
2	Factory Engineer	Reporting Arrangement
3	HR Manager	Data Collection
4	Operation Supervisor	Data Collection

Table 3. Contact Data of Kai Sheng (Myanmar) Industrial Company Limited

Company Name	Kai Sheng (Myanmar) Industrial Company Limited
Address	Plot No.86, Myay Taing Block No. (42), Industrial Zone, Shwe Pyi Thar Township, Yangon, Myanmar
Ph.no/E-mail	09- 890092014/ emp.reporting.to.ecd@gmail.com

2 LEGAL REQUIREMENTS

The Laws, Rules and Procedures should be compliance from Kai Sheng (Myanmar) Industrial Company Limited is as follows.

1. Environmental Conservation Law (2012)
2. Employment and Skill Development Law (2013)
3. Factory Act (1951)
4. Minimum Wages Law (2013)
5. Myanmar Fire Bridgate Law (2015)
6. Occupational Safety and Health Law (2020)
7. The Labour Organization Law (2011)
8. The Settlement of Labour Dispute Law (2012)
9. The Leave and Holiday Act (1951)
10. The Prevention of Hazard from Chemical and related Substances Law (2013)
11. The Control of Smoking and Consumption of Tobacco Product Law (2006)

12. Environmental, Health, And Safety (EHS) Guidelines
13. International The Export And Import Law
14. Prevent The Outbreak of Communicable Diseases

2.1 ENVIRONMENTAL CONSERVATION LAW

Myanmar enacted the ***Environmental Conservation Law*** on 30th March, 2012 as Pyidaungsu Hluttaw Law No.9/2012. There are eight objectives of the law which stress on (i) implementation of Myanmar National Environmental Policy, (ii) integration of environmental conservation in sustainable development, (iii) emerging healthy and clean environment and conserving natural and cultural resources, (iv) reclaiming ecosystems, (v) sustainable and beneficial use of natural resources, (vi) promoting public awareness and cooperation, (vii) promoting international cooperation, (viii) and cooperation with government departments, INGOs, NGOs and individuals for the matters of environmental conservation. There are 42 paragraphs in 14 sections of the law.

Table 4. Relevant Stipulations in Environmental Conservation Law

Sr.	Paragraph	Stipulation
1	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.
2	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.
3	16	A person or organization operating business in the industrial estate or business in the special economic zone 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' charges or management fees for the environmental conservation according to the relevant industrial estate, special economic zone and business organization; (c) shall comply with the directives issued for environmental conservation according to the relevant industrial estate, special economic zone or business.
4	39 (b)	If any terms and conditions of environmental conservation contained in the prior permission for a business is not complied with, the power to cancel the issued license, permit or register or suspend it for a limited period is granted for relevant government department, or government organization.

2.2 EMPLOYMENT AND SKILL DEVELOPMENT LAW

With the objectives to facilitate employment which is appropriate to the age and ability of the job seeker, to help workers obtain employment and to provide stability of employment and skills development for employees, to help employers obtain appropriate employees, the Employment and Skill Development Law came into force in late 2013. The law stipulates the facts required to be included and specified in the employment agreement between the employer and employee.

The law stipulates that a company must enter into written employment contracts with Myanmar citizens and foreign staff within 30 days of employment. A Standard Employment Contract is issued which is applicable to all employees, public and private, and shall be deemed to apply in all cases where the employee's written contract is silent. The Standard Employment Contract is largely provided for convenience. It allows employers and employees to vary the terms of the Standard Employment Contract so long as the variation is not in contravention of Myanmar's labor and employment laws.

Furthermore, an employment agreement may address issues such as job description, place of employment, working hours, wages and benefits, probation

period, termination, and duration of the contract. Employee performance and work standards may be inserted into the employment contract too.

2.3 FACTORY ACT

The act outlines provisions for working hours for a week, interval between continuous working hours, maximum working hours per day, and working days per week. It also stipulates maximum overtime working hours, overtime wage, worksite safety and health measures as well as welfare measures for workers. Welfare measures include washing and cleaning facilities, seats first aid boxes, factory clinic, recreation center and canteen and child nursery center.

2.3.1 Working hours

- Shall not exceed 8 working hours per day or 44 hours per week
- Shall not exceed 48 hours per week for the work which has to be done continuously
- There must be a minimum 30 minutes interval after each 5 working hours
- The combined working hours and interval time shall not exceed 10 hours per day
- The working days shall not exceed 6 days per week
- There must be one day holiday each week (Sunday). If Sunday service is required, there must be a substitution of another day.

2.3.2 Overtime

- Shall not exceed more than 16 hours per week or, for continuous work, 12 hours per week
- The overtime wage shall be calculated as double the basic wage
- Permission of Factories and the General Labour Law Inspection Department must be obtained for an approval of a constant overtime policy.

2.3.3 If working on days-off

- Comply in accordance with the overtime and general working hour provisions
- There must be substituted an alternative day-off.

2.3.4 Calculation of overtime wages

- For salary earners: Overtime wage per hour = {(salary x 12 month) / 52 week x 44 (48) hrs} x 2
- For daily wages worker: Overtime wage per hour = {(daily wage x 6 day) / 44 (48) hrs} x 2
- Piece-work labourers: Overtime wage per hour = {(daily average wage x 6 day) / 44 (48) hrs} x 2

2.3.5 Worksite Safety and Health Measures

- The factory must be kept clean and the workspace must be situated away from drains, latrines or other things which create a bad or unhealthy smell.
- There must be proper ventilation, light and heat.
- There must be no dust or smoke in the hall or factory.
- There must be clean drinking water in proper places for all workers.
- Population of workers must not be dense and there must be sufficient light.
- The latrines must be in suitable places.
- The generators and other auxiliary units must be kept undercover.
- There must be arrangements made for any emergency cut out of electricity service.
- In weaving or spinning machines, any female workers and any children must not be allowed to handle.
- Females and young workers are not allowed to lift heavy loads.
- Floors, stairs and paths must be well-built and hand rails are to be built and necessary covers must be placed.
- In every factory, the arrangement of escape routes and fire alarms must be kept.

2.3.6 Welfare

- There must be washing and cleaning facilities for workers.
- There must be sufficient seats for workers if a chance is given for sitting.
- There must be sufficient First Aid Boxes.
- If the workers in a factory exceed 250, doctors or nurses in clinic are to be appointed.

- If the workers of a factory exceed 100, recreation centers and canteens are to be kept for food.
- For factories with over 50 female workers, there must be a child nursery center available for the children under 6 year of age.

2.4 MINIMUM WAGES LAW

2.4.1 Duties of the Employer

- 3,600 kyats per 8-hour working day (450 kyat/hour) shall be the minimum wage paid to skilled employees of companies with more than 15 employees in all industries, throughout all of Myanmar.
- 50% of the minimum – 1,800 kyats per 8-hour working day (225 kyats/hour) – may be paid to completely unskilled newly hired workers engaged in a training/induction program up to a maximum of 3 months.
- 75% of the minimum – 2,700 kyats per 8-hour working day (338 kyats/hour) – may be paid to newly hired employees during their 2nd 3 months of employment, regarded as a 'probationary period'.

2.4.2 Penalty for violation

- If anybody violates the law they may be punished with a maximum of one year imprisonment or with a maximum of five hundred thousand kyats fine or with both
- If anybody violates the rules and orders they may be punished with a maximum of three months' imprisonment or with a fine or with both.

2.5 MYANMAR FIRE BRIDGATE LAW

Myanmar Fire Bridget Law was enacted in 13th waning of Taboung, 1376 M.E (17, March, 2015). The objectives of this law are as follows:

i. To prevent destruction of State-owned property, private property, cultural heritage and the lives and property of the public by fire and other natural disaster;

ii. To organize the fire brigade systematically and to train members of the fire brigade;

iii. To carry out extinguishing fire, prevention and search and rescue when fire, other natural disaster, epidemic disease or any kind of sudden disaster occurs;

iv. To educate, organize and incite extensively so as to achieve public cooperation when any disaster occurs;

v. To participate and help, if necessary, for the State safety, peace of the public and the rule of law.

2.6 OCCUPATIONAL SAFETY AND HEALTH LAW

The objectives of this Law are given hereunder:

a. to implement Occupational Safety and Health matters effectively in the respective Industries/Businesses;

b. to determine the duties of relevant persons applicable under this Law including Employers and Workers to lessen and mitigate occurrence of Occupational Diseases and Occupational Accidents;

c. to cause relevant persons applicable under this Law, Employers and Workers to take precaution and prevention against occupational hazards and Occupational Diseases;

d. to improve the productivity and health of Workers by preventing the occurrence of Occupational Accidents and Occupational Diseases for their safety;

e. to create Workplaces that are safe and good for health by prescribing the Occupational Safety and Health standards relevant to the Union's status after considering international and regional standards; and

f. to support and help research activities carried out for the development of Occupational Safety and Health matters.

2.7 THE LABOUR ORGANIZATION LAW

The objective of this law is to protect the rights of the workers, to have good relations among the workers or between the employer and the worker, and to enable to form and carry out the labor organizations systematically and independently.

The Law emphasized for the employer is as follows.

1. The employer shall recognize the labor organizations of his trade as the

organizations representing the workers.

2. The employer shall allow the worker who is assigned any duty on the recommendation of the relevant executive committee to perform such duty not exceeding two days per month unless they have agreed otherwise. Such period shall be deemed as if he is performing the original duty of his work.
3. The employer shall assist as much as possible if the labour organizations request for help for the interest of his workers. However, the employer shall not exercise any acts designed to promote the establishment or functioning of labour organizations under his domination or control by financial or other means.

2.8 THE SETTLEMENT OF LABOUR DISPUTE LAW

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.

In any trade in which more than 30 workers are employed, the employer, with the view to negotiating and concluding collective agreement, shall:

(a) if there is any labor organization, form the Workplace Coordinating Committee with the view to make a collective bargaining as follows:

(i) two representatives of workers nominated by each of the labour organizations;

(ii) an equivalent number of representatives of employer;

(b) if there is no labor organization, form the Workplace Coordinating Committee as follows:

(i) two representatives of workers elected by them;

(ii) two representatives of employer.

2.9 THE LEAVE AND HOLIDAY ACT

2.9.1 Causal Leave (6) days

- Casual leave of 6 days with wages is to be provided
- Causal leave can be taken a maximum of 3 days at a time except in special cases

- Causal leave cannot be joined with any other leave
- Leave will be cancelled if it has not been used within a year

2.9.2 Earned leave (10) days

- For continuous service of 12 months and above, 10 days of 'earned leave' shall be entitled
- If the service day is not 24 days 1-day deduction from earned Leave is made; –
- Can be accumulated for up to 3 years.

2.9.3 Medical Leave (30) days

- Workers are entitled to 30 days of medical leave with full pay if 6 months service has been completed
- If 6 months service has not been completed, 'leave without pay' can be granted for medical needs
- Medical leave can be joined with Earned Leave
- If not taken within a year, medical leave is void or cancelled.

2.9.4 Maternity leave

- Workers requiring it are entitled to 6 weeks maternity leave before confinement and at least (8) weeks after confinement
- Can be entitled jointly with medical leave.

2.9.5 Public Holidays (21) days

- Workers can enjoy time off with full pay.
- If work is given on a public holiday, twice the rate of regular wages is required.

2.10 THE PREVENTION OF HAZARD FROM CHEMICAL AND RELATED SUBSTANCES LAW

Pyidaungsu Hluttaw Law (No, 28) The 5th Waning of Wagaung 1375 M.E (26th August, 2013and the Pyidaungsu Hluttaw hereby enacts Law on Prevention of Hazard from Chemical and Related Substances Law. This Law shall apply to all

existing or new standard within the Union on the date of entry into force of this Law. The highlight of this Law is as follows:

(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.

2.11 THE CONTROL OF SMOKING AND CONSUMPTION OF TOBACCO PRODUCT LAW

This Law was enacted in 2006. The objectives of the Law are:

(a) To convince the public that health can be adversely affected due to smoking and consumption of tobacco product and to cause refraining from the use of the same;

(b) To protect from the danger which affects public health adversely by creating tobacco smoke- free environment;

(c) To obtain a healthy living style of the public including child and youth by preventing the habit of smoking and consumption of tobacco product;

(d) To uplift the health, economy and social standard of the public through control of smoking and consumption of tobacco product;

(e) To implement measures in conformity with the international convention ratified by Myanmar to control smoking and consumption of tobacco product.

2.12 ENVIRONMENTAL, HEALTH, AND SAFETY (EHS) GUIDELINES

The general Environmental, Health, and Safety (EHS) Guidelines of IFC is technical reference document with general examples of Good International Industry Practice (GIIP). The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology

at reasonable costs. The applicability of the EHS Guidelines is tailored for Project by taking accounts the results of the environmental assessment. Internationally accepted environmental standards and guidelines for ambient air, waste water, noise levels and environmental monitoring parameters are referenced in this EMP report. Following is the environmental standards and guidelines adopted by EMP team.

2.13 INTERNATIONAL THE EXPORT AND IMPORT LAW

Supervising and Administering in respect of the Matters of Export and Import

The Ministry may carry out the followings in respect of the matters of export and import-

(a) Determining the category and criteria of export and import goods;

(b) Determining the restricted goods, prohibited goods and banned goods for export and import;

(c) Determining the method to be exported and imported goods and other necessary conditions;

(d) Issuing permit and determining conditions relating to permit for export and import goods;

(e) Determining regulation, by-law and procedures to the relevant places such as harbour, airport, bus terminal where the goods to be exported and imported;

(f) Carrying out other necessary matters relating to export and import.

(g) No person shall export or import restricted, prohibited and banned goods.

(h) Without obtaining license, no person shall export or import the specified goods which are to obtain permission.

(i) A person who obtained any license shall not violate the conditions contained in the license.

(j) Whoever violates the prohibition contained in section 5 or section 6, on conviction, shall be punished with imprisonment for a term not exceeding three years or with fine or with both.

(k) A person who obtained any permit violates the prohibition contained in section

(l) On conviction, shall be punished with imprisonment for a term not exceeding three years or with fine or with both.

(m) A person attempts to commit or abets in the commission of any offence contained in this Law shall be punished in the same manner as if he had been committed such offence and the exhibits shall also be confiscated.

(n) The Union Government shall lay down the policies relating to export and import. In order to be able to implement such policies and cause to be streamlined the matters relating to export and import, the Union Government shall coordinate to cooperate with the Union Ministries, the Region or State

Governments, leading bodies of Self-administered Division or Self-administered Zone.

(o) Taking action under this Law shall not preclude taking action under the Sea Customs Act.

(p) In implementation of the provisions contained in this Law:-

(q)The Ministry may, with the approval of the Union Government, issue rules, regulations and by-laws as necessary:

(r) The Ministry may issue notifications, orders, directives and procedures.

(s) The procedures, regulations, by-laws, notifications, orders and directives issued under the Control of Imports and Exports (Temporary) Act, 1947 may be applied in so far as they are not contrary to this Law.

(t) The Control of Imports and Exports (Temporary) Act, 1947 is repealed by this Law.

2.14 PREVENT THE OUTBREAK OF COMMUNICABLE DISEASES

In order to prevent the outbreak of Communicable Diseases, the Department of Health shall implement the following project activities:-

(a) Immunization of children by injection or orally;

(b) Immunization of those who have attained majority, by injection or orally, when necessary;

(c) Carrying out health educative activities relating to Communicable Disease.

When a Principal Epidemic Disease or a Modifiable Disease occurs:-

(a) Immunization and other necessary measures shall be undertaken by the Department of Health, in order to control the spread thereof:

(b) The public shall abide by the measures undertaken by the Department of Health under sub-section (a).

Functions and Duties of the Health Officer

5. When a Principal Epidemic Disease or a Modifiable Disease occurs in an area to which Health Officer is assigned, he shall perform the following duties:-

(a) inspection of the infected house, food processing industry, factory, place of work, markets and shops, other necessary houses. Premises, location, buildings and causing sanitation and other necessary measures to him carried out;

(b) Causing disinfection to he carried out in the locations mentioned in sub-section (a) and of articles, clothes. Utensils and other household goods in such locations;

(c) Causing disinfection to be carried out in trains, motor vehicles, aircrafts, vessels and other vehicles;

(d) Causing chlorination of wells and ponds to be carried out;

(e) Causing destruction of the vector;

(f) Causing necessary measures to be carried out against transmission of disease from Principal Epidemic Disease infected corpse;

(h) Directing the ban or destruction of food which are unfit for human consumption;

(i) directing the destruction of or ban on the sale of food causing or suspected of causing the spread of a Principal Epidemic Disease or the closure of the factory, mill, place of work, market or shop producing or selling such food;

(j) inspection of water supply works and laundry services and directing closure of such places if proved to be a source of transmission.

6. The Health Officer may assign the duties which he is to perform or which he is authorized to perform to a Health Personnel.

7. The Health Officer shall obtain the cooperation of suitable persons from the Government departments and other organizations of the relevant area in performing duties mentioned in section 5.

Environmental Sanitation

8. For prevention of the outbreak of Communicable Disease and effective control of Communicable Disease when it occurs, the public shall, under the supervision an guidance of the Health Officer of the relevant area, undertake the responsibility carrying out the following environmental sanitation measures:

(a) in-door, out-door sanitation or inside the fence, outside the fence sanitation;

(b) Well, ponds and drainage sanitation;

(c) Proper disposal of refuse and destruction thereof by fire:

(d) Construction and use of sanitary latrines;

(e) Other necessary environmenta1 sanitation measures.

Reporting Communicable Disease

9. The head of the household or any member of the household shall report immediately to the nearest health department or hospital when any of the following events occurs:-

(a) Rat fall

(b) Outbreak of a Principal Epidemic Disease;

(c) Outbreak of a Notifiable Disease.

10. Traditional medicine practitioners, health assistants and doctors shall report immediately to the nearest health department or hospital if a case of Principal Epidemic Disease or Modifiable Disease if found during practice.

Measures taken in respect of an outbreak of Principal Epidemic Disease

11. In order to prevent and control the spread of a Principal Epidemic Disease, the Health Officer may undertake the following measures:-

(a) Investigation of a patient or any other person required:

(b) Medical examination;

(c) Causing laboratory investigation of stool, urine, sputum and blood samples to he carried out:

(d) Causing investigation by injection to he carried out;

(e) Carrying out other necessary investigations.

12. The Health Officer has the right to do laboratory investigation of any food, water and other necessary materials.

13. The Health Officer shall report immediately the source to the relevant Department of Health, of the Principal Epidemic Disease.

3 PROJECT LOCATION

Kai Sheng (Myanmar) Industrial Company Limited is located at Plot No.86, Myay Taing Block No. (42), Industrial Zone, Shwe Pyi Thar Township, Yangon, Myanmar. The project area is (0.7065) acre it's contain land includes office, factory, security office, raw materials storage area, and canteen and product storage area. The factory is located latitude 16°56'47.88"N and longitude 96° 5'52.74"E. The plant is

starting operation process and production in current condition. Layout plan of Kai Sheng (Myanmar) Industrial Company Limited is described in appendix.

Figure 1. Location of Kai Sheng (Myanmar) Industrial Company Limited

4 PROJECT OPERATION

The factory produces garment with CMP production scheme. Majority of the products are exported. Routine production works can be seen in the following flow diagram.

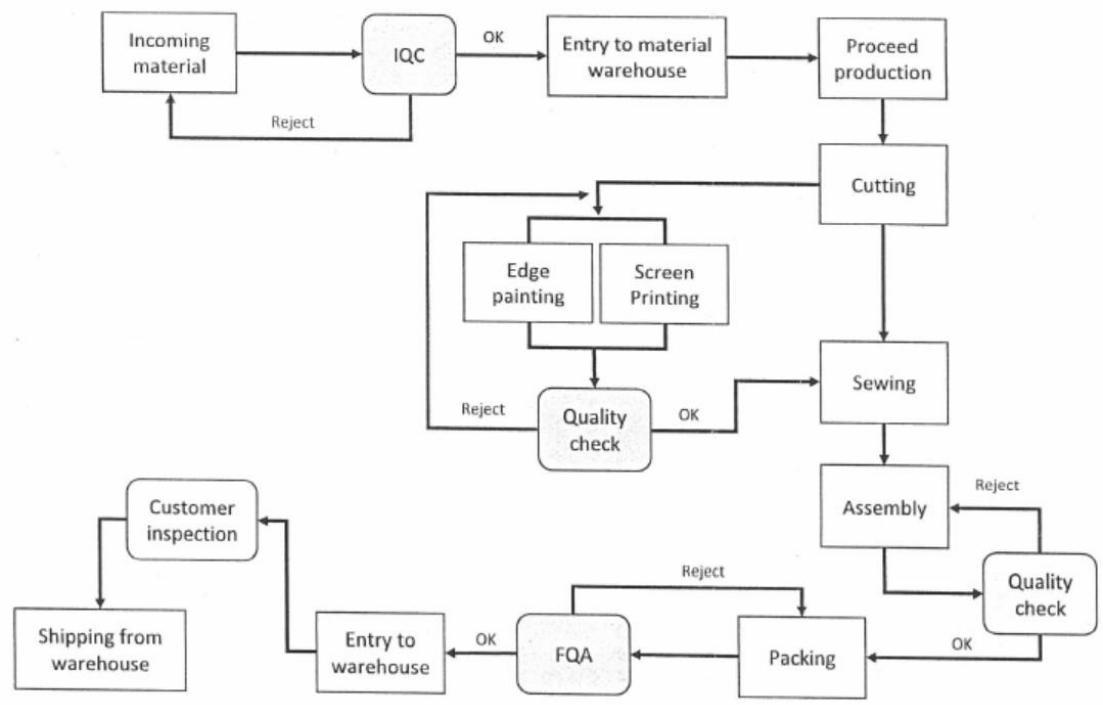


Figure 2. Process Flow Diagram for Kai Sheng (Myanmar) Industrial Company Limited

Primary production scheme is raw materials storing, cutting, sewing, and quality inspection and packing. The production process is labor intensive which is a trademark of CMP industry. The production process produces no liquid effluent and slightly gaseous emission from boiler. The process produce solid waste mainly consists of all process and these solid wastes are managed to collect by the government waste collector.

4.1 STORING

The fabric store department is centralized in the apparel industry and all the fabric comes to this unit first from the supplier and audited here and kept until it is distributed to other units. For an export-oriented and bulk production garment industry, it is essential to maintain a well-organized & well-equipped inventory

system. The main responsibility of this department is to store all the raw material necessary to produce garments. Before starting the garments production, the required amount of fabric has to store in the garments. All the next processes such as spreading, cutting, sewing, and so on. As result, store department plays an important role to get smooth production.

4.2 CUTTING

Cutting is separating of the garment into its components and in a general form, it is the production process of separating (sectioning, curving, severing) a spread into garment parts that are the precise size and shape of the pattern pieces on a marker.

Cut Panel Inspection;

1. Quality an inspector will check Panel using Hard pattern after cut from three different position Top, Middle, and Bottom
2. If there any discrepancy, a correction will be immediate. If the panel found plus from hard patterns, it will have to cut extra part. If panel found minus from hard pattern, will have to place the fabric under marker as per lay chart to remake again.
3. All cut panels will be inspected to detect any types of fabric fault if any defective panel found, will be replaced from lay chart wise remnants by following the shade and pattern grain line.

Production Order Sheet: Cutting Section firstly takes the PO sheet. They find out all detailed information in the PO sheet especially size breakdown, size-wise and color-wise order quantity.

Pattern receives: They receive the approved pattern from the sample section.

Marker Making: After pattern receiving they make marker according to the order sheet and pattern size.

Fabric receives: Fabric is the main raw material in the cutting section. All success depends on cutting. So the cutting section has to become serious when they receive the fabric. Is the right fabric for the right marker or not.

Fabric Spreading: Before spreading the fabric on table they relax the unrolled fabric for 12-24 hr. After completing relaxation they spread the fabric on a table with proper tension.

Marker Placing: Marker is a thin paper which carries all the garments components and placed on fabric lay for cutting. Before cutting the marker from CAD placed on fabric lay. Marker checked very carefully before placement on fabric.

Cutting: In this step, cutting is done by a cutter machine. Straight knife cutting machine, Round knife cutting machines are mostly used for cutting.

Sorting: After cutting the cut parts are sorted according to shade, size-wise.

Numbering & checking: In this step, the cut parts are numbering and checking carefully so that the single components never mistake. QC checks the cut parts. If any defect found they replace the cut piece.

Bundling: The cut pieces are bundled finally.

Input to Sewing: The bundled cut piece ready for sewing.

4.3 SEWING

Sewing is the process of fastening or attaching two parts of fabric using stitches made with a needle and thread. It is one of the basic steps of the apparel manufacturing process. The sewing section is the most important department of the garment manufacturing industry. Garment manufacturing is quite different from any other conventional manufacturing. It is not a continuous production method. Each style is a different product that requires a different type of fabric, color, buttons, thread, etc. The sewing process is one of the most important stages in labor-intensive ready-made clothing enterprises.

In this section, each and every sewing machine and job of machine operators should be inspected on a routine basis for identifying, correcting, and controlling faults and maintaining the quality of products. To ensure the quality of the product, quality control personnel have to control quality in a different section in the garment industry, which is directly or indirectly involved with the production.

4.4 FINISHING

After stitching, there will be some hanging sewing threads on the finished product. Trimming is the operation of removing these extra hanging threads. Sometimes, finished products get stained during the production process. Some of the sewn products may also have some open seams or other stitching faults. The finishing department repairs such products before packing. The last objective of finishing

department is ironing. The sewn products are pressed to remove the wrinkles and to enhance the look of the garment.

4.5 PACKAGING

The packing is always done in the carton boxes and there are several criteria for the packing of the garments. There are generally two kinds of packing the garment. The garment is individually packed/ wrapped in the poly bag whose design will be specified by the buyer. i.e., either with the hanger attached or plain poly bag packing and then the entire garments (as per the packing criteria) is arranged in the carton box. The other method is that the garments are just folded and arranged in the carton boxes without putting them in the poly bag.

4.6 SHIPPING

There are three basic shipping process steps used in a warehouse or distribution center: Aggregate and manage order information. Pick, pack, weigh, choose carrier and label. Ship the order.

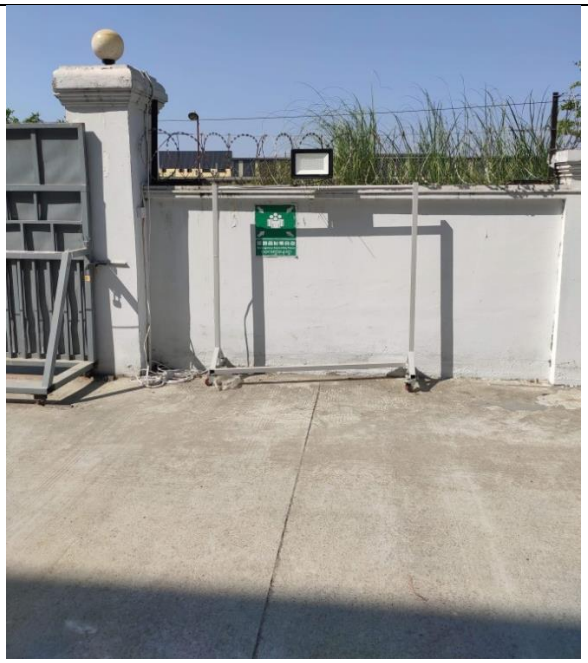
5 CURRENT CONDITIONS OF THE FACTORY

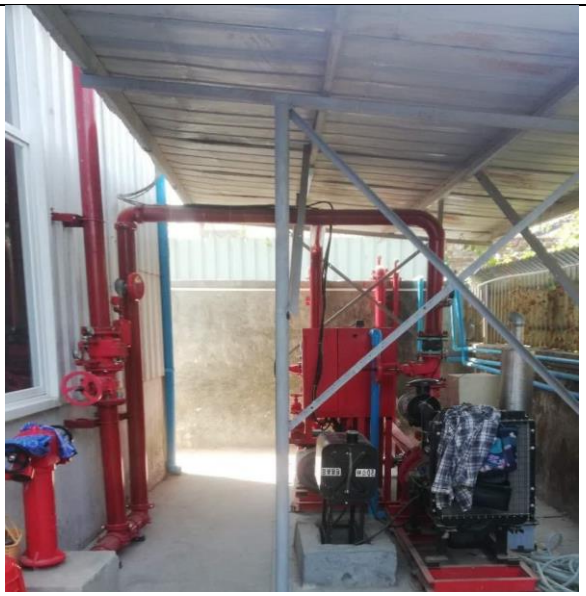
Kai Sheng (Myanmar) Industrial Company Limited is not start operation process in current condition. Inspection Results of Current Conditions of the Factory is shown in table 4.

Table 5. Inspection Results of Current Conditions of the Factory

Sr.	Particular	Remark
1	Factory Entrance	

2	Drainage system	
3	Providing washing area for labor	
4	Toilets are provided	
5	Fire extinguishers are provided within the factory compound	

6	Fire hose cabinets and fire alarm is provided for emergency cases	
7	Emergency exits sign are installed	
8	Assembly point for emergency case	

9	Constructed firefighting unit with high pressure pump	
10	Installed exhaust fans for air cleaning	
11	Solid waste disposal area is set in factory compound	

12	Drinking Water treatment system was installed for labor	
13	Installed fully light in factory compound area	

6 WATER QUALITY

Water supply for Kai Sheng (Myanmar) Industrial Company Limited is obtains mainly from the tube well. Water is extracted from one tube well hand washing, bathing, toilets and kitchen.

6.1.1 Tube Well Water

Water supply for Kai Sheng (Myanmar) Industrial Company Limited is obtains mainly from the tube well and storage with water tank Water is extracted from one tube well usage is hand washing, bathing, toilets and kitchen. Tube well water sample is collected and analyzed at ISO Tech laboratory. The water has no color and odor. The pH of the water is 7.3 which are well within the limit of acceptable WHO drinking water value 6-9. The turbidity of the tube well water is 5. Iron (0.23, mg/l) is within the acceptable limit of 0.3 mg/l (WHO) drinking water guideline. Kai Sheng

(Myanmar) Industrial Company Limited was installed drinking water treatment system for drinking water. Other parameter is shown in table.

Table 6. Tube well Water Quality Analysis Results

Sr	Particular	Unit	Tube Well Water	WHO Drinking Water guideline value (Geneva-1993)
1	pH	S.U	7.3	6.5 - 8
2	Colour	TCU	Nil	15
3	Turbidity	NTU	2	5
4	TDS	mg/l	74	1000
5	Total hardness	mg/l	38	1000
6	Iron	mg/l	0.23	0.3
7	Sulphate	mg/l	10	500
8	Manganese	mg/l	Nil	0.05
9	Chloride	mg/l	5	250

6.1.2 Waste Water Quality

Water is extracted from one tube well and this water is used for hand washing and toilets. In the factory, process water isn't including in operation steps. Domestic waste water is discharge from toilets, kitchen and labor house. This waste was discharged to roadside drain. The plant has no water treatment unit. The location of waste water collection for the project is shown in following figure.

One sample of waste water was collected at latitude (16°56'46.69"N) and longitude (96° 5'49.93"E) and analyzed at ISO TECH laboratory. The sampling point was the outlet of the drain of the plant. The pH of the water is 7.6. The suspended solid from the water can be seen about 36 mg/l, dissolved solids 174 mg/l. The BOD and COD result of waste water is in the range of NEQG about 30 and 96 mg/l. From the following table, pH, BOD, COD, TSS and TS are within the range of NEQG guideline value. Total Suspended Solid (TSS) is within the range of NEQG.

Table 7. Wastewater Quality Analysis Result

Sr.	Particular	Unit	NEQG	Waste Water Result
1	pH	-	6-9	7.6
2	BOD	mg/l	50	30
3	COD	mg/l	250	96
4	Total Suspended Solid (TSS)	mg/l	50	36
5	Total Dissolved Solid	mg/l	-	174
6	Total Solid	mg/l	-	210
7	Nitrate	mg/l	-	3.4

Figure 3. Waste Water Sampling from Outlet Drainage

Figure 4. Water Collection from Tube Well Water Tank

Figure 5. Tube Well Water Sampling point

Figure 6. Waste Water Sampling point

7 AIR QUALITY

7.1 AIR MONITORING AND ENVIRONMENT

The main sources of air pollutant from the project area are the operation of the machine operation, diesel generator and vehicles moment and human activities.

7.2 SURVEY METHODOLOGY

Sampling and analysis of ambient air quality were conducted by referring to the recommendation of the United State Environmental Protection Agency (U.S. EPA). The Haz- Scanner Environmental Perimeter Air station (EPAS) was used to collect ambient air survey data. Sampling rate or air quality data were measured automatically every one minute and directly read and recorded onsite for measured EMP for Kai Sheng (Myanmar) Industrial Company Limited 12 parameter (NO2, O3, PM10, PM2.5, SO2, CO2, CO, Relativity humidity, win speed, win direction and temperature), as shown in table.

Table 8. Air analysis info

Sample site	Kai Sheng (Myanmar) Industrial Company Limited	Sample I.D.	AS0921-02
Location	Shwe Pyi Thar	Method	HAZ-

(township)			SCANNER™ Model-EPAS
		Station height (elevation)	Ground
Location (Region / state)	Yangon	Latitude	16°56'45.36"N
		Longitude	96° 5'53.72"E
		log on time (Date, Time)	1.9.2021(09:00 AM)
Air Monitoring Date	1.9.2021	log off time (Date, Time)	2.9.2021 (09:00 AM)
		Logging Duration (hours)	24 hours

7.3 IDENTIFICATION OF AIR POLLUTANTS AND ITS IMPACTS

The proposed Kai Sheng (Myanmar) Industrial Company Limited factory is not operating the machines by the time monitoring the air quality. Therefore, the air station is set on to collect data of the current air quality impacted by operational works and moving vehicles for the transportation of loads. Therefore, the site has to measure the surrounding air quality to know whether SO_2, NO_2, CO_2, CO, H_2S, $PM_{2.5}$ and PM_{10} are exceeding the limiting amount of National Environmental Quality Emission Guideline or not. The impacts of pollutants are defined below.

Carbon Monoxide (CO) is a toxic gas that cannot be seen or smelled. All people are at risk for CO poisoning. Unborn babies, infants, the elderly, and people with chronic heart disease, anemia, or respiratory problems are generally more at risk than others. Breathing CO can cause headache, dizziness and vomiting nausea. If CO levels are high enough, unconscious or death may be become. Exposure to moderate and high levels of CO over long periods of time has also been linked with increased risk of heart disease.

Carbon Dioxide (CO_2) is the primary greenhouse gas pollutant, accounting for nearly three-quarters of global greenhouse gas emissions. Carbon pollution leads to long lasting changes in our climate, such as rising global temperatures, rising sea level, changes in weather and precipitation patterns and changes in ecosystems, habitats and species diversity. Children, older adults, people living in poverty may be at risk from the health impacts of climate change.

Nitrogen Dioxide (NO_2) is a nasty-smelling gas. The main effect of breathing in raised levels of nitrogen dioxide is the increased likelihood of respiratory problems. Nitrogen dioxide inflames the lining of the lungs, and it can reduce immunity to lung infections. This can cause problems such as wheezing, coughing, colds, flu and bronchitis. Increased levels of nitrogen dioxide can have significant impacts on people with asthma because it can cause more frequent and more intense attacks. Children with asthma and older people with heart disease are most at risk.

Sulfur Dioxide (SO_2) is an invisible gas and has a nasty, sharp smell. It reacts easily with other substances to form harmful compounds, such as sulfuric acid, sulfurous acid and sulfate particles. Sulfur dioxide affects human health when it is breathed in. It irritates the nose, throat and airways to cause coughing, wheezing, shortness of breath, or a tight feeling around the chest. The effects of sulfur dioxide are felt very quickly and most people would feel the worst symptoms in 10 or 15 minutes after breathing in. Those most at risk of developing problems if they are exposed to sulfur dioxide are people with asthma or similar conditions.

Ozone (O_3) has a strong odor. Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. It can also reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue.

Particulate matter (PM) consists of microscopically small solid particles or liquid droplets suspended in the air. The smaller the particles, the deeper they can penetrate in to the respiratory system and the more hazardous they are to breathe. Long-term exposure to current ambient PM concentrations may lead to a marked reduction in life expectancy. The reduction in life expectancy is primarily due to increase cardio-pulmonary and lung cancer mortality. Increases are likely in lower respiratory symptoms and reduced lung function in children, and chronic obstructive pulmonary disease and reduced lung function in adults.

7.4 MEASUREMENT RESULT OF AIR QUALITY MEASUREMENT COMPARING WITH THE AIR QUALITY STANDARD AND GUIDELINES

CO, CO_2, NO_2, SO_2, O_3, PM_{10} and $PM_{2.5}$ are measured at the proposed project site. The site is in operation stage and the collected data shown below are due to the process activities. Air quality and noise result data report is described in appendix.

Table 9. Result of Air Quality

No	Parameters	Results		Avg. Period	Guideline value (NEQG)	Averaging Period
		Observed value	Converted value			
1	Nitrogen dioxide NO_2	54 ppb	101.5(µg/m^3)	1-hour*	40 (µg/m^3) 200 (µg/m^3)	1-year 1-hour
2	Ozone (O_3)	32 ppb	62.7(µg/m^3)	8-hour	100 (µg/m^3)	8-hour daily maximum
3	Particulate matter PM_{10}	23 (µg/m^3)		24-hour	20 (µg/m^3) 50 (µg/m^3)	1-year 24-hour
4	Particulate matter $PM_{2.5}$	11 (µg/m^3)		24-hour	10 (µg/m^3) 25 (µg/m^3)	1-year 24-hour
5	Sulfur dioxide SO_2	2 ppb	5.24(µg/m^3)	24-hour	20 (µg/m^3) 500 (µg/m^3)	24-hour 10 minute
6	Carbon dioxide CO_2	240 ppm		24-hour	-	
7	Carbon monoxide CO	2 ppb		24-hour	-	

Figure 7. Air Monitoring Point

Figure 8. Air Monitoring with Haz- Scanner in Factory Compound

8 NOISE

8.1 SOURCES OF THE NOISE

Since the place for measuring noise levels is a factory which produces operation machine, the noises produced are governed by the sound of the machine operated and by the workers.

8.2 NOISE MEASUREMENT METHOD

Handheld quick assessment method is used for the sound level by measuring the sound pressure. A tripod is used for mounting the sound level meter (SLM) where the SLM is mounted and pointed towards the source of the noise. The noise level of the proposed factory was measured by using TES -52A Advanced Sound Level Meter.

Table 10. National Emission Quality Guideline (NEQG) for Noise level

Receptor	**One Hour LAeq (dBA)a**	
	Daytime 07:00-22:00 (10:00-22:00 for Public holidays)	**Night time 22:00-07:00 (22:00-10:00 for Public holidays)**
Residential, institutional, educational	55	45
Industrial, commercial	70	70

Table 11. The location of Noise sample point

No.	Sample Name	Kai Sheng (Myanmar) Industrial Company Limited		Location
		Latitude (N)	Longitude (E)	
1.	Noise Sample Point (NS)	16°54'2.59"N	96°13'14.14"E	Factory compound

Table 12. Average Values of Noise Level (dB) at the sampling point

Noise Sample Point	**Date/Time (2.11.2020)**	**Observed Noise Level (MeanValue) (dBA)**	**One Hour LAeq (dBA)a**	
			Daytime 07:00-22:00 (10:00-22:00 for Public holidays)	**Night time 22:00-07:00 (22:00-10:00 for Public holidays)**
NS	9: 00 -9:59	60.8	70	70
	10: 00-10: 59	62.1		
	11: 00-11: 59	60.7		
	12: 00-12: 59	54.1		
	13: 00-13: 59	57.7		
	14: 00-14: 59	59.7		
	15: 00-15: 59	60.2		
	16: 00-16: 59	56.9		

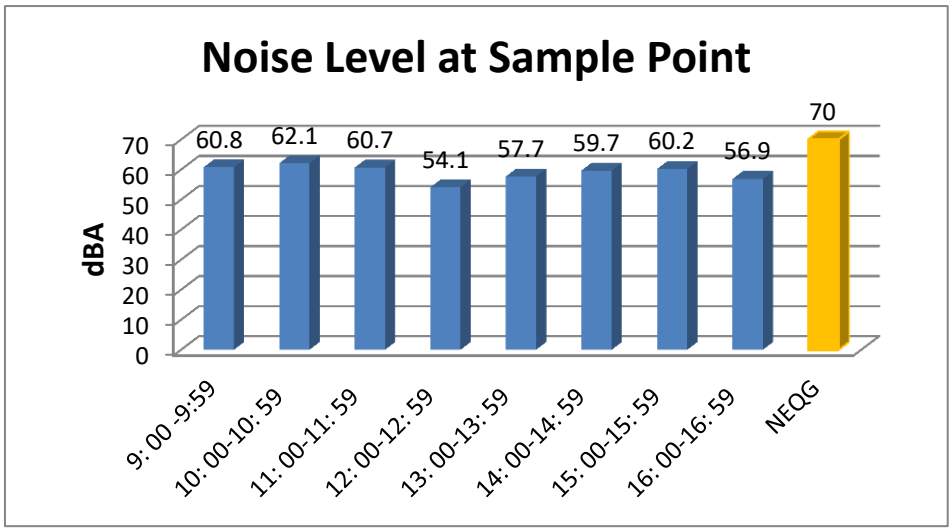


Figure 9. Air Quality Sampling

Figure 10. Noise Level Meter for Measuring Noise

9 SOIL QUALITY

One sample of soil was collected around the Kai Sheng (Myanmar) Industrial Company Limited to record the current condition of soil. The samples were analyzed for their physiochemical properties in Soil Laboratory, Land Use Department of Ministry of Agriculture and Irrigation. Typical issues relating to soil pH could be seen in the table below.

Potential negative impacts by the project relating to soil degradation may have occurred in the early project construction works. Such impacts include excavation, displacement or importation of soil, stockpiling, mixing, wetting, compaction and pollution of soil, Oil leakage and sedimentation. But the anticipated impacts on soil may have been occurred only to a limited area within the project compound.

According to test results, pH value of soil sample which was collected within the Kai Sheng (Myanmar) Industrial Company Limited which are slightly alkaline conditions. Under this condition, following phenomena would occur:

• Above a pH of 7.0 there is an increase in the availability of Iron, Manganese, Zinc, Cobalt, and Copper

• Increased risk of ammonia volatilization

• First increasing availability of Phosphorus and Boron, but deficiencies may occur at higher pH values

• Insoluble Calcium-Phosphates may be formed at higher pH

• Electric conductivity is generally high at higher pH value

Table 13. Soil pH and Associated Impacts

pH value	**Soil classification**	**Impact interpretation**
≤ 5.5	Strongly acidic	• Possible Aluminum toxicity and excess availability of Cobalt, Cupper, Iron, Manganese, and Zinc • Deficient in Calcium, Potassium, Nitrogen, Magnesium, Phosphorous, and Sulphur • Boron deficiency below pH of 5 • Molybdenum becomes more available with decreasing pH • Bacterial and actinomycete activity is reduced along with a predominance of fungi • Mineralization of organic matter and nitrification are restricted • Below a pH of 3, functioning of cell membranes is impaired, resulting in leakage of elements

5.5 - 7.3	Moderately acidic, slightly acidic, and neutral soils	• Preferred pH range for most crops, lower end of range may be too acidic for some • pH between the range of 6.0 and 7.0 hampers phosphorous fixation • Neutral pH favors the fixation of molecular Nitrogen by free living soil microorganisms and by symbiotic microorganisms • Above a pH value of 7.0 the availability of Iron, Manganese, Zinc, Cobalt, and Cupper declines
7.3 - 8.5	Slightly alkaline and Moderately alkaline soils	• Above a pH of 7.0 there is an increase in the availability of Iron, Manganese, Zinc, Cobalt, and Copper • Increased risk of ammonia volatilization • First increasing availability of Phosphorus and Boron, but deficiencies may occur at higher pH values • Insoluble Calcium-Phosphates may be formed at higher pH • Electric conductivity is generally high at higher pH values
≥ 8.5	Strongly to very strongly alkaline	• Calcium and magnesium are liable to become unavailable to most crops • Often high sodium levels lead to toxicity and structural damage • Toxicity of bicarbonates and other anions • Possible Boron toxicity common in saline and or sodic soils • Availability of most micronutrients and of Iron, Manganese, Zinc, Copper, and Cobalt is reduced, except for Molybdenum • Decreased

Table 14. Results of Soil Quality Analysis

Sample	**Moisture %**	**pH Soil: Water 1:2:5**	**Texture**				**Organic Carbon**	**Humus %**	**Total N**	**Exchangeable cations**			**Available Nutrients**	
			Sand %	Silt %	Clay %	Total %				Ca	Mg	K	P	K_2O
SS-1	2.96	7.37	41.92	29.78	28.30	100.0	0.21	0.35	0.10	13.73	3.43	0.43	4.54	20.41

Table 15. Interpretation of Soil Quality Results

Sample	**pH Soil: Water**	**Texture**	**Organic Carbon**	**Total N**	**Exchangeable cations**			**Available Nutrients**	
					Ca	Mg	K	P	K_2O
SS-1	Slightly alkaline	Clay Loam	Low	Very Low	Medium	Medium	Medium	Low	High

Figure 11. Soil Sampling from factory area

10 SOCIO-ECONOMIC COMPONENTS

Socio-economic factors are lifestyle components and measurements of both financial viability and social standing. They directly influence social privilege and levels of financial independence. Factors such as health status, income, environment and education are studied by sociologists in terms of how they each affect human behaviors and circumstances.

10.1 LIVING CONDITIONS

The project area is located in plot No.23, Myay Taing Block No. (112), Industrial Zone, Shwe Pyi Thar Township, Yangon region, Myanmar. The total number of households in Shwe Pyi Thar Township is 73,775 only. The following table and figure show the household numbers in the study area. The average household size in the study area is shown in the following figure. All the villages have significantly higher rate of population per household compared to that of Shwe Pyi Thar Township. The majority of the households in Shwe Pyi Thar Township are living in wooden houses (52.6%) followed by households in bamboo houses (22.1%).

Some 53.8 per cent of urban households and 47.7 per cent of rural households live in wooden houses.

Table 16. Type of household in the Study Area

Residence	Total	Apartment/ Condominium	Bungalow/ Brick house	Semi-pacca house	Wooden house	Bamboo house	Hut 2 - 3 years	Hut 1 year	Other
Total	73,775	3.7	7.9	9.9	52.6	22.1	1.5	1.0	1.5
Urban	58,511	2.3	8.4	9.3	53.8	22.3	1.7	1.1	1.0
Rural	15,264	8.7	5.9	12.3	47.7	21.3	0.6	0.4	3.1

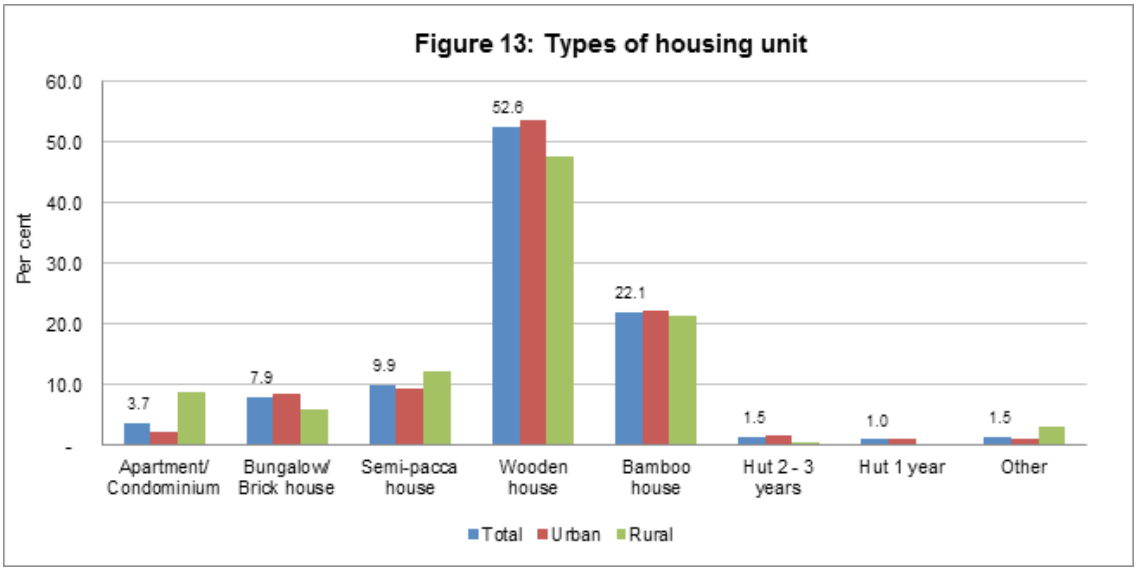


Figure 12. Types of housing unit in the Study Area

The majority of the households in Shwepyithar Township are living in wooden houses (52.6%) followed by households in bamboo houses (22.1%). Some 53.8 per cent of urban households and 47.7 per cent of rural households live in wooden houses.

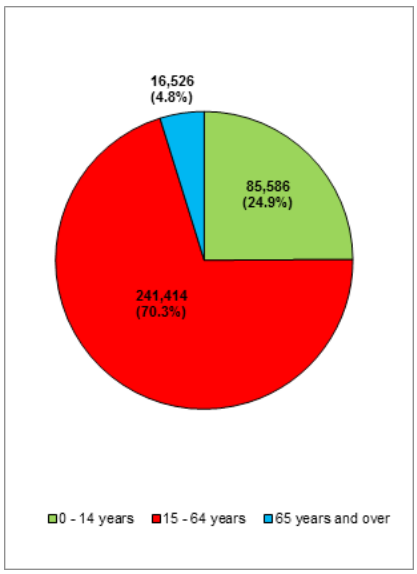


Figure 13. Population of the Study Area

The proportion of productive working population between 15 to 64 years of age in Shwepyitha Township is 70.3 per cent. The proportion of children aged 14 and below together with the proportion of the elderly aged 65 and over is less than the proportion of the working age group population. Fewer proportions of children and elderly reduce the dependency of those age groups on the working age population.

10.1.1 Employment

In Shwepyitha Township, 35.9 per cent of the employed persons aged 15-64 are craft and related trades workers and is the highest proportion, followed by 23.6 per cent of services and sales workers. Analysis by sex shows that 33.8 per cent of males and 39.2 per cent of females are craft and related trades workers. In Yangon Region, 22.9 per cent are craft and related trades workers and 23.7 per cent are in services and sales workers.

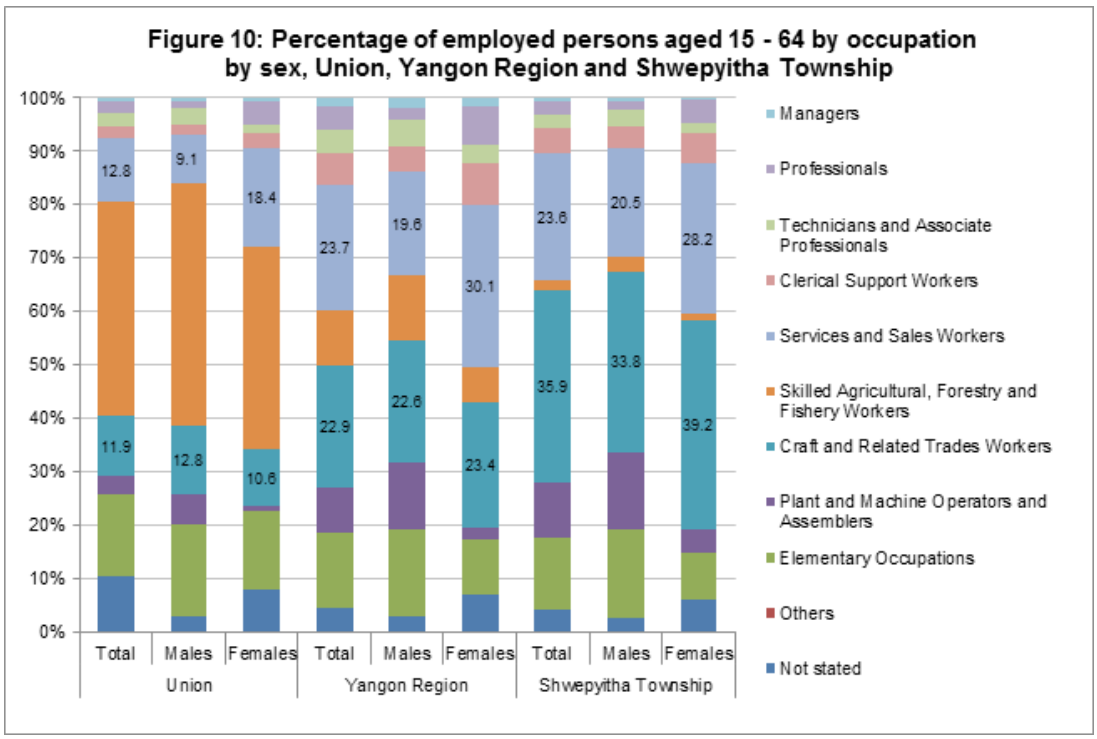


Figure 14. Employments in the Study Area

10.1.2 Religion Distribution

At the Union level, the composition of the population by religion is: 87.9% Buddhist, 6.2% Christian, 4.3% Islam, 0.5% Hindu, 0.8% Animist, and 0.2% other religion and 0.1% No religion. In Yangon Region, it is 91.0% Buddhist, 3.2% Christian, 4.7% Islam, 1.0% Hindu, 0.1% other religion, and less than 0.1% each for Animist and those with No religion.

10.1.2.1 Educational Attainment

The literacy rate of those aged 15 and over in Shwe Pyi Thar Township is 96.9 per cent. It is higher than the literacy rate of Yangon Region (96.6%) and the Union (89.5%). Female literacy rate is 95.7 per cent and for the males it is 98.3 per cent. The literacy rate for youth aged 15-24 is 98.1 per cent with 98.1 per cent for females and 98.2 percent for males. Some 5.1 per cent of the population aged 25 and over have never been to school of the rural population aged 25 and over, 5.4 per cent have never been to school. There are 3.2 per cent of males aged 25 and over who have never attended school as against 6.7 per cent for females. Among those aged 25 and over,

17.1 per cent has completed primary school (grade 5) and 11.7 percent has completed university/college education.

Table 17. Population aged 25 and over by highest level of education completed, urban/rural and sex

	Total	None	% Never attended	Primary school		Middle school (grade 6 - 9)	High school (grade 10 - 11)	Diploma	University/ College	Post-graduate and above	Vocational training	Other
				(grade 1 -4)	(grade 5)							
Total	185,258	9,406	5.1	25,235	31,653	56,478	37,919	542	21,620	688	342	1,375
Urban	151,946	7,615	5.0	18,782	26,509	46,174	31,912	448	18,365	605	292	1,244
Rural	33,312	1,791	5.4	6,453	5,144	10,304	6,007	94	3,255	83	50	131
Males	85,804	2,732	3.2	8,923	12,899	29,150	20,717	394	9,768	244	270	707
Females	99,454	6,674	6.7	16,312	18,754	27,328	17,202	148	11,852	444	72	668

10.2 METEOROLOGY

10.2.1 Topography and Climate

The study area is located in Shwe Pyi Thar Township of Yangon Region. The proposed factory is currently occupied by near villages, cultivated land. Therefore, the topography is no major differences in altitude. The climate of factory area is located in tropical wet and dry climate.

10.2.2 Temperature

Yangon has a tropical monsoon climate with very wet summers due to the southwest monsoon which starts from mid-May and lasts until mid-October. The warmest month with the highest average high temperature is April (37˚C) and the month with the lowest average high temperature is August (29.6˚C). The month with the highest average low temperature is May (25˚C) and the coldest month with the lowest average low temperature is January (17.9˚C).

Table 18. Average Temperature of Yangon

Sr	Month	Average High Temperature	Average Low Temperature
1	January	32.2˚C	17.9˚C

2	February	34.5˚C	19.3˚C
3	March	36˚C	21.6˚C
4	April	37˚C	24.3˚C
5	May	33.4˚C	25˚C
6	June	30.2˚C	24.5˚C
7	July	29.7˚C	24.1˚C
8	August	29.6˚C	24.1˚C
9	September	30.4˚C	24.2˚C
10	October	31.5˚C	24.2˚C
11	November	32˚C	22.4˚C
12	December	31.5˚C	19˚C

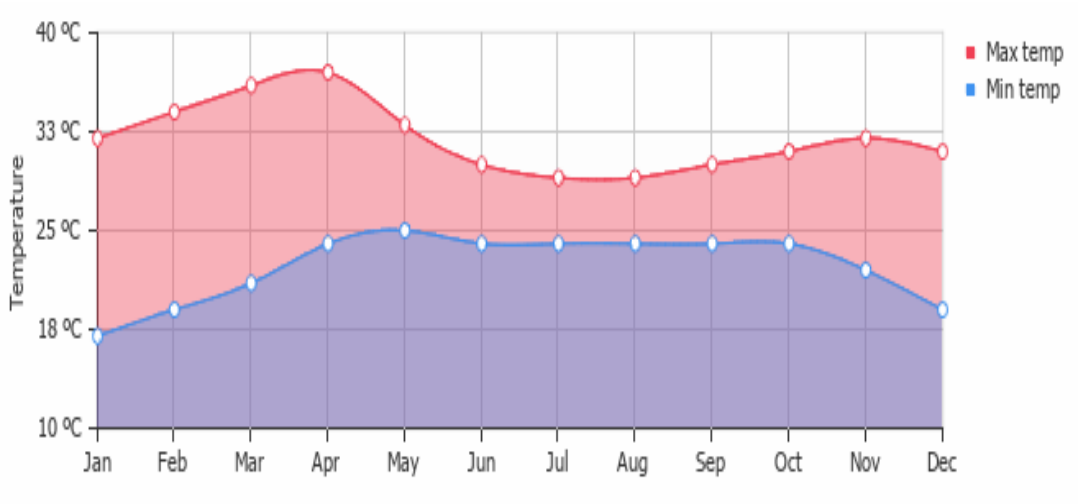


Figure 15. Temperature Graph of Yangon

10.2.3 Rainfall

A lot of rain falls in the months of May, June, July, August, September and October. Yangon has dry periods in December January, February, March and April. The wettest month with the highest rainfall is August (602 mm) and the driest month with the lowest rainfall is February (2 mm). The month with the highest number of rainy days is July (26.2 days) and the months with the lowest number of rainy days are January, February and December (0.2 days).

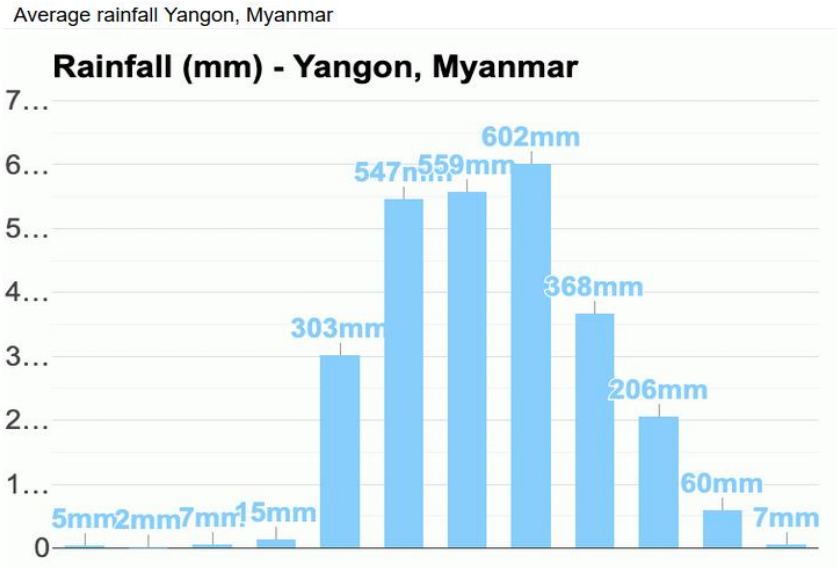


Figure 16. Rainfall Graph of Yangon

Table 19. Average Rainfall and Rainfall Days of Yangon

Sr	Month	Average Rainfall	Average Rainfall Days
1	January	5 mm	0.2 days
2	February	2 mm	0.2 days
3	March	7 mm	0.4 days
4	April	15 mm	1.6 days
5	May	303 mm	12.6 days
6	June	547 mm	25.3 days
7	July	559 mm	26.2 days
8	August	602 mm	26.1 days
9	September	368 mm	19.5 days
10	October	206 mm	12.2 days
11	November	60 mm	4.8 days
12	December	7 mm	0.2 days

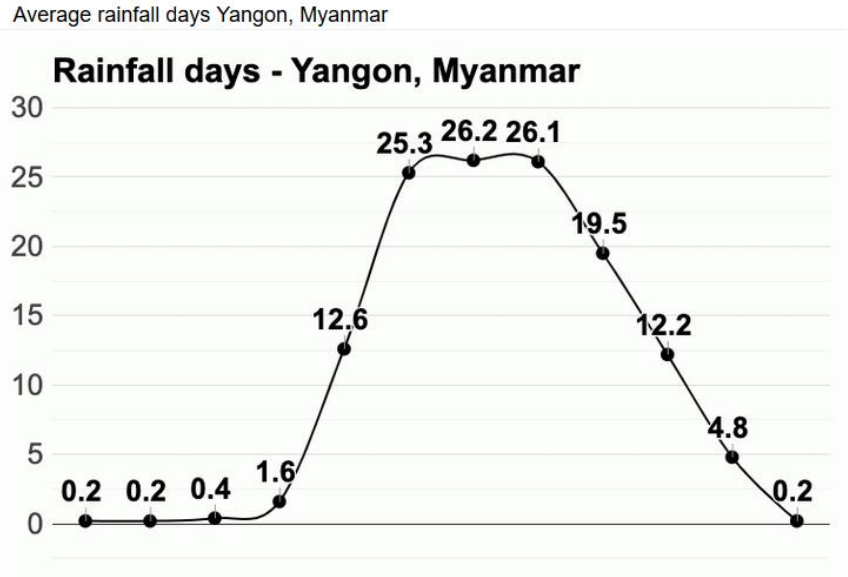


Figure 17. Rainfall Days Graph of Yangon

10.2.4 Humidity

In 2020, August is the most humid and January is the least humid month in Yangon. The month with the highest relative humidity is August (87%) and the lowest relative humidity is January (62%).

Table 20. Average Humidity of Yangon

Sr	Month	Average Relative Humidity
1	January	62%
2	February	66%
3	March	69%
4	April	66%
5	May	73%
6	June	85%
7	July	86%
8	August	87%
9	September	85%
10	October	78%
11	November	71%
12	December	65%

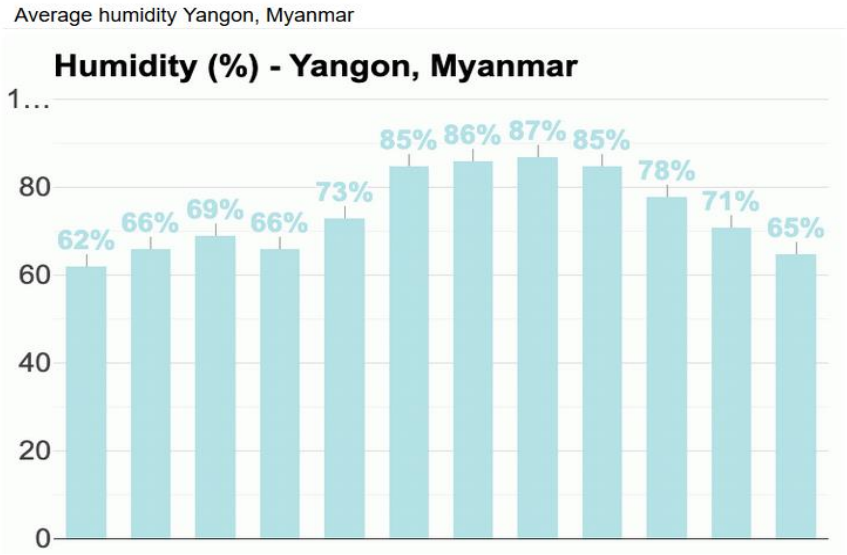


Figure 18. Humidity Graph of Yangon

10.2.5 Daylight/ Sunshine

Sunshine hours of Yangon are range from 2:29 daily in July to 9:44 to each day in January. The longest day of the year is 13:10 hr and the shortest day is 11:1 hr long. The longest day is 2:00 longer than the shortest day. The month with the longest day in June (average daylight: 13.1 h) and the month with the shortest day in December (average daylight: 11.1 h). Months with the most sunshine are January, February and April (average sunshine: 9.7 h) and the month with the least sunshine is July (average sunshine: 2.5 h).

Table 21. Average Daylight and Sunshine Hours of Yangon

Sr	Month	Average Daylight	Average Sunshine
1	January	11.3 hr	9.7 hr
2	February	11.6 hr	9.7 hr
3	March	12.1 hr	9.4 hr
4	April	12.5 hr	9.7 hr
5	May	12.9 hr	5.8 hr
6	June	13.1 hr	2.7 hr
7	July	13 hr	2.5 hr

8	August	12.7 hr	3 hr
9	September	12.2 hr	3.2 hr
10	October	11.8 hr	6.5 hr
11	November	11.3 hr	9.3 hr
12	December	11.1 hr	9.3 hr

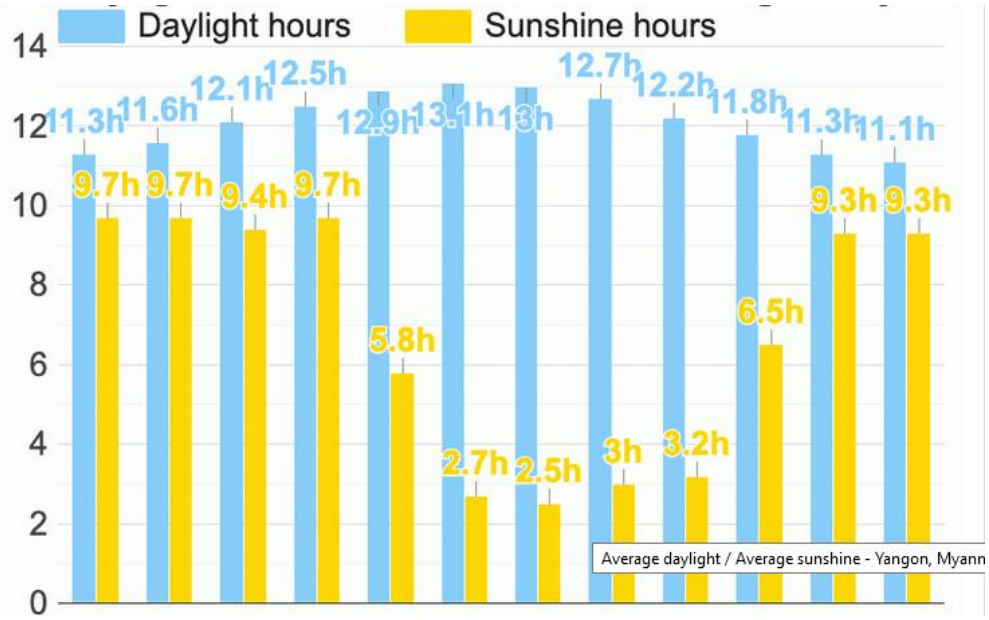


Figure 19. Day Light and Sunshine Hours graph of Yangon

10.2.6 UV Index

Months with the highest UV index of Yangon are March, April, May, June, July, August and September (UV index 12) and the month with the lowest UV index is December (UV index 8).

Table 22. Average UV Index of Yangon

Sr	Month	Average UV Index
1	January	9
2	February	11
3	March	12
4	April	12
5	May	12

6	June	12
7	July	12
8	August	12
9	September	12
10	October	11
11	November	9
12	December	8

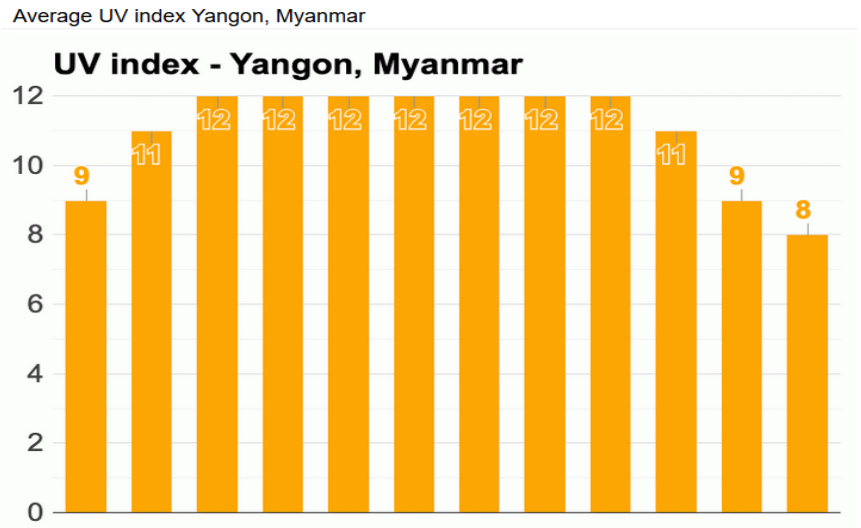


Figure 20. UV Index Graph of Yangon

10.2.7 Earthquakes

One times of earthquakes are occurred in Yangon within 2020. The following table shows the detail description of earthquake occurring in Yangon.

Table 23.Earthquakes in Yangon

Date	Magnitude	Depth	Distance	Location
Tuesday, November 12, 2020 3:34 PM	3.4	10	62 miles	10.2 km from Yangon, Near South Coast Of Myanmar District
Wednesday, April 22, 2020 6:47 PM	3.1	10	8.2 miles	14.2 km from Kanbe, Near South Coast Of Myanmar

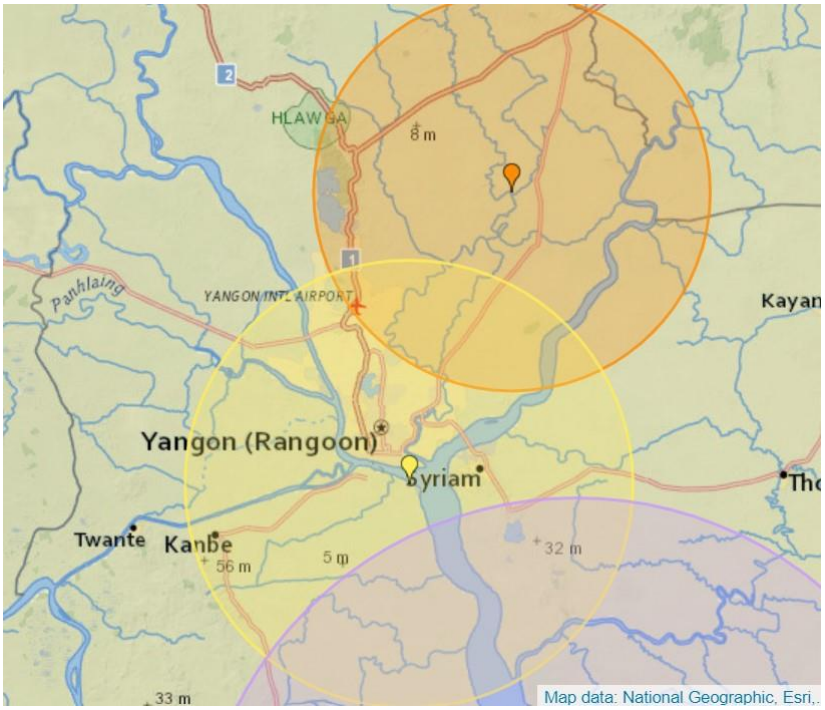


Figure 21. Earthquake map of Yangon

10.3 BIODIVERSITY

Biodiversity includes two portions, which are the study of vegetation (flora) and the study of living animals (fauna). There is no natural vegetation, wildlife and deforestation in project affect area within 1 kilometer.

10.4 SOLID WASTE

The garment factory produces solid wastes mainly comprised of nylon fabric cuts and yarn pieces. These wastes are valuable for reuse in places such as stuffing for pillow and doll. However, the solid waste from Kai Sheng (Myanmar) Industrial Company Limited is discharged by calling solid waste collector. Systematic management of these solid wastes is of importance as mismanagement of the waste will lead critical occupational hazard including fire hazard. Following table depicts waste generation from the whole production process.

Table 24. Waste Generation from Apparel Manufacturing

Sr.	Process	Waste
1	Receiving	Packing waste
2	Cutting	Linen cuts
3	Sewing	Linen cuts, Thread cuts
4	Zipper stitching	Metal waste, Thread cuts
5	Tag and Code	Paper waste, thread cuts, packing material
6	Packing	Packing waste

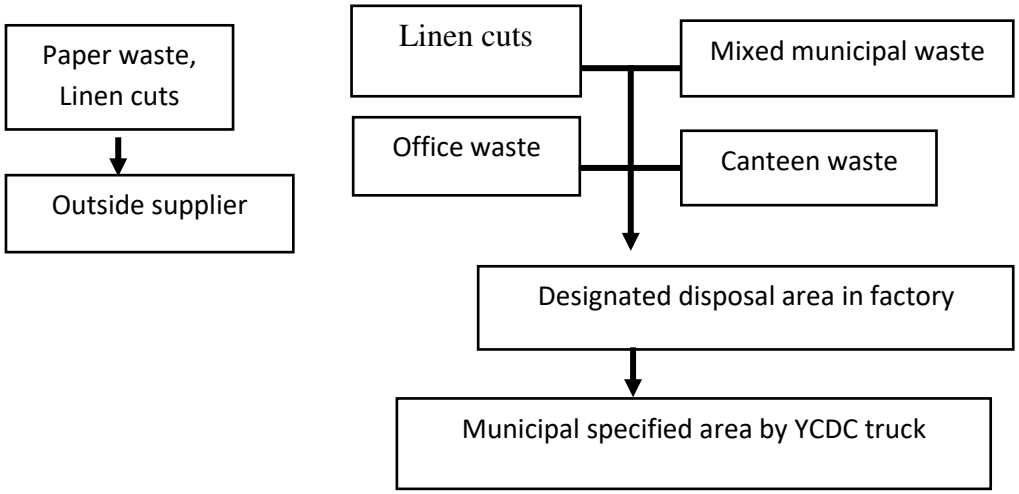


Figure 22. Waste Management System of Kai Sheng (Myanmar) Industrial Company Limited

10.5 DESCRIPTION OF RAW MATERIALS

The basic raw materials used nylon fabric and yarn. These raw materials are imported directly from China, Vietnam, Cambodia and Taiwan. Raw materials list are shown in appendix.

Figure 23. Raw Storage Area of Kai Sheng (Myanmar) Industrial Company Limited

10.6 EQUIPMENT AND MACHINERY LIST

Equipment and machinery lists used in Kai Sheng (Myanmar) Industrial Company Limited are described in appendix.

10.7 ELECTRICITY SUPPLY

Kai Sheng (Myanmar) Industrial Company Limited purchase electricity from government power source. The plant installed 250 kVA transformers for supply electricity. The electrical power consumption of the factory is shown in appendix.

10.8 OPERATIONAL WORKFORCE

The working hours for the worker from the plant were (8) hrs from Monday to Friday and only Saturday for (4) hr.

11 IMPACT ASSESSMENT AND MITIGATION

Rating matrix method is used to assess the significance level of the identified environmental impacts of the Kai Sheng (Myanmar) Industrial Company Limited on its environment. There are five parameters considered for the activities of the projects and the consequences resulted from the said activities. System of rating is described in detailed as follows.

Table 25. Impact Rating Table

Severity	Value	Duration	Value	Spatial Scope	Value	Frequency	Value	Probability	Value
Insignificant/non-harmful	1	One day to one month	1	Activity specific	1	Annual or less	1	Almost impossible	1
Small/potentially harmful	2	One month to one year	2	Within right of way/project compound	2	Bi-annual	2	Highly unlikely	2
Significant/slightly harmful	3	One year to ten years	3	Local area	3	Monthly	3	Unlikely	3
Great/ harmful	4	Life of operation	4	National	4	Daily Intermittence	4	Possible	4
Disastrous/ deadly harmful	5	Permanent	5	Global	5	Daily Continuous	5	Definitely	5

Table 26. Rating Matrix

	Consequence (Severity + Spatial Scope + Duration)														
Activity (Frequency + Probability)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45
	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90
	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105
	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120
	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135
	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150

Table 27. Significance Levels

Sr.	Color Code	Value	Rating
1		1-25	Very Low
2		26-50	Low
3		51-75	Low-Medium
4		76-100	Medium-High
5		101-125	High
6		126-150	Very High

Table 28. Environmental Aspect and Impact

Sr.	Activity List	Aspect	Impact
1	Receiving	Overweight lifting	Injury from overweight lifting
		Packing waste	Solid waste generation
2	Fabric Cutting	Operation of cutting machine	Injury from cutting machine, Solid waste generation
3	Sewing , zipper stitching and iron	Pieces of thread cuts, needle	Solid waste generation, Injure by needle and heat injury
4	Finishing, Tag & Code	Pieces of thread cuts, needle cuts	Solid waste generation, Injure by needle
5	Packing	Packing waste	Solid waste generation
6	Storage	Pieces of plastic	Solid waste generation
		Overweight lifting	Injury from overweight lifting

Characteristics of the impacts are evaluated based on eight particular basic, four of which are used in the assessment of the significance level of the impacts.

Table 29. Characteristics of the Impacts

IMPACTS	CHARACTERISTICS							
	Nature	**Impact Source**	**Impact Receptor**	**Severity**	**Duration**	**Spatial Scope**	**Frequency**	**Probability**
Physical hazard	Negative	-Injury from overweight lifting - Contact with cutting machine - Injury by needle and heat injury - Ergonomics	Workers	Impact severity is significant for operation workers	Physical hazard will occur in project life	Physical hazard will occur at the project area of activity	Activity that cause the impact occurs daily intermittently	Physical hazards are possible

Fire hazard	Negative	- Smoking in prohibited area - Wire shock by continuous electricity usage - Diesel storage for driving generator	Workers and the whole plant	Impact severity is harmful	Fire hazard will occur the whole project life	If a fire broke out, the whole project is likely to be affected	Fire hazard can occur daily intermittently	A fire hazard is possible
Solid Waste	Negative	- Pieces of fabric - Pieces of thread cuts, needle cuts - Packing waste Plastic waste - General waste	Workers and local environment	Impact severity is potentially harmful if solid wastes are discharged systematically	Impact from solid waste will occur in project life	Local area could be affected by solid waste mismanagement	Solid waste impact occurs daily intermittently	Impact from solid wastes are possible
Noise	Negative	- Operation of generator and machine	Workers	Impact severity is small occurs almost continuously and most of the	Noise hazard will occur in project life	Noise hazard will occur within the whole project compound	Activity that cause the impact occurs daily continuously	Noise hazard are unlikely

				workers are subjected to exposure				
Machinery hazard	Negative	- Operation machine	Workers and the whole plant	Impact severity is slightly harmful for operation workers	Machinery hazard will occur in project life	Machinery hazard will occur at the project area of activity	Activity that cause the impact occurs daily intermittently	Machinery hazard are possible
Emission dust	Negative	- Operation of fabric settling	Workers	Impact severity is slightly harmful if air emissions are out of NEQG limit	Air emission will occur in project life	Air emission could spread to project compound	Air emissions occur daily Intermittence operation	According to current condition, air emission out of NEGQ limit is possible to occurs

Table 30. Assessment of the Significance of the Impacts without MEMs

Sr	Impact	Severity	Duration	Spatial Scope	Frequency	Probability	Total Rating	Significance Level
1	Fire hazard	4	4	2	4	4	80	Medium-High
2	Solid waste	2	4	3	4	4	72	Low-Medium
3	Physical hazard	3	4	1	4	4	64	Low-Medium
4	Noise	2	5	3	5	3	80	Medium-High
5	Machinery hazard	3	5	3	4	4	88	Medium-High
6	Emission dust	3	4	2	4	4	72	Low- Medium

12 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 31. Mitigation Measures for Anticipated Impacts

IMPACTS	Impact Source	Mitigation
Fire hazard	- Smoking in prohibited area - Wire shock by continuous electricity usage - Diesel storage for driving generator	1.Strictly prohibit smoking within factory compound 2.Clearly define and notify emergency exits 3.Passage ways must always be kept clean and clear 4.Regularly check and refill fire extinguishers 5.Exercise fire drill regularly
Solid Waste	- Pieces of nylon fabric - Pieces of thread cuts, needle cuts - Packing waste - Plastic waste - General waste	1.Packing nylon fabric waste in bags 2.Cleaning continuous and regularly 3.Stacking waste bags systematically 4.Calling waste collector regularly 5.Providing adequate dust bins
Physical hazard	- Injury from overweight lifting - Contact with cutting machine - Injury by needle	1.Using necessary lifting and carrying aid apparatus and machinery 2.Using metal hand gloves for cutting machine operators 3.Installing needle guards
Noise	- Operation of generator and machine	1. Carrying out regular maintenance works for all the equipment and generator 2. Installation cover in generator room for noise
Machinery hazard	- Operation machine	1.Wearing necessary PPE (goggle, hand gloves, ear muffs) 2.Regular inspection and cleaning of debris, dusts and oils on machine components

		3. Regular inspection of lubricant leakage and refilling as necessary 4. Clearing work place of flammable materials before using machine 5. Installation safety guard on machine 6. Regular inspection of belt, gears, sprockets, chains, and other moving parts. 7. Systematically installing machine parts 8. Regular inspection of power cable 9. Preparing checklist, warning signs or lights of inspection for using machine and displaying at visible location near machine 10. Allow only qualified workers to operate or maintain machine. 11. Install emergency stop devices on machine to enable workers to shut off the equipment within easy reach of workers.in an emergency.
Emission dust	- Operation of fabric settling	1.Wearing necessary PPE (goggle, gloves) 2. Regular inspection and supervision of the usage of the masks for the workers working at odor producing areas 3. Installation of a particle monitoring meter 4. Temporarily stopping the works if PM 2.5 and PM 10 emission reached above 50 $\mu g/m^3$ in a day 5. Cleaning with dust collector

13 MANAGEMENT AND MONITORING PLAN

Management and Monitoring Plans are to address and satisfy directly for all applicable environmental management and monitoring issues which are

1. Fire hazard
2. Solid waste
3. Physical hazard
4. Noise
5. Machinery hazard
6. Emission dust

13.1 FIRE HAZARD

Fire is the greatest threat for garment factories around the world. Raw material used in garment factory, fabric, is highly flammable. Fire can easily break out with any sparking source. Moreover, fire hazard is greater if emergency exit is poorly provided. Blockages in passage ways by stacks of raw materials and products will add a greater fire hazard. Common ignition sources include improper or poorly maintained electrical equipment and malfunction of grain-moving machinery. This factory installed fire alarm, fire hydrate and fire extinguishers to prevent fire hazard. Boiler, diesel for machines are also associated with fire hazard.

Table 32. Objective and Legal Requirements for Fire Hazard

1	Objectives	To prevent and reduce fire hazard by the implementation of a systematic management and monitoring plan
2	Legal Requirements	1. Myanmar Fire Brigade Law Paragraph (14 C, 25)
3	Mitigation Measure	1. Strictly prohibit smoking within factory compound
		2. Clearly define and notify emergency exits
		3. Passage ways must always be kept clean and clear
		4. Regularly check and refill fire extinguishers
		5. Exercise fire drill regularly

Table 33. Management Actions for Fire Hazard

Sr.	Mitigation Measures	Management Actions
1	Strictly prohibit smoking within factory compound	Regular inspection and supervision
2	Clearly define and notify emergency exits	Regular inspection and supervision
3	Passage ways must always be kept clean and clear	Regular inspection and supervision
4	Regularly check and refill fire extinguishers	Regular inspection
5	Exercise fire drill regularly	Regular inspection and supervision

Table 34. Implementation Plan for Fire Hazard

Sr.	Management Action	Frequency	Duration	Responsibility
1	Strictly prohibit smoking within factory compound	Daily	Project life	HR Dept
2	Clearly define and notify emergency exits	Daily	Project life	HR Dept
3	Passage ways must always be kept clean and clear	Daily	Project life	HR Dept
4	Regularly check and refill fire extinguishers	Daily	Project life	HR Dept
5	Exercise fire drill regularly	3 times/yr	Project life	HR Dept

Table 35. Monitoring Plan for Fire Hazard

Sr.	Parameter	Location	Frequency	Method	Responsibility
1	Strictly prohibit smoking within factory compound	Within factory compound	Daily	Visual inspection	HR Dept

2	Clearly define and notify emergency exits	Factory compound	Daily	Inspection	HR Dept
3	Passage ways must always be kept clean and clear	Passage ways	Daily	Visual inspection	HR Dept
4	Regularly check and refill fire extinguishers	Fire extinguisher within the factory compound	Daily	Inspection	HR Dept
5	Exercise fire drill regularly	Fire drill within the factory compound	3 times/yr	Inspection	HR Dept

Table 36. Projected Budget for OSH

Sr.	Management Actions	Budget
1	Regularly check and refill fire extinguishers	2,100,000/3 yrs

13.2 PHYSICAL HAZARD

Primary physical hazard issues related to Kai Sheng (Myanmar) Industrial Company Limited is: overweight lifting at receiving raw materials and transporting products; hazard for injury from cutting machines; Ergonomic injury from prolong standing or sitting.

Table 37. Objective and Legal Requirements for Physical Hazard

1	Objectives	To prevent and reduce occupational hazard by the implementation of a systematic OSH management and monitoring plan
2	Legal Requirements	1. Myanmar Fire Brigade Law Paragraph (14 C, 25) 2. 1951 Factory Act (Chapter 3, Chapter 4)

		3. OSH Law (Chapter 8, Paragraph 34 and 49)
3	Mitigation Measure	1. Using necessary lifting and carrying aid apparatus and machinery
		2. Using metal hand gloves for cutting machine operators
		3. Installing machine guards
		4. Regular maintenance of exhaust and ceiling fan

Table 38. Management Actions for Physical Hazard

Sr.	Mitigation Measures	Management Actions
1	Using necessary lifting and carrying aid apparatus and machinery	Regular inspection and supervision
2	Using metal hand gloves for cutting machine operators	Regular inspection and supervision
3	Installing and regular maintenance of machine guards	Regular inspection and replacement
4	Regular maintenance of exhaust and ceiling fan	Annually inspection and maintenance of exhaust and ceiling fan

Table 39. Implementation Plan for Physical Hazard

Sr.	Management Action	Frequency	Duration	Responsibility
1	Using necessary lifting and carrying aid apparatus and machinery	Once	Project Life	HR Dept
2	for cutting machine operators	Monthly	Project life	Maintenance
3	Installing machine guards	Once	Project Life	HR Dept
4	Regular maintenance of exhaust and ceiling fan	Annually	Project life	Maintenance

Table 40. Monitoring Plan for Physical Hazard

Sr.	Parameter	Location	Frequency	Method	Responsibility
1	Using necessary lifting and carrying aid apparatus and machinery	Loading/ Unloading area	Daily	Inspection	HR Dept
2	Using metal hand gloves for cutting machine operators	Production lines	Daily	Inspection	HR Dept
3	Installing machine guards	Production lines	Monthly	Inspection	Maintenance
4	Regular maintenance of exhaust and ceiling fan	Exhaust fans	Monthly	Inspection	Maintenance

Table 41. Projected Budget for Physical Hazard

Sr.	Management Actions	Budget
1	Using necessary lifting and carrying aid apparatus and machinery(hand hydraulic trolley)	30,000
2	Using metal hand gloves for cutting machine operators	300,000/yr
3	Installing machine guards	300,000
4	Regular maintenance of exhaust and ceiling fan	300,000/yr

13.3 SOLID WASTE

The garment factory produces solid wastes mainly comprised of nylon fabric cuts and yarn. These wastes are valuable for reuse in places such as stuffing for pillow and doll. But the solid waste from Kai Sheng (Myanmar) Industrial Company Limited is discharged by calling solid waste collector as like YCDC. Domestic solid waste generation from Kai Sheng (Myanmar) Industrial Company Limited is low. Systematic management of this solid waste is of importance as mismanagement of the waste will lead critical occupational hazard including fire hazard.

Table 42. Objective and Legal Requirements for Solid Waste

1	Objectives	To prevent and reduce environmental impacts from solid waste by providing a systematic management plan
2	Legal Requirements	1. Environmental Conservation Law Paragraph (14, 15) 2. 1951 Factory Act Paragraph (14A)
3	Mitigation Measure	1. Cleaning continuous and regularly
		2. Packing wire cutting waste in bags
		3. Stacking waste bags systematically
		4. Calling waste collector regularly
		5. Providing adequate dust bins

Table 43. Management Actions for Solid Waste

Sr.	Mitigation Measures	Management Actions
1	Cleaning continuous and regularly	Regular inspection and supervision
2	Packing wire cutting waste in bags	Regular inspection and supervision
3	Stacking waste bags systematically	Regular inspection and supervision
4	Calling waste collector regularly	Regular inspection and supervision
5	Providing adequate dust bins	Providing 20 dust bins

Table 44. Implementation Plan for Solid Wastes

Sr.	Management Action	Frequency	Duration	Responsibility
1	Cleaning continuously and regularly	Daily	Project life	Production Dept
2	Packing wire cutting waste in bags	Daily	Project life	Production Dept
3	Stacking waste bags systematically	Daily	Project life	Production Dept
4	Calling waste collector regularly	Weekly	Project life	Production Dept

5	Providing 20 dust bins	Once	Project life	Plant Manager

Table 45. Monitoring Plan for Solid Wastes

Sr.	Parameter	Location	Frequency	Method	Responsibility
1	Cleaning continuously and regularly	The whole plant	Daily	Inspection	Production Dept
2	Packing wire cutting waste in bags	Inspection	Daily	Inspection	Production Dept
3	Stacking waste bags systematically	Inspection	Daily	Inspection	Production Dept
4	Calling waste collector regularly	Inspection	Weekly	Inspection	Production Dept
5	Providing minimum 20 dust bins	Inspection	Once	Record	Plant Manager

Table 46. Projected Budget for Solid Wastes

Sr.	Management Actions	Budget
1	Providing 20 dust bins	100,000

13.4 NOISE

Most parts of the factory are subjected to noise. High noise areas are working line and compressor. Employer is needed to provide with necessary PPE such as ear muffs for worker.

Table 47. Objective and Legal Requirements for Noise and Vibrations

1	Objectives	To prevent and reduce occupational hazard from noise by implementing a systematic management plan
2	Legal Requirements	1. NEQG paragraph (1.3)

3	Mitigation Measure	1. Carrying out regular maintenance works for all the equipment and generator
		2. Installation cover in generator room for noise

Table 48. Management Actions for Noise and Vibrations

Sr.	Mitigation Measures	Management Actions
1	Carrying out regular maintenance works for all the equipment and generator	1. Carrying out annual overall maintenance work
2	Installation cover in generator room for noise	1. Installation cover in generator room

Table 49. Implementation Plan for Noise

Sr.	Management Action	Frequency	Duration	Responsibility
1	Installation cover in generator room	Once	Project life	Engineering Dept
2	Carrying out annual overall maintenance work	Annually	Project life	Engineering Dept

Table 50. Monitoring Plan for Noise and Vibrations

Sr.	Parameter	Location	Frequency	Method	Responsibility
1	Carrying out noise level measurement regularly	locations within plant compounds	Quarterly	Handheld noise level meter	Engineering Dept
2	Carrying out annual overall maintenance	The whole plant	4 times per year	Inspection	Engineering Dept
3	Checking workplace daily	The whole plant	Daily	Visual Inspection	Engineering Dept

Table 51. Projected Budget for Noise and Vibrations

Sr.	Management Actions	Budget
1	Installing cover in generator room	60,000
2	Carrying out annual overall maintenance work	1,000,000/yr

13.5 MACHINERY HAZARD

Many types of machinery such as sewing machine, cutting and air compressor are operating in this factory. Any machine part which can cause injury must be guarded. Machine guards help to eliminate personnel hazards created by points of operation, ingoing nip points, rotating parts and flying chips. All machinery equipment should be maintained in a safe operational condition and be regularly inspected.

Table 52. Objective and Legal Requirements for Machinery Hazard

1	Objectives	To prevent and reduce occupational hazard by the implementation of a systematic OSH management and monitoring plan
2	Legal Requirements	1. Myanmar Fire Brigade Law Paragraph (14 C, 25) 2. 1951 Factory Act (Chapter 3, Chapter 4)
3	Mitigation Measure	Implementation of machinery hazard safety measures

Table 53. Management Actions for Machinery Hazard

Sr.	Mitigation Measures	Management Actions
1	Implementation of machinery hazard safety measures	1.Providing necessary PPE (goggle, hand gloves, ear muffs) 2. Inspection and supervision for wearing necessary PPE for maintaining machine. 3.Regular inspection and cleaning of debris, dusts and oils on machine components 4. Regular inspection of lubricant leakage and refilling as necessary 5. Clearing work place of flammable

		materials before using machine 6. Installation safety guard on machine 7. Regular inspection and maintaining for belt, gears, sprockets, chains, and other moving parts. 8. Systematically installing machine parts 9. Regular inspection of power cable 10. Preparing checklist, warning signs or lights of inspection for using machine and displaying at visible location near machine 11. Allow only qualified workers to maintain machine. 12. Install emergency stop devices on machine to enable workers to shut off the equipment within easy reach of workers.in an emergency.

Table 54. Implementation Plan for Machinery Hazard

Sr.	Management Action	Frequency	Duration	Responsibility
1.	Providing necessary PPE (goggle, hand gloves, ear muffs)	When require	Project life	Plant manager, worker
2	Inspection and supervision for wearing necessary PPE for maintaining machine.	Daily	Project life	Plant manager, worker
3	Regular inspection and cleaning of debris, dusts and oils on machine components	Daily	Project life	Plant manager, worker
4	Regular inspection of lubricant leakage and refilling as necessary	Check and refill	Project life	Plant manager, worker
5	Clearing work place of flammable materials before using machine	Daily	Project life	Plant manager, worker

6	Installation safety guard on machine	Once	Project life	Plant manager, worker
7	Regular inspection and maintaining for belt, gears, sprockets, chains, and other moving parts.	Weekly	Project life	Plant manager, worker
8	Systematically installing machine parts	Check and repair	Project life	Plant manager, worker
9	Regular inspection of power cable	Daily	Project life	Plant manager, worker
10	Preparing checklist, warning signs or lights of inspection for using machine and displaying at visible location near machine	Once	Project life	Plant manager, worker
11	Allow only qualified workers to maintain machine.	Annually	Project life	Plant manager, worker
12	Install emergency stop devices on machine to enable workers to shut off the equipment within easy reach of workers in an emergency.	Once/ recheck and repair	Project life	Plant manager, worker

Table 55. Monitoring Plan for Machinery Hazard

Sr.	Parameter	Location	Frequency	Method	Responsibility
1	Providing necessary PPE (goggle, hand gloves, ear muffs)	Factory area	When require	Project life	General manager (HR), Plant Manager
2	Inspection and supervision for wearing necessary PPE for	Factory area	Daily	Project life	Engineering Department

	maintaining machine.				
3	Regular inspection and cleaning of debris, dusts and oils on machine components	Workplace	Daily	Project life	Engineering Department
4	Regular inspection of lubricant leakage and refilling as necessary	Workplace	Check and refill	Project life	Engineering Department
5	Clearing work place of flammable materials before using machine	Workplace	Daily	Project life	Engineering Department
6	Installation safety guard on machine	All of machine	Once	Project life	Engineering Department
7	Regular inspection and maintaining for belt, gears, sprockets, chains, and other moving parts.	All of machine	Weekly	Project life	Engineering Department
8	Systematically installing machine parts	All of machine	Check and repair	Project life	Engineering Department
9	Regular inspection of power cable	All of machine	Daily	Project life	Engineering Department
10	Preparing checklist, warning signs or lights of inspection for	Factory area	Once	Project life	Engineering Department

	using machine and displaying at visible location near machine				
11	Allow only qualified workers to maintain machine.	Factory record	Annually	Project life	General Manager (HR), Plant Manager
12	Install emergency stop devices on machine to enable workers to shut off the equipment within easy reach of workers.in an emergency	All of machine	Once/ recheck and repair	Project life	Engineering Department

Table 56. Projected Budget for Machinery Hazard

Sr.	Management Actions	Budget
1	Regular inspection and maintaining for belt, gears, sprockets, chains, and other moving parts.	500,000/yr
2	Install emergency stop devices on machine to enable workers to shut off the equipment within easy reach of workers.in an emergency	30000

13.6 EMISSION DUST

Type of dust generated from raw material storing, cutting area. Minimal requirement such as wearing necessary PPE (mask and hand glove) and carrying out regular sweeping at the area have to be carried out.

Table 57. Objective and Legal Requirements for dust management

1	Objectives	To provide adequate dust and particulate control system so that

		occupational health hazard relating to dust is minimal
2	Legal Requirements	1. Environmental Conservation Law Paragraph (14, 15) 2. NEQG Paragraph (1.1)
3	Mitigation Measure	1.Wearing necessary PPE (goggle, gloves) 2. Regular inspection and supervision of the usage of the masks for the workers working at odour producing areas 3. Installation of a particle monitoring meter 4. Temporarily stopping the works if PM 2.5 and PM 10 emission reached above 50 µg/m3 in a day 5. Cleaning with dust collector

Table 58. Management Actions for dust emission

Sr.	Mitigation Measures	Management Actions
1	Wearing necessary PPE (goggle, gloves, mask)	1. Providing face mask for workers working at metal melting process
2	Regular inspection and supervision of the usage of the masks for the workers working at odour producing areas	1. Educating workers about workplace safety practices and use of PPE 2. Regular inspection and supervision of face mask usage
3	Installation of a particle monitoring meter	1. Installation of a particle monitoring meter
4	Temporarily stopping the works if PM 2.5 and PM 10 emission reached above 50 µg/m3 in a day	1. Setting alarm level of meter to 50 $\mu g/m^3$ 2. Temporarily stopping the resin laying works if dust emission reached above 50 $\mu g/m^3$ 3. Reporting to plant manager
5.	Cleaning with dust collector	1. Providing dust collector

Table 59. Implementation plan for dust management

Sr.	Management Action	Frequency	Duration	Responsibility
1	Providing face mask for workers working at metal melting process	Monthly	Project life	Plant manager
2	Educating workers about workplace safety practices and use of PPE	Annually	Project life	Plant Manager,
3	Regular inspection and supervision of face mask usage	Daily	Project life	Plant manager
4	Installation of a particle monitoring meter	once	Project life	Plant manager
5	Temporarily stopping the resin laying works if dust emission reached above 50 ppm	If require	Project life	Plant manager
6	Providing dust collector	Once	Project life	Plant manager
7	Regular inspection and supervision of moistening dust heap area	Weekly	Project life	Plant manager

Table 60. Monitoring Plan for Emission of Dust

Sr.	Parameter	Location	Frequency	Responsibility
1	$PM_{2.5}$	Within plant compound	Bi-annually	Plant Manager
2	Regular inspection	Within plant compound	Daily	Assistance Plant manager

Table 61. Projected Budget for Emission to Dust

Sr.	Management Actions	Budget
1	Providing face mask and helmet adequately for workers	120,000/yr

	working at material handling areas	
2	Providing dust collector	200,000

14 PROJECTED BUDGETS

Projected budget for implementation of EMP management actions and monitoring requirements could be summarized from detailed particulars described in previous section of the report. Kai Sheng (Myanmar) Industrial Company Limited will allocate 540,000 kyats total of one-time cost and 2,920,000 kyat of annual recurring cost for successful implementation and monitoring of the EMP. If the estimated budget isn't enough, Kai Sheng (Myanmar) Industrial Company Limited. will be used by adding the enough budgets as necessary.

Table 62. Project Budgets for Implementation and Monitoring of EMP

Sr.	Management Actions	Budget
1	Regularly check and refill fire extinguishers	2,100,000/3 yrs (700,000/yr)
2	Using necessary lifting and carrying aid apparatus and machinery(hand hydraulic trolley)	30,000
3	Using metal hand gloves for cutting machine operators	300,000/yr
4	Installing machine guards	300,000
5	Regular maintenance of exhaust and ceiling fan	300,000/yr
6	Providing 20 dust bins	100,000
7	Installing cover in generator room	60,000
8	Carrying out annual overall maintenance work	1,000,000/yr
9	Regular inspection and maintaining for belt, gears, sprockets, chains, and other moving parts.	500,000/yr
10	Install emergency stop devices on machine to enable workers to shut off the equipment within easy reach of workers in an emergency	30000
11	Providing face mask and helmet adequately for workers working at material handling areas	120,000/yr

12	Providing dust collector	200,000
Total One Time Cost		540,000
Total Recurring Cost		2,920,000

15 ENVIRONMENTAL MANAGEMENT TEAM

An Environmental Management Team will be established for successful implementation of the environmental management plan. Kai Sheng (Myanmar) Industrial Company Limited is responsible for complete implementation of the EMP and will carry out environmental monitoring programme which is part of the EMP. The objectives of the Environmental Management Team are:

(a) To assure systematic implementation of EMP throughout project life, and

(b) To monitor and review effectiveness of EMP regularly

Table 63. Environmental Management Team

Sr.	Representative	Number
1	Director	1
2	General Manager	1
3	Factory Manager	1
4	HR Manager	1
5	Supervisor	1

15.1 ROLES AND RESPONSIBILITIES

15.1.1 General Manager

General Manager is responsible for overall achievement of environmental management objectives. He has to report to Managing Director for regular progress, compliance, non-compliance and corrective actions for the course of implementation of EMP. He has to lead the regular EMP review process together with the environmental management team so that effectiveness of EMP is assured.

15.1.2 Heads of Departments

Heads of Departments (HODs) are responsible for carrying out day to day activities of the EMP. They have to direct employees or carrying out inspection works

of the implementation of EMP and report back to Managing Director and General Manager for progress, compliance, non-compliance and corrective actions for the course of implementation of EMP.

16 TRAINING, AWARENESS AND COMPETENCE

This plan describes the provisions of training to ensure that any people working for or on behalf of Kai Sheng (Myanmar) Industrial Company Limited involved in the activities covered by the scope of the EMP are properly trained to carry out their assigned duties in a manner that will not cause deviation from company environmental policy.

Table 64. Training Requirement

Sr.	Training Topics	Trainee	Duration
1	OSH Training	Supervisors, Operators, Workers and Security	40 hours
2	EMP Training	Environmental management team	40 hours
3	Emergency Response Training	All employee	16 hours
4	First Aid Training	All employee	20 hours
5	Fire Fighting Training	All employee	40 hours

This procedure applies to EMP related training for staff and any persons working for or on behalf of Kai Sheng (Myanmar) Industrial Company Limited involved in the activities covered by the scope of the EMP Kai Sheng (Myanmar) Industrial Company Limited will ensure that all people performing tasks for or on behalf of the organization have had an appropriate assessment for their potential to cause a significant environmental impact and the associated competence required.

The HODs shall ensure that people working for or on behalf of the company within the scope of EMP are competent on the basis of appropriate education, training or experience. The General Manager shall identify training needs for people working for or on behalf of the company to ensure individual competence to implement the EMP effectively.

17 COMMUNICATION

This plan ensures a consistent and efficient approach to internal communication and external complaints relating to the environment. The procedure applies to all documents established under the EMP of Kai Sheng (Myanmar) Industrial Company Limited Company Limited. The documents under the EMP include but are not limited to:

- EMP Report
- Mitigation Measures and Management Actions
- Environmental Monitoring Programme
- Registers of Legal and Other Requirements
- External documents including legislation, professional guides and code of practices, etc.

17.1 RESPONSIBILITY

- The General Manager is responsible for dealing with complaints.
- The communication from cooperate affairs is responsible for ensuring that all communications relating to the environment are processed correctly.
- All staffs are responsible for putting forward suggestions on environmental matters.

17.1.1 External Communications

Communications to be handled according to this procedure include correspondence, conservations and meeting with relevant interested parties.

The person receiving the communication shall be noted the time and date, relevant address/telephone number and details of communication. Details shall be passed to the General Manager who will determine the response and whether the corrective action is required upon consultation with HR Department. If the communication is significant, the General Manager shall inform the supply chain director as soon as possible.

General Manager shall be responsible for maintaining records, responses and corrective action in a separate file designated for that purpose. In order to have more

understanding the environment management practices by the EMP team and to have more transparent, local authorities and Communities leaders shall be invited to the brewery once in a year to share update environment management procedures.

17.1.2 Internal Communications

The primary means of communication is through team briefings, supported as appropriate by use of notice boards and memos. Suggestions for environmental improvements are made through the company suggestion scheme.

18 EMERGENCY PREPAREDNESS AND RESPONSE PLAN

18.1 EMERGENCY OF FIRE HAZARD

18.1.1 Sources of Fire Hazard

Fire is a rapid chemical in which oxygen combines with another substance in the presence of a source of heat energy. Heat, fuel, and oxygen have to be present in sufficient quantities before a fire can start. If one of these elements is removed, the fire will go out. Heat acts as the source of ignition and anything that gives off heat can start a fire. The source of ignition is not necessarily a flame, a spark or fires itself, but the heat they give off. Heat can be generated by welding torches, soldering irons, hot plates, ovens, electric fires, light bulbs, electric irons, and smoking. Fuel can be anything combustible, such as paper, wood, petrol vapor, natural gas, and propane (bottled gas).

The oxygen essential for combustion is usually supplied from the surrounding air. Fires are classified into five categories according to the fuel type. The classification serves as a basis for identifying the means of extinguishing different types of fire:

- Class A

These are fires involving solid materials, normally of an organic nature, such as paper, wood, coal and natural fibers. These fires usually produce burning embers.

- Class B

These are fires involving flammable liquids or liquefied solids, such as petrol, oil, greases, fats and paints.

- Class C

These are fires involving gases or liquefied gases, such as methane, propane, and mains gas.

- Class D

These are fires where the fuel is a metal such as aluminum, sodium, potassium or magnesium.

- Class E

Electrical fires are fires involving potentially energized electrical equipment. This sort of fire may be caused by short-circuiting machinery or overloaded electrical cables.

- Class F

These are fires fueled by cooking fats, as in the case of deep fat frying.

18.1.2 Pre-Conditions

1. Mark out all location susceptible to fire outbreak
2. The work place is equipped appropriate fire-fighting equipment, fire detectors, and alarms and that any non-automatic fire-fighting equipment is easily accessible, simple to use and indicated by signs.
3. Appropriate measures are taken for fire-fighting and training of workers to implement those measures, and the arranging of contacts with external emergency services.
4. The emergency routes are kept clear and comply with any rules or regulations relating to routes, doors and signs.
5. There is a suitable system of maintenance for fire precautions in relation to workplace procedures in general and to specific equipment and devices, which must be kept in good working order and repair.
6. Hot works must be done in a standard workshop.
7. Store flammable liquids/gases properly and under the supervision of a competent person.
8. Standardize waste materials and residues management so that they do not contribute to a fire emergency.

18.1.3 Preparation for Emergencies

18.1.3.1 Training

All people at the production unit shall be trained on emergency situations in accordance with the standard of Myanmar fire bridge department.

18.1.3.2 Fire Drills

Fire drills are important requirement that serve to prepare and educate the staff in the event of a fire. Staff is expected to participate in fire drills and respond according to department expectations and institutional policy. Fire drills are critiqued and opportunities for improvement are identified and addressed. In addition, equipment and system problems and failures are reported immediately for correction.

Fire drills include the following:

- Simulated and actual removal of patients, staff and visitors from affected area
- Fire alarm activation
- Reporting event by calling 911
- Fire and smoke containment observation
- Review of evacuation procedures
- Fire suppression procedures

18.1.3.3 Pre-Drill Assessment

The drill coordinator should conduct a pre-drill assessment of the evacuation routes and assembly points. This assessment will verify condition of egress components and ensure that occupants may use these facilities in a safe manner. Ensure exit passageways are clear, free of obstructions and that exit doors work properly.

18.1.3.4 Evacuation

Evacuation shall be started by an acoustic signal. This signal can be activated by hand and also automatically by fire detection.

18.1.3.5 Responsibilities of Fire Emergency Coordinator and Fire Emergency Teams

The Emergency Coordinators are Responsible for: Review of the evacuation plan before a drill and identifying any modifications necessary as the result of changes in operations, facility, staff or occupants.

Trigger the evacuation signal (fire alarm) system and evaluate personnel response in terms of the following:

- Actions taken to shutdown processes and machineries.
- Using the prescribed route by the emergency procedure during evacuation.
- The ability of the occupant to provide assistance to visitors or individuals who are experiencing difficulty.
- Be familiar with the building evacuation plan and the basic emergency procedures.
- Know where the unit's first aid kit is located.
- The occupants' judgment in taking evasive action if the means of egress that is selected is determined to be unsafe.
- The occupant ability to report to the assembly area monitors using the prescribed emergency, safe exit (lifts must not be used in the event of a fire emergency) at the assigned assembly point.
- The Emergency Teams are Responsible for: Assessment of the means of exit
- Program the police services emergency number on the cell phone and have the phone readily available.

18.1.3.6 Emergency Equipment

The Followings equipment/PPE are mandatory when any hot work has to be performed:

- Hands-free welding mask;
- Steel toe safety boot;
- Fire Extinguisher;
- Fire blanket;
- Fire Hydrant system;
- Willkie Talkie

- Fire detection system.

18.1.3.7 First Aid

First aid is a part of the total health care for workers. Its application will depend to a large extent on persons present at the time of an accident, whether co-workers or formally trained medical personnel. Any comprehensive occupational safety and health programme should include first aid, which contributes to minimizing the consequences of accidents and is therefore one of the components of tertiary prevention.

18.1.3.8 First Aid Treatment for Burns

Generally, a burn is considered as severe if it involves:

- More than 5% of the casualty's Total Body Surface Area (TBSA) i.e. a surface area more than five times the size of his palm
- The casualty's mouth, throat, eyes, ears and/or genitals

A. Minor burns

For mild (1st degree) burns involving less than 5% of the casualty's body surface, the following procedure will suffice:

- Cool the burn with running cool (not cold) water for at least 5 minutes. Do not overcool. If the person starts to shiver, stop the cooling process.
- A cool compress or clean wet cloth placed over the burn area helps relieve pain and swelling and compress in 5 to 15 minutes intervals. Try not to use excessively cold compresses because they may irritate the burn more.
- Remove rings or other tight items from the burned area. Try to do this quickly and gently, before the area swells.
- Don't break small blisters (no bigger than your little fingernail). If blisters break, gently clean the area with mild soap and water, apply an antibiotic ointment, and cover it with a nonstick gauze bandage.
- Apply moisturizer or Aloe Vera lotion or gel, which may provide relief in some cases.
- Honey may help heal a minor burn when applied topically. Honey is an anti-inflammatory and naturally anti-bacterial and anti-fungal.

- If needed, take an over-the-counter pain reliever, such as ibuprofen (Advil, Motrin IB, others), naproxen sodium (Aleve) or acetaminophen (Tylenol, others).
- Consider a tetanus shot. Make sure that your tetanus booster is up to date.

B. Severe burns

For 2nd degree burns i.e. burns involving more than 5% of the casualty's body surface:

Follow this procedure stated below:

1. Cool the affected part under cold running water or immerse it in cold water for at least 10 minutes; for chemical burns, wash off the chemicals
2. Constricting accessories such as bracelets, rings, watches or clothing are to be gently removed from the injured area before it starts to swell
3. Cover the burned/scalded area with sterile dressing
4. Call the Medical Emergency Number for an ambulance

The burn is often associated with other traumata such as fractures, wounds, electrocution, etc. which may complicate the medical condition of the victim, if not treated in good time. Take immediately to nearby health facility burn victims with the following signs:

- First degree burns with sizeable area;
- 2nd and 3rd degree burns;
- If the victim is drowsy, restless and has breathing problem;
- If the victim has burns on his face, eye, extremities, joints and around genital organs;
- Immediate care and first aid treatment according to "4C Procedures" stated above may be required before adequate medical treatment is administered. The Emergency Coordinator must always ensure that trained personnel and adequate First Aid supplies are readily available.

18.1.3.9 Emergency Treatment of Burned Body Parts

In the case of a fire victim with burned body parts, to prevent burn lesions from deteriorating, it is essential to do the following:

a. Not to burst any blisters, or remove the epidermis. Exposure of the dermis only increases the loss of body fluids and heat, besides increasing pain and the risk of infection;
a. To cool the burned parts with water or wet cloth. This stops the action of the thermal agent and considerably reduces pain. Very extensive burns must be treated either by immersing the part in water at room temperature or by covering the part with damp cloth. The cooling operation should generally not exceed 20 minutes. It should be guided by the patient's general condition and the degree of pain relief achieved. Cooling a patient must be stopped if he begins to shiver, as this can lead to hypothermia. Children and elderly persons and those in a state of shock must be treated with even greater care, with less energetic and shorter cooling. Non-extensive burns can be soothed with ice-packs or by placing the part under a running tap;
b. Flush chemical burns with water until all burning pain has stopped. Remove all contaminated clothes.
c. To use clean plastic bags, if available, to wrap burned hands and feet, or to spread out like adhesive flaps over burns on the thorax, limbs, etc;
d. To wrap burned parts or the entire body in a freshly laundered dry sheet, towel or cotton or linen cloth, and not to apply dressings as these would cause constriction as the burn oedema (a condition characterized by an excess of watery fluid collecting in the cavities or tissues of the body) increases;

18.2 EMERGENCY OF ELECTRIC SHOCK

18.2.1 Sources of Electric Hazard

Electricity flows through conductors. Conductors include metals, water, earth and the human body. Electric shock occurs when electricity flows through the human body by means of contact. Electric currents may also heat external and internal tissue sufficiently to induce structural damage through electrical burns. Electrical burns affect human health through actions on both excitable (e.g. cardiac, nervous) and non-excitable (e.g. Skin, blood vessels) tissues. Depending on the resistance encountered,

the nature of the source, the strength of the current and the contact time, the heat generated (Joule effect) may produce serious external and internal burn injuries and even death. Deep-tissue burns may occur anywhere along the path a current travel through the body. Evident surface burns may only comprise a small portion of the overall burn injury, and an injury's full extent may not be immediately apparent. Harm can be caused to any person when they are exposed to 'live parts' that are either touched directly or indirectly by means of some conducting object or material. Voltages over 50 volts AC or 120 volts DC are considered hazardous. Maintenance Personnel, machine operators and production personnel are quite prone to electrocution if proper trainings and strict preventive measures against electrical hazard are not established. Electrical hazards may be constituted by any or combination of the following:

- Improper grounding
- Exposed electrical parts
- Inadequate wiring
- Overhead power lines
- Damaged insulation
- Overloaded circuits
- Wet conditions
- Damaged tools and equipment

The severity of injury from electrical shock depends on the amount of electrical current and the length of time the current passes through the body. Even if the current is as low as 0.5mA and a person comes in contact for just 2 seconds, this is enough to cause death.

The lower the resistance, the greater the current flow will be. Dry skin may have a resistance of 100,000 ohms or more. Wet skin may have a resistance of only 1,000 ohms. Wet working conditions or broken skin will drastically reduce resistance. The low resistance of wet skin allows current to pass into the body more easily and give a greater shock.

18.2.2 Pre-Conditions

1. All high voltage equipment shall be on an inventory list with the following information:

- Identification (tag)
- Voltage Rating
- Caution sign

2. Implement Preventive Organizational Measures which must incorporate the following:

- Provisions according to basic protection requirements such as insulations
- Electrical fault protection requirements which normally involves an automatic disconnection of supply (ADS) using overcurrent protective devices.
- All high voltage equipment must be installed with barriers and enclosures such that they are completely inaccessible to unauthorized persons. The barriers and enclosures must maintain adequate clearances from the live parts.
- Safe Work Permit for jobs requiring high voltage
- Identification and provision of required PPEs including electrical rated hand gloves
- Specific Training to Operators and Maintenance Crew on Machine Safety procedure

18.2.3 Preparation for Emergencies

18.2.3.1 Training

An emergency expert or rescuer may be qualified for some kinds of emergencies and unqualified for others. Having the knowledge and skill to install and/or maintain electrical systems and equipment does not guarantee that the person is fully familiar with the hazards involved. Special training, and ability to use special equipment, is necessary for those emergency service personnel who carry out emergency and rescue tasks close to live electrical equipment. Training is key in determining who is considered a qualified emergency responder. A qualified electrical emergency responder is one who has been specifically trained on electrical hazards and emergency response and is qualified to carry out a rescue or emergency response. All people at the production unit shall be trained on emergency situations.

18.2.3.2 Electrical Injury Simulations

Electrical injury simulations must be done at least once a year to build experience; enable psychological preparation for emergency and to test; evaluate and

improve overall preparedness with regards to the Emergency Response. The Emergency response team for electrical related emergencies must consist of trained personnel equipped to carry out a planned response plan on what should be done in the event of an electrical emergency.

18.2.3.3 Direct Contact with Electricity

The primary electrical injury that accompanies an electric shock as a result of contact with electricity is burns. It takes about 30 mA of current to cause respiratory paralysis. Currents greater than 75mA cause ventricular fibrillation (very rapid, ineffective heartbeat). This condition will cause death within a few minutes unless a special device called a defibrillator is used to save the victim. Heart paralysis occurs at 4 amps, which means the heart does not pump at all. Tissue is burned with currents greater than 5Amp.

18.2.3.4 Indirect Contact

The most destructive indirect injury occurs when a victim becomes part of an electrical arc. Arc-blasts occur when powerful, high-amperage currents arc through the air. An electrical arc is a current spark formed between two objects of differing potential that are not in contact with each other, usually a highly charged source and a ground. Because the temperature of an electrical arc is approximately 2500° C, it causes very deep thermal burns at the point where it contacts the skin. In arcing circumstances, burns may be caused by the heat of the arc itself, electro thermal heating due to current flow, or by flames that result from the ignition of clothing. Protection against indirect contact is based on combining measures affecting both the characteristics of the equipment and the building of the installation. High sensitivity residual current devices are the most effective way of protecting against the risk of indirect contact.

18.2.3.5 Emergency Equipment

The Followings equipment/PPE are mandatory when any work with electrical hazards has to be performed:

- Electrical safety insulating latex hand gloves
- Electrical safety composite gloves

- Fire Extinguisher
- Safety boots ("EH" rated)

Protective devices such as overcurrent circuit breakers, thermal overload relays, and ground fault detectors must be installed as a preventive measure against electric hazards.

Figure 24. Electrical Hazard Emergency Equipment

18.2.3.6 Rescue Procedure

Electrical shocks always need emergency medical attention even if the person seems to be fine afterward. The emergency responder is expected to do the following:

If low voltage electricity is involved;

- Separate the Person from the power or current's source
- Turn off power via circuit breaker, fuse box, or outside switch i.e. complete isolation
- If you can't turn off power, stand on something dry and non-conductive, such as dry newspapers, telephone book, or wooden board.
- Try to separate the person from current using non-conductive object such as wooden or plastic broom handle, chair, or rubber doormat.

If high voltage line or power line is involved:

High voltage electricity of 500V and above has the ability to 'jump' or 'arc' up to distances of 18 meters or over. If faced with a casualty resulting from high voltage electricity, the following procedures should be followed by a trained electrical emergency rescuer

1. Do not approach! Stay at least 25 meters away from the casualty until the power has been switched off by an official agency. Do not try to separate the

person from current if you feel a tingling sensation in your legs and lower body

2. Insulate yourself from the ground with books / newspapers / rubber matting
3. Use an object of low conductivity i.e. a wooden broom or rolled up newspaper to push away the power source. If a power line falls on a car, instruct the passengers to stay inside unless explosion or fire threatens.
4. Once an electrical emergency rescuer has ascertained that the victim is no longer in contact with electrical conductors, the following checks may be carried out:
5. Quickly access the level of response of the victim. A rapid assessment will allow effective treatment to be administered and will also allow for accurate information to be passed on to the ambulance service. Access the level of response of the victim by:

Check whether the casualty is conscious

- Ask “hello, can you hear me” and call the name if you know it.
- Ask in both the casualty’s ears to open their eyes.
- Pinch an ear lobe or gently tap the shoulders.
- Shout for HELP!
- DO NOT move the casualty unless the environment or situation is dangerous.

18.2.3.7 First Aid Treatment

For an unresponsive casualty open the airway

- Look in the mouth to ensure there are no obvious obstructions.
- Open the airway by lifting the chin and tilting the head back.
- This will free the tongue from the back of the throat
- If neck/spinal injury is suspected, put one hand on the stomach to feel if it rises and falls. This indicates normal breathing.

Assess for breathing by doing the following:

- LOOK for the rise and fall the chest.
- LISTEN for sounds of breathing.
- FEEL for air on your cheek.
- Carry this out for up to 10 seconds.

Condition 1: If the victim is breathing normally;

If breathing is present do the following:

- Check for any other obvious injuries.
- Remove sharp objects from pockets.
- Turn the casualty into the recovery position.
- Place the nearest arm at a right angle to the body.
- Draw the furthest arm across the chest and place the back of the hand across the cheek.
- Keep this here whilst you raise the furthest leg by grasping the top of the knee.
- Gently pull on the knee so that the casualty pivots over onto their side facing you.
- The casualty should be fully over and stable.
- Re-check the airway, breathing and circulation.
- Draw up the leg at a 90-degree angle
- Check for continued breathing.
- Call the Emergency Medical Services

Condition 2: Victim is not breathing;

If the casualty is not breathing normally, commence full Cardio-Pulmonary Resuscitation (CPR). Call for medical emergency services while you commence CPR (Cardio-Pulmonary Resuscitation). To commence CPR for an unresponsive casualty;

- Ensure the casualty is on a firm, flat surface
- Place your hands one on top of the other in the center of the casualty's chest
- Compress the chest (up to a maximum depth of approximately 4-5cm) 30 times at a rate of 100 compressions per minute. The compressions and releases should take an equal amount of time
- After 30 compressions, open the airway again using head tilt/chin lift
- Seal the nostrils with your thumb and forefinger.
- Blow steadily into the mouth until you see the chest rise, take about a second to make the chest rise.

It is advisable to have resuscitation equipment at this stage such as a face shield.

- Remove your mouth to the side and let chest fall. Inhale some fresh air, when breathing for the casualty
- Repeat so you have given 2 effective rescue breaths in total
- If chest does not rise after the second breath, go back to 30 compressions then try again with 2 breaths.
- Return your hands to the correct position on the chest and give a further 30 chest compressions.

Continue with CPR until:

1. The casualty shows signs of recovery
2. Emergency services arrive
3. You become exhausted and unable to continue
4. The situation changes and you are now in immediate danger.

18.2.3.8 Burns

Exposure to electricity can cause burns to the skin and, in severe cases, internal organs. In such cases the electricity may, for example, enter via a hand and leave via the feet causing ‘entry’ and ‘exit’ burns.

A. Conscious casualties

   Cool burns for a minimum of 10 minutes under cold water.

B. Unconscious casualties

   Cool the burn with wet dressings after placing them in the recovery position.

- Burst any blisters
- Apply adhesive dressings
- Remove damaged skin
- Apply ointments/creams
- Cover with ‘fluffy’ dressings
- Affix dressing too tightly
- Apply butter/fats/margarine
- Remove damaged clothing
- Apply ice

18.3 NATURAL DISASTER PREPAREDNESS

Practical and comprehensive action plans should be prepared for the following situations and types of activities to ensure effective implementation in times of emergency: Mitigating natural disaster risks includes measures to prevent loss of life and property during natural disasters (such as the construction of modulating lakes and reservoirs to prevent disasters caused by heavy rainfall and flooding in rivers, construction of sufficient fire breaks to prevent forest fires from spreading into urban areas) as well as precautionary and mitigating measures (such as planting trees as wind breakers and breakwaters, planting rows of trees and groves to reduce damage, using fire-proof materials as much as possible in construction to reduce fire hazards, and using earthquake resistant designs to reduce damage caused by earthquakes). In planning mitigating measures, the type of disasters that can affect the disaster-prone areas, the scale (large or small) and the population density (densely populated or sparsely populated) should first be studied and the disaster risk reduction measures prioritized according to the potential damage identified.

Natural disaster preparedness should include planning based on the characteristics of natural disasters, preparedness to overcome them and where it is not possible to overcome them, making preparations for evacuation and shelter. The following steps are generally involved:

1. Early Warning systems. Setting up systems for horizontal and vertical communications.
2. Providing management, and conducting rehearsals and drills for the Interdepartmental Relief Team to enable it to provide assistance during natural disasters from the nearest location in the field.
3. Providing training from the grassroots level organizations to the Township/Division/State to ensure preparedness for emergency activities during natural disasters; brainstorming possible solutions for different scenarios during training.
4. Including natural disaster management and preparedness activities for the individuals, groups, households, wards or neighborhoods in the school curriculum, newspaper/journals in order to raise awareness for everyone and issuing further warnings especially in disaster-prone times of the year.

5. Building safe shelters, artificial mounds and high embankments for use in times of emergency, and making evacuation plans and conducting drills.
6. Stockpiling food, water, clothing, supplies, construction materials, shelter and ready-made tents, tools, etc. that will be necessary during emergencies or arranging access to them and designating transportation routes.
7. Forming emergency supervisory teams and conducting rehearsals.
8. Identifying vulnerable areas for each type of natural disasters and conducting awareness-raising activities, identifying and communicating do's and don'ts and precautionary measures that should be taken for each type of natural disasters.
9. Preparing and conducting drills for measures to be taken during disasters and in the post-disaster period. Activities to be conducted during disasters include emergency relief, preliminary care and protection, emergency medical treatment, and evacuation to safe locations. Activities to be conducted in the post disaster period include provision of health care, water, food, clothing, and shelter.
10. As planning is required for these activities, projects should be in place for the provision of education and training to the grassroots level.

19 FACTORY DECOMMISSIONING MANAGEMENT PLAN

19.1 PRODUCTION AREA DECOMMISSIONING MANAGEMENT PLAN

The DMP for production area will consist of the following actions

- All products will be sent for suitable re-use, recovery, treatment or disposal.
- Shutting off unnecessary services to the building. Heating and ventilation capability would be maintained.
- The instrumentation will be disconnected and rendered safe.
- Cleaning and decontamination of all floor drains.
- All remaining specialized equipment will be sent for suitable re-use or sold to an interested party. Obsolete equipment will be recycled where possible or otherwise disposed of.

19.2 UTILITIES AREA DECOMMISSIONING MANAGEMENT PLAN

The DMP for the utilities area would consist of shutting down the following systems

- Removal of any associated chemicals, oils or any other materials used in the utilities area for redistribution, return to vendor or disposal.
- Waste oils, lubricants and diesel will be sent for suitable re-use, recovery, treatment or disposal as appropriate. Any hazardous waste arising from the plant and utilities areas will be removed from site and disposed of.

19.3 WAREHOUSE AREA DECOMMISSIONING MANAGEMENT PLAN

The DMP for the stores warehouse would consist of the following actions

- Cancellation of all orders for incoming materials to the site.
- Negotiation with other plants with a view to distribution of unused materials.
- Negotiation with relevant suppliers to return unused materials to supplier.
- Dispatch of opened containers and non-returnable or out-of-date goods for appropriate treatment or disposal.
- Cleaning and decontamination of the storage areas.

19.4 SITE DECOMMISSIONING MANAGEMENT PLAN

The following actions would be required to ensure the implementation of the site DMP

- Cessation of any construction project work on site so that the site is left in a safe and orderly condition. Contractors will be required to decommission any construction compounds and remove all construction equipment, construction materials and waste, storage units and temporary offices from the site at the completion of construction projects.
- Disbandment of contract personnel, facilities and equipment.
- Termination of all non-essential maintenance and other contracts.
- Removal from site any temporary offices or storage areas.
- Rationalization of the site electricity supply. This would involve removing transformers from service, allowing remaining site operations to run from one transformer.

- The boilers onsite will be decommissioned.

20 CONCLUSIONS AND RECOMMENDATIONS

Six key environmental impacts can be occurred from the project objectivities. Kai Sheng (Myanmar) Industrial Company Limited should be reduced and monitored on these environmental impacts by following specifically the impacts management and monitoring plan described in section 5. On the other hand, there will be left to be investigated positive impacts such as Job Opportunities and surrounding villages can be developed by CSR program of the factory.

21 MANAGEMENT REVIEW

A process that will review the results of the implementation of EMP by the analysis of the monitoring results to ensure that the mitigation measures and management actions are fully satisfied with the minimum side effects to the environment is required. The SHE manager shall work with all HODs to carry out analysis and evaluation of monitoring results in compliance with set environmental standard values. The SHE manager has the overall responsibility for ensuring that this EMP is implemented to ensure the project operation is in compliance with applicable environmental legislations.

The HR Manager of Kai Sheng (Myanmar) Industrial Company Limited will be the responsible person of management review process. She shall be supported by all HODs and various functional heads.

References

- Environmental conservation law and rules
- Environmental impact assessment
- Myanmar Information Management Unit (http://themimu.info)
- Myanmar law library
- Department of Meteorology and Hydrology (https://www.moezala.gov.mm)
- OSHE (Occupational Safety, Health, Environmental guideline)

APPENDIX 1

Water Result

ISO TECH LABORATORY

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

ISO 9001:2015 Cert. No. 688600

W0121 338

WATER QUALITY TEST RESULTS FORM

Client: Kai Sheng (Myanmar) Industrial Company Limited
Nature of Water: Tube Well Water
Location: Shwe Pyi Thar Township
Date and Time of collection: 15.1.2021
Date and Time of arrival at Laboratory: 15.1.2021
Date and Time of commencing examination: 16.1.2021
Date and Time of completing: 18.1.2021

Results of Water Analysis

			WHO Drinking Water Guideline (Geneva - 1993)
pH	7.3		6.5 - 8.5
Colour (True)	Nil	TCU	15 TCU
Turbidity	2	NTU	5 NTU
Conductivity		micro S/cm	
Total Hardness	38	mg/l as $CaCO_3$	500 mg/l as $CaCO_3$
Calcium Hardness		mg/l as $CaCO_3$	
Magnesium Hardness		mg/l as $CaCO_3$	
Total Alkalinity		mg/l as $CaCO_3$	
Phenolphthalein Alkalinity		mg/l as $CaCO_3$	
Carbonate ($CaCO_3$)		mg/l as $CaCO_3$	
Bicarbonate (HCO_3)		mg/l as $CaCO_3$	
Iron	0.23	mg/l	0.3 mg/l
Chloride (as CL)	5	mg/l	250 mg/l
Sodium Chloride (as NaCL)		mg/l	
Sulphate (as SO_4)	10	mg/l	500 mg/l
Total Solids		mg/l	1500 mg/l
Total Suspended Solids		mg/l	
Total Dissolved Solids	74	mg/l	1000 mg/l
Manganese	Nil	mg/l	0.05 mg/l
Phosphate		mg/l	
Phenolphthalein Acidity		mg/l	
Methyl Orange Acidity		mg/l	
Salinity		ppt	

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

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

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

ISO TECH LABORATORY

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

ISO 9001:2015 Cert. No. 688600

WTL-RE-002
Issue Date - 01-12-2012
Effective Date - 01-12-2012
Issue No - 1.0/Page 1 of 1

WW0121 048

WASTEWATER QUALITY TEST RESULTS FORM

Client: Kai Sheng (Myanmar) Industrial Co.,Ltd.

Nature of Water: Wastewater (Outlet)

Location: Shwe Pyi Thar Township

Date and Time of collection: 15.1.2021

Date and Time of arrival at Laboratory: 15.1.2021

Date and Time of commencing examination: 16.1.2021

Date and Time of completing: 21.1.2021

Results of Wastewater Analysis

Parameters	Results	
pH	7.8	
Biochemical Oxygen Demand (BOD) (mg/l) (5 days at 20 °C)	24	
Chemical Oxygen Demand (COD) (mg/l)	96	
Dissolved Oxygen (DO) (mg/l)		
Total Solids (mg/l)	393	
Total Suspended Solids (mg/l)	38	
Total Dissolved Solids (mg/l)	355	
Nitrate (mg/l)	0.7	
Ammonia Nitrogen (NH_3) (mg/l)		
Ammonium Nitrogen (NH_4) (mg/l)		
Phosphate (mg/l)		

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

Tested by

Signature: Heine

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

Approved by

Signature:

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

APPENDIX 2

Soil Result

DEPARTMENT OF AGRICULTURE (LAND USE)

SOIL INTERPREATATION OF RESULTS

Kai Sheng Myanmar Industry Co., Ltd.(15.1.2021)

Division - ရန်ကုန်

Township - ရွှေပြည်သာ

Sheet No. 1

Sr N . S 1/2021

Sr	Sample	pH Soil:Water 1:2.5	Texture	Organic Carbon	Total N	Exchangeable Cations		Available Nutrients	
						Ca^{++}	Mg^{++}	P	K_2O
1	မြေနမူနာ(၁)	Slightly alkaline	Clay Loam	Low	Very Low	Medium	Medium	Low	High

(ဒေါက်တာသန္တာညီ)

ဒုတိယညွှန်ကြားရေးမှူး

ဓာတ်ခွဲခန်းတာဝန်ခံ

မြေအသုံးချရေးဌာနခွဲ

DEPARTMENT OF AGRICULTURE (LAND USE)

SOIL ANALYTICAL DATA SHEET

Kai Sheng Myanmar Industry Co., Ltd.(15.1.2021)

Division - ရန်ကုန်

Township - ရွှေပြည်သာ

Sheet No. 1

Sr N . S 1/ 2021

Sr	Sample	Moisture %	pH Soil:Water 1:2.5	Texture				Organic Carbon %	Humus %	Total N %	Exchangeable Cations meq/100gm			Available Nutrients	
				Sand %	Silt %	Clay %	Total %				Ca^{++}	Mg^{++}	K^{+}	P ppm (O)	K_2O mg/100gm
1	မြေနမူနာ(၁)	2.96	7.37	41.92	29.78	28.30	100.00	0.21	0.35	0.10	13.73	3.43	0.43	4.54	20.41

O= Olsen Method

(ဒေါက်တာသန္တာညီ)

ဒုတိယညွှန်ကြားရေးမှူး

ဓာတ်ခွဲခန်းတာဝန်ခံ

မြေအသုံးချရေးဌာနခွဲ

APPENDIX 3

Certificate of Incorporation

ကုမ္ပဏီမှတ်ပုံတင်လက်မှတ်

Certificate of Incorporation

KAI SHENG (MYANMAR) INDUSTRIAL CO., LTD
Company Registration No. 120658808

မြန်မာနိုင်ငံကုမ္ပဏီများဥပဒေ၂၀၁၇ အရ
KAI SHENG (MYANMAR) INDUSTRIAL CO., LTD
အား ၂၀၁၉ ခုနှစ် ဇွန်လ ၆ ရက်နေ့တွင်
အစုရှယ်ယာအားဖြင့် တာဝန်ကန့်သတ်ထား သည့် အများနှင့်မသက်ဆိုင်သောကုမ္ပဏီ
အဖြစ် ဖွဲ့စည်းမှတ်ပုံတင်ခွင့်ပြုလိုက်သည်။

This is to certify that
KAI SHENG (MYANMAR) INDUSTRIAL CO., LTD
was incorporated under the Myanmar Companies Law 2017 on 6 June 2019 as a Private Company Limited by Shares.

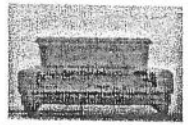
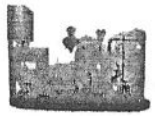
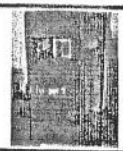
ကုမ္ပဏီမှတ်ပုံတင်အရာရှိ
Registrar of Companies
ရင်းနှီးမြှုပ်နှံမှုနှင့်ကုမ္ပဏီများညွှန်ကြားမှုဦးစီးဌာန
Directorate of Investment and Company Administration

APPENDIX 4

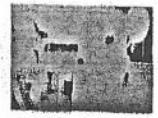
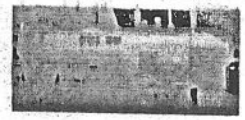
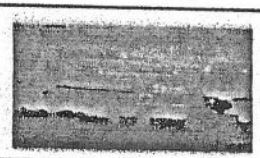
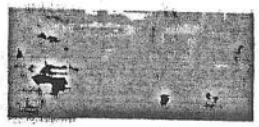
Factory Accessories/Operating Machinery

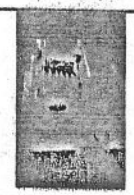
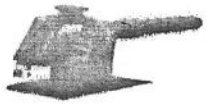
Kai Sheng (Myanmar) Industrial Co.,Ltd

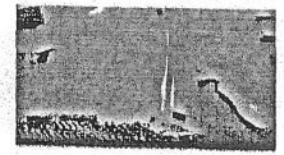
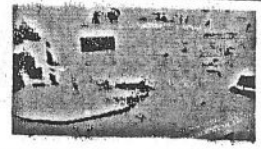
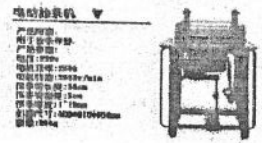
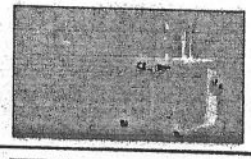
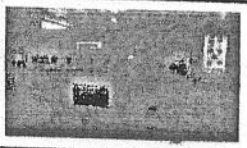
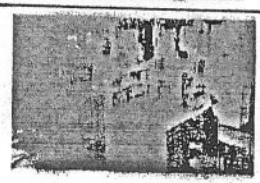
List of Machinery & Equipment to be imported (phase I)

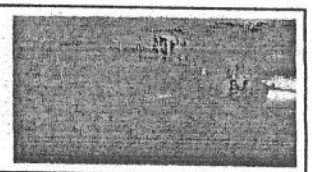
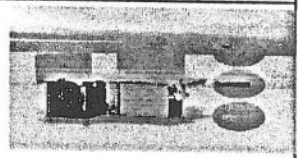
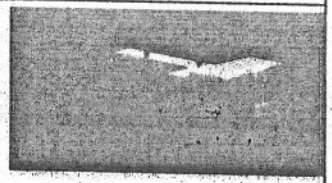
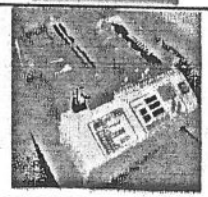
Sr	Name	A/U	Type	H.S Code	Unit Prices US$	Qty	Amount US$	IMAGE
1	Laser Cutting Machine	Set	JM-1610T	8456110090	9,000.00	2	18,000.00	
2	Carmela Laser Cutting Machine	Set	JM-1814T-DFM	8456110090	13,500.00	2	13,500.00	
3	Generator Set & Accessories	Set	P100T54	8501630000	11,800.00	1	11,800.00	
4	Generator Set & Accessories	Set	P390T5	8501630000	33,200.00	1	33,200.00	
5	Air compressor	set	LW-20PM	8414804090	2,882.00	2	5,764.00	
6	Freeze dryer	set	LW-20AC	8414804090	428.00	2	856.00	
7	Gas Tank	set	LW1.0/8KG	8414804090	380.00	1	380.00	
	TOTAL	-				**11**	**83,500.00**	

List of Machinery & Equipment to be imported (phase II)

Sr	Name	A/U	Type	H.S Code	Unit Prices US$	Qty	Amount US$	IMAGE
1	Cylinder sewing machine with small hook	Set	FS-244	8452219000	500.00	22	11,000.00	
2	Computer Pattern Sewing Machine	Set	FS-6040	8452219000	3,642.86	4	14,571.44	
3	Computer Pattern Sewing Machine	Set	FS-3020	8452219000	1,764.29	20	35,285.80	
4	Computer sewing Machine	Set	FS-1003-D3	8452219000	357.14	200	71,428.00	
5	Sewing Machine	Set	FS-9200-D3	8452219000	292.86	50	14,643.00	
6	Double Needle Sewing Machine	Set	FS-872-5	8452219000	500.00	13	6,500.00	
7	Cylinder sewing machine with big hook	Set	FS-1341	8452219000	642.86	18	11,571.48	
8	Cylinder sewing machine with Mediun	Set	FS-8B-2	8452219000	528.57	20	10,571.40	
9	Computer Pattern Sewing Machine	Set	FS-3020	8452219000	1,500.00	30	45,000.00	

10	Pneumatic wire press	Set	QX-333	8453800000	457.57	12	5,490.84	
11	Manual crimping machine	Set	QX-133	845380000	135.14	12	1,621.68	
12	Computer cutting and weaving machine	Set	QX-105	845150000	1,492.86	2	2,985.72	
13	Handle applicator	Set	QX-125	8424899990	188.57	50	9,428.50	
14	foot operated pneumatic folding mach	Set	QX-201	8453800000	404.00	12	4,848.00	
15	Hardware machine	Set	QX-727-1	845320000	353.29	9	3,179.61	
16	Hot melt glue machine	Set	QX-239	845320000	529.57	6	3,177.42	
17	Glue sprayer	Set	QX-009	842420000	15.57	6	93.42	

18	Folding machine	Set	QX-131	84538000	79.86	12	958.32	
19	Zipper machine	Set	QX-111	8479899990	1,573.14	5	7,865.70	
20	Rubber grain folding machine	Set	QX-710	845380000	1,686.14	5	8,430.70	
21	Stripping machine	Set	QX-209	845320000	345.71	2	691.42	
22	Yellow glue machine	Set	QX-176	845320000	654.86	6	3,929.16	
23	Ultrasonic zipper ironing machine	Set	QX-179	845620000	572.00	5	2,860.00	
24	40T cutting machine	Set	QX-509	845320000	4,494.57	5	22,472.85	
25	4KW Barometric high cycle machine	Set	QX-400	8515809090	2,408.57	4	9,634.28	

26	Cloth checking and coding machine	Set	QX-206	845150000	835.43	1	835.43	
27	Automatic glue spraying folding machine	Set	QX-598	845380000	3,889.29	3	11,667.87	
28	Automatic folding and pulling window machine	Set	QX-590	845380000	2,317.86	4	9,271.44	
29	Automatic oil edge painting Machine	Set	EID-Y 2215	8453200000	35,000.00	1	35,000.00	
30	forkift	Set	QX-205	84279000	225.00	4	900.00	
31	biaxial hot and cold cutting machine	SET	QX-215	8451500000	873.00	2	1,746.00	
	TOTAL					**545**	**367,659.48**	

Kai Sheng (Myanmar) Industrial Co.,Ltd

Norm and Annual Raw Material of Hangbag to be imported

Product	No.	Raw Material	Unit	HS Code	Norm Q'ty	Year- 1	Year - 2	Year - 3	Year - 4	Year - 5 to Year -10	Year - 11 to Year -20	Year - 21 to Year -30
HANGBAG, BACKPACK, TOTE, CROSSBODY, SATCHEL BAG	1	Outer: Polyester, PVC artificial leather good, Nylon, Fabric	Y	5903	1.00	150,000	165,000	198,000	257,400	334,620	334,620	334,620
	2	Lining: Polyester, Nylon, Fabric	Y	6110	1.00	150,000	165,000	198,000	257,400	334,620	334,620	334,620
	3	Zipper	Y/PC	9607	1.00	150,000	165,000	198,000	257,400	334,620	334,620	334,620
	4	Elastic band	M	5806	0.50	75,000	82,500	99,000	128,700	167,310	167,310	167,310
	5	Woven label, inside label	PC	5807	2.00	300,000	330,000	396,000	514,800	669,240	669,240	669,240
	6	Hardware, Metal parts	PC	8302	10.00	1,500,000	1,650,000	1,980,000	2,574,000	3,346,200	3,346,200	3,346,200
	7	Plastic parts, hook, buckle, pipping tube	PC	8308	5.00	750,000	825,000	990,000	1,287,000	1,673,100	1,673,100	1,673,100
	8	Paper card board	PC	4819	1.00	150,000	165,000	198,000	257,400	334,620	334,620	334,620
	9	Stitching thread	M	5401	1.20	180,000	198,000	237,600	308,880	401,544	401,544	401,544
	10	Foam material	M	3926	0.60	90,000	99,000	118,800	154,440	200,772	200,772	200,772
	11	Non-woven fabric	PC	5603	0.80	120,000	132,000	158,400	205,920	267,696	267,696	267,696
	12	Webbing, Ribbon, Rope	M	5806	0.80	120,000	132,000	158,400	205,920	267,696	267,696	267,696
	13	Hangtag	PC	4821	2.00	300,000	330,000	396,000	514,800	669,240	669,240	669,240
	14	Price and UPC code stickers	PC	4821	2.00	300,000	330,000	396,000	514,800	669,240	669,240	669,240
	15	PE micro pad, Silica gel	PC	3910	2.00	300,000	330,000	396,000	514,800	669,240	669,240	669,240
	16	Rubber patches	PC	4015	2.00	300,000	330,000	396,000	514,800	669,240	669,240	669,240

APPENDIX 5

Raw Material Requirement

Kai Sheng (Myanmar) Industrial Co.,Ltd

Norm and Annual Raw Material of Cosmetic case to be imported

Product	No.	Raw Material	Unit	HS Code	Norm Q'ty	Year- 1	Year - 2	Year - 3	Year - 4	Year - 5 to Year -10	Year - 11 to Year -20	Year - 21 to Year -30
Cosmetic case	1	Outer: Polyester, PVC,PU Nylon, Fabric,Canvas,Clear PVC	Y	5903	0.25	37,500	41,250	49,500	64,350	83,655	83,655	83,655
	2	Lining: Polyester, Nylon, Fabric	Y	6110	0.16	24,000	26,400	31,680	41,184	53,539	53,539	53,539
	3	Zipper	Y/PC	9607	1.00	150,000	165,000	198,000	257,400	334,620	334,620	334,620
	4	Woven label, inside label	PC	5807	2.00	300,000	330,000	396,000	514,800	669,240	669,240	669,240
	5	Hardware, Metal parts	PC	8302	3.00	450,000	495,000	594,000	772,200	1,003,860	1,003,860	1,003,860
	6	Plastic parts, hook, buckle, pipping tube	PC	8308	2.00	300,000	330,000	396,000	514,800	669,240	669,240	669,240
	7	Paper card board	PC	4819	1.00	150,000	165,000	198,000	257,400	334,620	334,620	334,620
	8	Stitching thread	M	5401	1.20	180,000	198,000	237,600	308,880	401,544	401,544	401,544
	9	Foam material	M	3926	0.60	90,000	99,000	118,800	154,440	200,772	200,772	200,772
	10	Non-woven fabric	PC	5603	0.01	1,500	1,650	1,980	2,574	3,346	3,346	3,346
	11	Webbing, Ribbon, Rope	M	5806	0.18	27,000	29,700	35,640	46,332	60,232	60,232	60,232
	12	Hangtag	PC	4821	3.00	450,000	495,000	594,000	772,200	1,003,860	1,003,860	1,003,860
	13	Price and UPC code stickers	PC	4821	2.00	300,000	330,000	396,000	514,800	669,240	669,240	669,240
	14	PE micro pad, Silica gel	PC	3910	2.00	300,000	330,000	396,000	514,800	669,240	669,240	669,240
	15	Rubber patches	PC	4015	2.00	300,000	330,000	396,000	514,800	669,240	669,240	669,240

APPENDIX 6

Staff list and Layout Plan

Kai Sheng (Myanmar) Industrial Co.,Ltd

Employment Statement

Local Staff

No	Department	Monthly Pay Scale Kyat	Yearly Pay Scale Kyat	Year - 1		Year - 2		Year - 3	
				No. of Employee	Salary / year Kyat ('000)	No. of Employee	Salary / year Kyat ('000)	No. of Employee	Salary / year Kyat ('000)
1	Finance	450000	5,400,000	1	5,400	1	6,210	1	7,142
2	Accounting Assitant	400000	4,800,000	1	4,800	1	5,520	1	6,348
5	Purchasing	300000	3,600,000	1	3,600	1	4,140	1	4,761
7	Adminstration Supervisor	350000	4,200,000	2	8,400	2	9,660	2	11,109
9	Adminstration	300000	3,600,000	2	7,200	2	8,280	2	9,522
12	Manufacturing Technology	400000	4,800,000	1	4,800	1	5,520	1	6,348
13	Manufacturing Technology	350000	4,200,000	4	16,800	4	19,320	6	22,218
14	Quality Control Supervisor	300000	3,600,000	2	7,200	2	8,280	2	9,522
15	Quality Control Assitant	250000	3,000,000	16	48,000	16	55,200	16	63,480
16	Human Resource Supervisor	350000	4,200,000	1	4,200	1	4,830	1	5,555
17	Human Resource	300000	3,600,000	1	3,600	1	4,140	1	4,761
20	Production Superviosr	300000	3,600,000	18	64,800	18	74,520	20	85,698
21	Production Vice Supervisor	300000	3,600,000	5	18,000	10	41,400	10	47,610
22	Production Line Worker	180000	2,160,000	300	648,000	400	993,600	500	1,142,640
	Total			**355**	**844,800**	**460**	**1,240,620**	**564**	**1,426,713**

Foreign Staff

No	Department	Monthly Pay Scale USD	Yearly Pay Scale USD	Year - 1		Year - 2		Year - 3	
				No. of Employee	Salary / year US$	No. of Employee	Salary / year US$	No. of Employee	Salary / year US$
	Production	1000	12000	1	12,000	1	13,800	1	15,870
	Manager And Stuff	700	8400	1	8,400	2	19,320	2	22,218
	Supervisors	700	8400	8	67,200	7	67,620	7	540,960
	Total			**10**	**87,600**	**10**	**100,740**	**10**	**579,048**

Kai Sheng (Myanmar) Industrial Co.,Ltd

Employment Statement

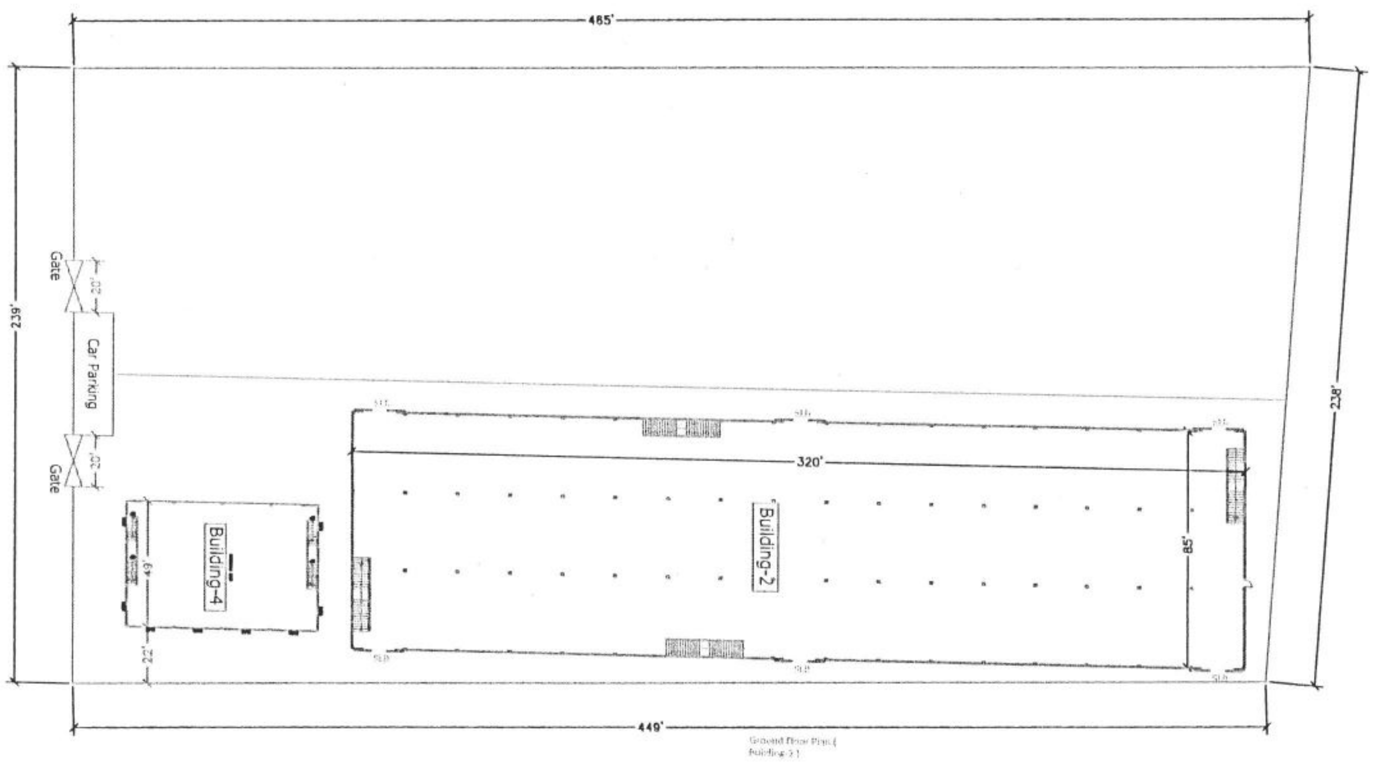
Local Staff

No	Department	Year - 4		Year - 5 to 10		Year - 11 to 20		Year - 21 to 30	
		No. of Employee	Salary / year Kyat ('000)	No. of Employee	Salary / year Kyat ('000)	No. of Employee	Salary / year Kyat ('000)	No. of Employee	Salary / year Kyat ('000)
1	Finance	1	8,213	1	9,445	1	9,445	1	9,445
2	Accounting Assitant	1	7,300	1	8,395	1	8,395	1	8,395
5	Purchasing	1	5,475	1	6,296	1	6,296	1	6,296
7	Adminstration Supervisor	2	12,775	2	14,692	2	14,692	2	14,692
9	Adminstration	2	10,950	2	12,593	2	12,593	2	12,593
12	Manufacturing Technology	1	7,300	1	8,395	1	8,395	1	8,395
13	Manufacturing Technology	6	25,551	7	29,383	7	29,383	7	29,383
14	Quality Control Supervisor	2	10,950	2	12,593	2	12,593	2	12,593
15	Quality Control Assitant	16	73,002	16	83,952	16	83,952	16	83,952
16	Human Resource Supervisor	1	6,388	1	7,346	1	7,346	1	7,346
17	Human Resource	1	5,475	1	6,296	1	6,296	1	6,296
20	Production Superviosr	20	98,553	22	113,336	22	113,336	22	113,336
21	Production Vice Supervisor	2	54,752	10	62,964	10	62,964	10	62,964
22	Production Line Worker	600	1,576,843	650	1,813,370	650	1,813,370	650	1,813,370
	Total	**656**	**1,903,527**	**717**	**2,189,056**	**717**	**2,189,056**	**717**	**2,189,056**

Foreign Staff

No	Department	Year - 4		Year - 5 to 10		Year - 11 to 20		Year - 21 to 30	
		No. of Employee	Salary / year US$	No. of Employee	Salary / year US$	No. of Employee	Salary / year US$	No. of Employee	Salary / year US$
	Production	1	18,251	1	20,988	1	20,988	1	20,988
	Manager And Stuff	2	25,551	2	29,383	2	6,296	2	6,296
	Supervisors	7	622,104	7	715,420	7	822,733	7	946,142
	Total	**10**	**665,905**	**10**	**765,791**	**10**	**850,017**	**10**	**973,426**

Master Layout Plan



REV.	DESCRIPTION	DATE

ISSUED FOR
☐ APPROVAL
☐ DESIGN
■ PRELIMINARY
☐ CONSTRUCTION
☐ AS BUILT

OWNER/APPLICANT

Kai Sheng (Myanmar) Industrial Co.,Ltd

ADRESS:
No.86, Cherry Street, Industrial Zone(1), Shwe Pyi Thar Township, Yangon

CONTRACTOR

ADRESS:

THE DESIGNER

Myanmar One Plus Engineering

ADRESS:
Room No. (F54-55), Thiriyadanar Wholesale Market, North Okkalapa Township, Yangon
Phone : (959)-797181281, 09403704560
Email : myanmaroneplus@gmail.com

PROJECT NAME:

ITEM:

DRAWING TITLE:

DESIGNED BY:

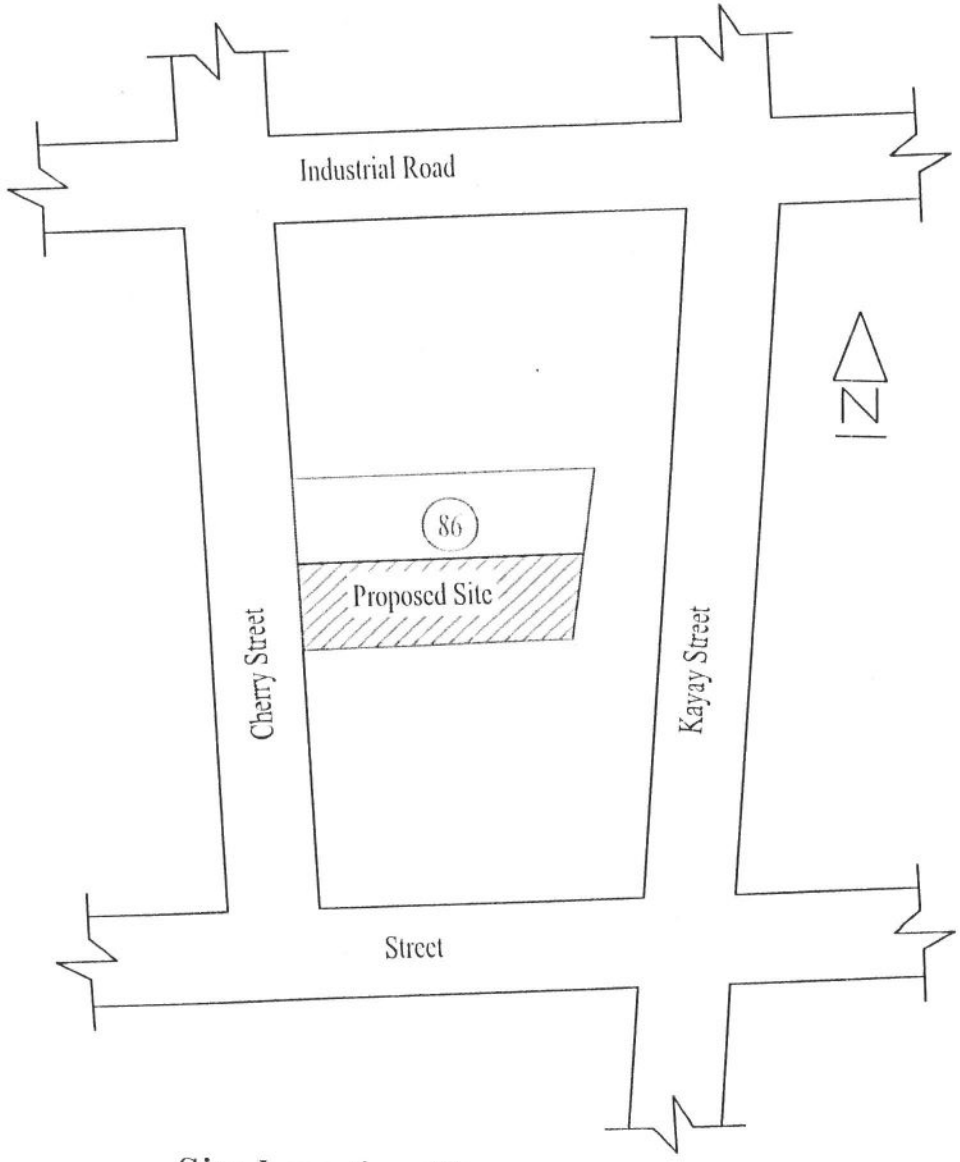
CHECKED BY:

APPROVED BY:

OWNER:

LS:

M&E ENGINEER:



Site Location Plan

REV.	DESCRIPTION	DATE

ISSUED FOR
- ☐ APPROVAL
- ☐ DESIGN
- ■ PRELIMINARY
- ☐ CONSTRUCTION
- ☐ AS-BUILT

OWNER/APPLICANT

Kai Sheng (Myanmar) Industrial Co. Ltd

ADRESS
No.86, Cherry Street, Industrial Zone(1), Shwe Pyi Thar Township, Yangon

CONTRACTOR

ADRESS

THE DESIGNER

Myanmar One Plus Engineering

ADRESS
Room No. (B54-55), Thinyadana Wholesale Market, North Okkalapa Township, Yangon
Phone : +(959)-797181281, 09403704560
Email : myanmaronepluse@gmail.com

PROJECT NAME:

ITEM:

DRAWING TITLE:

DESIGNED BY:

CHECKED BY:

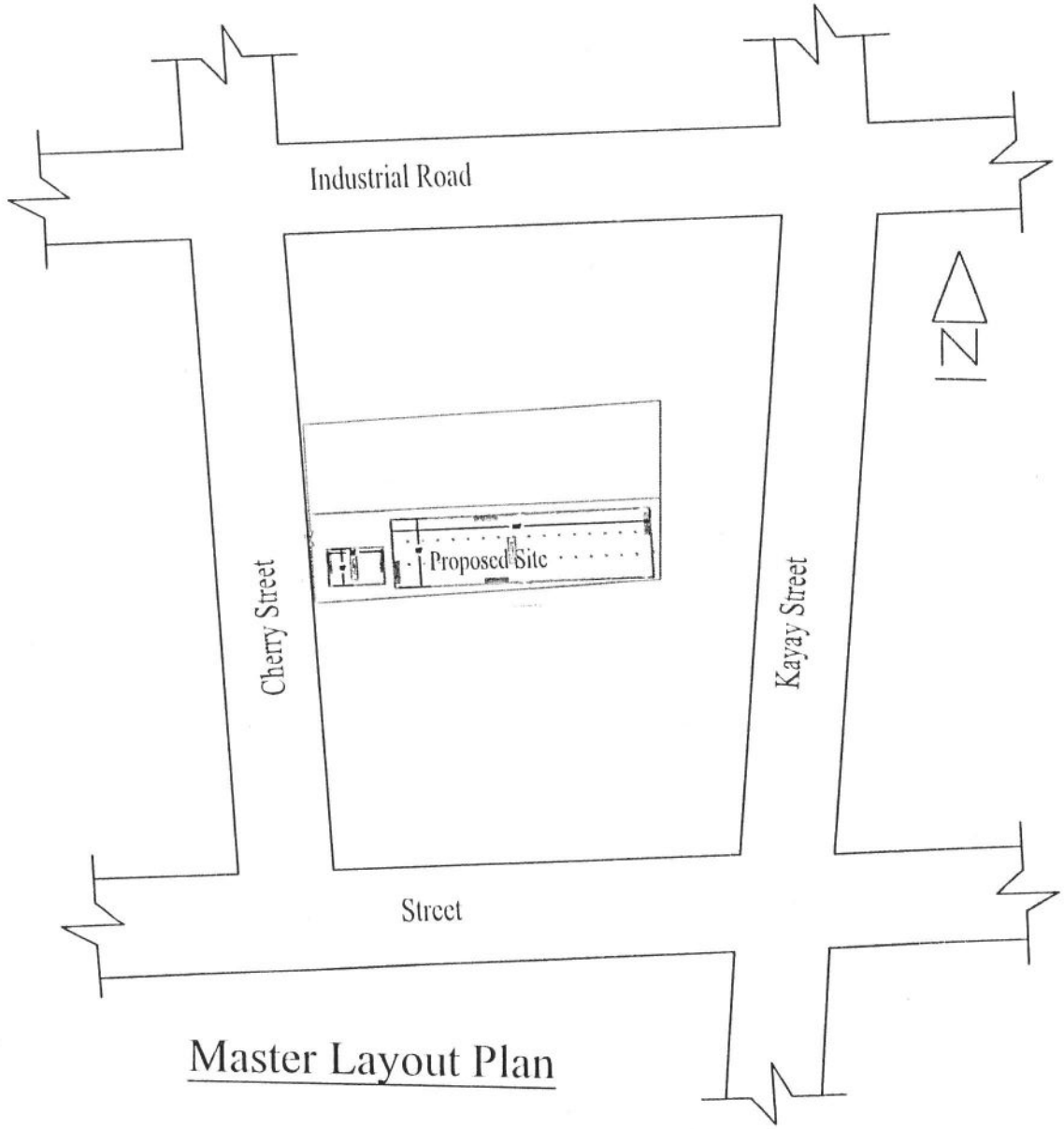
APPROVED BY:

OWNER:

I.S:

M&E ENGINEER:

DATE:	Nov 4, 2019	DRAWING NUMBER	
SCALE	A3 - As Show	SHEET NO.	



Master Layout Plan

REV.	DESCRIPTION	DATE

ISSUED FOR
- ☐ APPROVAL
- ☐ DESIGN
- ■ PRELIMINARY
- ☐ CONSTRUCTION
- ☐ AS-BUILT

OWNER/APPLICANT

Kai Sheng (Myanmar) Industrial Co. Ltd

ADRESS:
No.86, Cherry Street, Industrial Zone(1), Shwe Pyi Thar Township, Yangon

CONTRACTOR

ADRESS:

THE DESIGNER

Myanmar One Plus Engineering

ADRESS:
Room No. (J/54-55), Thuriyalmun Wholesal Market, North Okkalapa Township, Yangon
Phone : +(95)9-797181281, 09403701560
Email : myanmaroneplus@gmail.com

PROJECT NAME:

ITEM:

DRAWING TITLE:

DESIGNED BY:

CHECKED BY:

APPROVED BY:

OWNER:

I.S:

M&E ENGINEER:

DATE:	Nov. 4, 2019	DRAWING NUMBER	
SCALE:	As Shown	SHEET NO.	

APPENDIX 7

Corporate Social Responsibility Plan

KAI SHENG (MYANMAR) INDUSTRIAL CO., LTD
Plot No (86), Block No (42) Industry, Shw Pyi Thar Township, Yangon, Myanmar
TEL: +959897228808

Presentation of Corporate Social Responsibility Program (CSR) Plan

For the project of " Manufacturing of various kinds of Bags on CMP basis" by forming 100% foreign own Company namely "Kai Sheng (Myanmar) Industrial Company Limited" we would like to present our CSR Plan as follows:

We have allocated 2% on net profit after tax for spending in CSR activities and areas to be spent are targeted as follows:

(1) 1% of CSR fund will be used for labor training in the factory.
(2) 0.5 % of CSR fund will be used for health care for employee.
(3) 0.5% of CSR fund will be used for donation for the education of children.

With Best Regards

MR. CHENG, WEN-CHIN
The Promoter
Kai Sheng (Myanmar) Industrial Company Limited

APPENDIX 8

Plan For Health, Safety and Environmental

KAI SHENG (MYANMAR) INDUSTRIAL CO., LTD
Plot No (86), Block No (42) Industry, Shw Pyi Thar Township, Yangon, Myanmar
TEL: +959897223808

Environmental Protection Plan

We, **Kai Sheng (Myanmar) Industrial Company Limited**, shall be responsible for the protection as well as perseveration of environment in and around the area of the project site **Kai Sheng (Myanmar) Industrial Company Limited** shall be able to control pollution of air, water and land, and not to cause environment degradation.

The Factory grounds as well as the approach roads will have suitable shady side walks, flowering plants and trees and ever green labors. Arrangement will be made for plantation of tree, gardens and grass field in the campus, ventilation, good drainage, disposing waste in accordance with rules at places determined by industrial zone management committee.

Your Faithfully

MR. CHENG, WEN-CHIN
Promoter
Kai Sheng (Myanmar) Industrial Company Limited

KAI SHENG (MYANMAR) INDUSTRIAL CO., LTD
Plot No (86), Block No (42) Industry, Shw Pyi Thar Township, Yangon, Myanmar
TEL: +959897223808

Environmental Protection Plan

We, **Kai Sheng (Myanmar) Industrial Company Limited**, shall be responsible for the protection as well as perseveration of environment in and around the area of the project site **Kai Sheng (Myanmar) Industrial Company Limited** shall be able to control pollution of air, water and land, and not to cause environment degradation.

The Factory grounds as well as the approach roads will have suitable shady side walks, flowering plants and trees and ever green labors. Arrangement will be made for plantation of tree, gardens and grass field in the campus, ventilation, good drainage, disposing waste in accordance with rules at places determined by industrial zone management committee.

Your Faithfully

MR. CHENG, WEN-CHIN
Promoter
Kai Sheng (Myanmar) Industrial Company Limited

KAI SHENG (MYANMAR) INDUSTRIAL CO., LTD
Plot No (36), Block No (42) Industry, Shwe Pyi Thar Township, Yangon, Myanmar
TEL: +959897228808

Fire Protection of

Kai Sheng (Myanmar) Industrial Company Limited

Our company will be undertaking the manufacturing works under the C.M.P Basic for that purpose we have applied for the approval of Yangon Region Investment Committee's Endorsement Permit in accordance with the Myanmar Investment Law.

For the prevention of fire Hazards, as we will be manufacturing of various kinds of Bags on CMP basis we are very much aware of the fire and have a large series of modern fire extinguishers, sand bags and sand pits with the essential shovels , pich axes, hooks and flats ready at hand in every sub-section of the factory.

We will have Fire Drill Instructions posted at every section of the factory and the workers will have regular fire Drills and they will be divided into specific groups to carry out precise evacuation plan, if five breaks out. We have cautions against dangers of electrical shock and misuse of electrical instruments also.

As for fire protection, sufficient fire extinguishers will be placed. In addition, awareness talk for protection will be held and workers will be sent to trainings administered by Fire Bridge. Moreover, smoking places will be provided for smoking workers. We undertake to follow rules and directives in force for fire protection.

Best Regards,

MR. CHENG, WEN-CHIN
The Promoter
Kai Sheng (Myanmar) Industrial Company Limited

APPENDIX 9

Solid Waste Management

စွန့်ပစ်ပစ္စည်းစီမံခန့်ခွဲမှု အစီအစဉ်ဇယား

- စွန့်ပစ်ပစ္စည်းစီမံခန့်ခွဲမှု အတွက် လုပ်ထုံးလုပ်နည်းများကို ပြင်ဆင်ခြင်း။
  စက်ရုံအတွင်းမှ အခိုက ထွက်ရှိသော ပိတ်ဖြတ်စများ၊ဖောင်များ၊ပိတ်စများအား အမျိုးအစားခွဲ၍
  သေချာစွာ ထုတ်ပိုးစွန့်ပစ်ခြင်း။
- စွန့်ပစ်ပစ္စည်းများ၏ ပမာဏ မှတ်တမ်းများကို လစဉ်ထိန်းသိမ်းခြင်းပုံစံ
  စွန့်ပစ်ပစ္စည်းပမာဏ အလျောက် တစ်လတွင်း (၃) ကြိမ် သို့မဟုတ် (၄) ကြိမ် သက်ဆိုင်ရာ
  စည်ပင်သာယာရေး အဖွဲ့အစည်းအား အကြောင်းကြား၍ ရှင်းလင်းခြင်း။
- စွန့်ပစ်ပစ္စည်းများ လျော့ချရန် ဝန်ထမ်းများအား ဂရုတစိုက် စည်းကမ်းဖြင့် သင်ကြားခြင်း
  စွန့်ပစ်ပစ္စည်းများအား စနစ်တကျစွန့်ပစ်ရန်နှင့် လျော့ချရန် နည်းလမ်းများအား သင်တန်းပို့ချခြင်း
- အန္တရာယ်ရှိသော စွန့်ပစ်ပစ္စည်းများအား သေချာစွာစနစ်တကျ စွန့်ပစ်ခြင်း၊
  ထိခိုက်ဒဏ်ရာရရှိစေနိုင်သော ပစ္စည်းများကို သီးသန့် လုံခြုံစွာ ထုတ်ပိုးပြီး စွန့်ပစ်ခြင်း။

APPENDIX 10
Air Report

2021

AIR & NOISE

DATAS

[Kai Sheng (Myanmar) Industrial Company Limited]

Kai Sheng (Myanmar) Industrial Company Limited

1. Air Analysis

1.1 Air Analysis Info

Sample site	Kai Sheng (Myanmar) Industrial Company Limited	Sample I.D.	AS0921-02
Location (township)	Shwe Pyi Thar	Method	HAZ-SCANNER™ Model-EPAS
		Station height (elevation)	Ground
Location (Region / state)	Yangon	Latitude	16°56'45.36"N
		Longitude	96° 5'53.72"E
		log on time (Date, Time)	1.9.2021(09:00 AM)
Air Monitoring Date	1.9.2021	log off time (Date, Time)	2.9.2021 (09:00 AM)
		Logging Duration (hours)	24 hours

Figure 1.1 Air Sample Point

1.2. Air sampling result

The findings of the air quality sampling monitored data and the applicable national standards used for comparison for the project are shown in the following Table and air result data report is described in Appendix B.

Table - Air Quality Result

No	Parameters	Results		Avg. Period	Guideline value (NEQG)	Averaging Period	Remarks
		Observed value	Converted value				
1	Nitrogen dioxide NO_2	54 ppb	101.5(μg/m^3)	1-hour*	40 (μg/m^3) 200 (μg/m^3)	1-year 1-hour	
2	Ozone (O_3)	32 ppb	62.7(μg/m^3)	8-hour	100 (μg/m^3)	8-hour daily maximum	
3	Particulate matter PM_{10}	23 (μg/m^3)		24-hour	20 (μg/m^3) 50 (μg/m^3)	1-year 24-hour	
4	Particulate matter $PM_{2.5}$	11 (μg/m^3)		24-hour	10 (μg/m^3) 25 (μg/m^3)	1-year 24-hour	
5	Sulfur dioxide SO_2	2 ppb	5.24(μg/m^3)	24-hour	20 (μg/m^3) 500 (μg/m^3)	24-hour 10 minute	
6	Carbon dioxide CO_2	240 ppm		24-hour	-		
7	Carbon monoxide CO	2 ppb		24-hour	-		

* One hour in Max. Value of 24 hrs. period

2. Noise Level

The noise levels for the proposed site were measured by TES-52A Advanced Sound Level Meter.

Table - National Emission Quality Guideline (NEQG) for Noise Level

Receptor	**One Hour LAeq (dBA)a**	
	Daytime 07:00-22:00 (10:00-22:00 for Public holidays)	**Night time 22:00-07:00 (22:00-10:00 for Public holidays)**
Residential, institutional, educational	55	45
Industrial, commercial	70	70

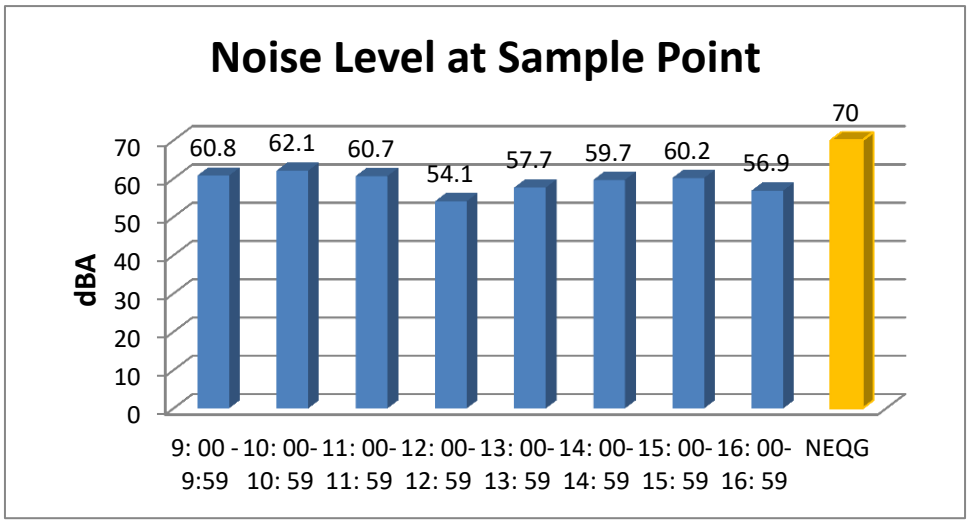
2.1. The location of Noise sample point of the Project

No.	Sample Name	Kai Sheng (Myanmar) Industrial Company Limited		Location
		Latitude (N)	Longitude (E)	
1.	Noise Sample Point (NS)	16°54'2.59"N	96°13'14.14"E	Factory compound

2.2. Noise Level Result

Table - Average Values of Noise Level (dB) at the sampling point

Noise Sample Point	Date/Time (1-9-2021)	Observed Noise Level (MeanValue) (dBA)
NS	9: 00 -9:59	60.8
	10: 00-10: 59	62.1
	11: 00-11: 59	60.7
	12: 00-12: 59	54.1
	13: 00-13: 59	57.7
	14: 00-14: 59	59.7
	15: 00-15: 59	60.2
	16: 00-16: 59	56.9



Main | Preferences | Header | Data | Repor

ENVIRONMENTAL REPORT

Session location:
Session site:
Organizational affiliation: EDC
Session environment: Outdoors
Session type: Ambient
Session environment:
Session Description:
Logger Serial Number: 915085
Logging began on: 9/1/2021 9:00 AM
Logging stopped on: 9/2/2021 9:00 AM
Data uploaded on: 9/4/2021 11:40:00 AM
Samples were averaged and saved every: 1 Minute
Report was averaged: 10 Minute
Total samples in this upload: 145

SENSOR	UNITS	LO LIM	HI LIM

* indicates no limit was set

City ; Shwe Pyi Thar

State; Yangon

Country ; Myanmar

Environmental Report

Start: 9/1/2021 9:00 AM End: 9/2/2021 9:00 AM

Collected by:

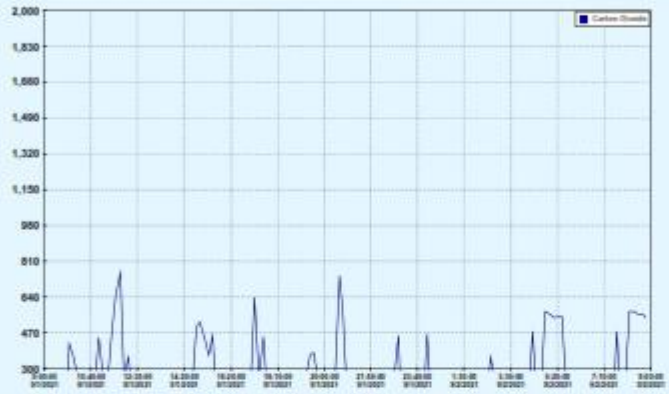
Logger ID 915085 Record Count 145

Sensor ID

Carbon Dioxide

Range: 0 to 5000 ppm

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
15	240.00	754	169.27	ppm		0.00%		0.00%

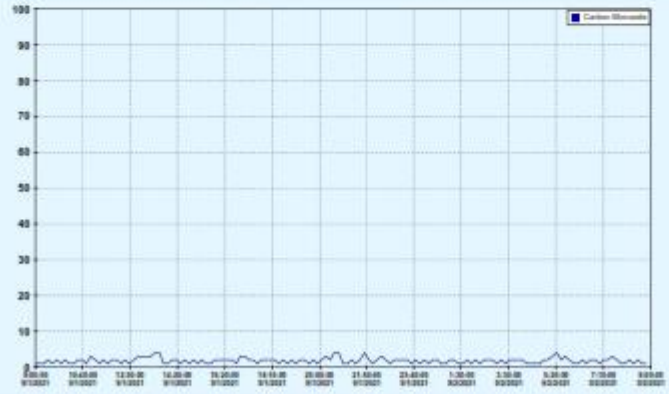


Sensor ID

Carbon Monoxide

Range: 0 to 10000 ppb

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
1	2.00	4	0.77	ppb		0.00%		0.00%



Environmental Report

Start: 9/1/2021 9:00 AM End: 9/2/2021 9:00 AM

Collected by:

Logger ID 915085 Record Count 145

Sensor ID

Nitrogen Dioxide

Range: 0 to 5000 ppb

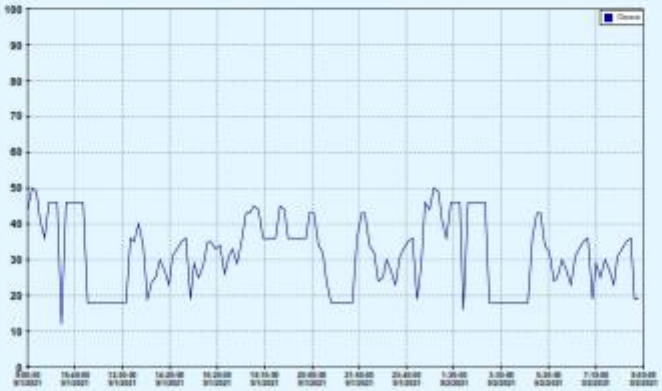
Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
2	15.00	54	10.17	ppb		0.00%		0.00%

Sensor ID

Ozone

Range: 0 to 150 ppb

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
12	32.00	50	10.22	ppb		0.00%		0.00%



Environmental Report

Start: 9/1/2021 9:00 AM End: 9/2/2021 9:00 AM

Collected by:

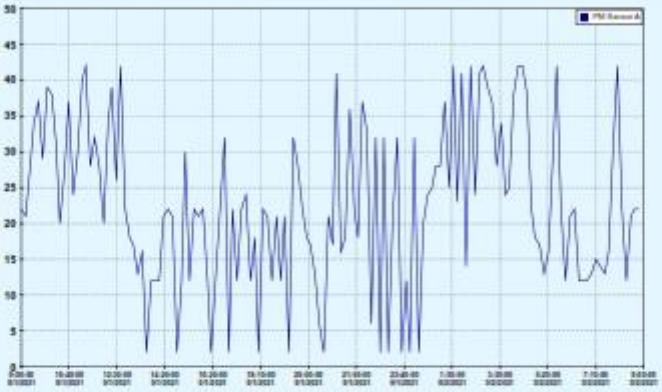
Logger ID 915085 Record Count 145

Sensor ID

PM Sensor A

Range: 0 to 5000 uG/m3

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
2	23.00	42	11.14	uG/m3		0.00%		0.00%

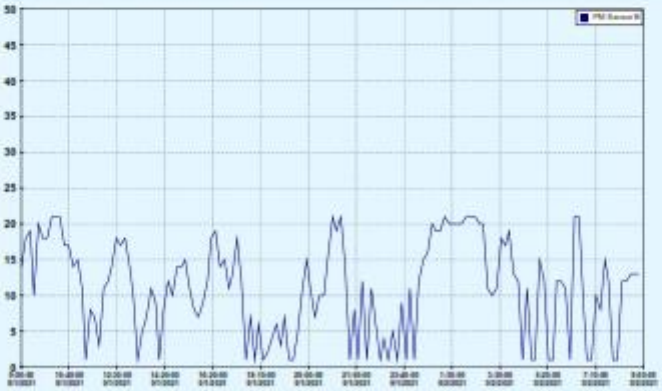


Sensor ID

PM Sensor B

Range: 0 to 5000 uG/m3

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
1	11.00	21	6.56	uG/m3		0.00%		0.00%



Environmental Report

Start: 9/1/2021 9:00 AM End: 9/2/2021 9:00 AM

Collected by:

Logger ID 915085 Record Count 145

Sensor ID

Relative Humidity

Range: 0 to 100 %

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
54	61.00	71	4.53	%		0.00%		0.00%

Sensor ID

Sulfur Dioxide

Range: 0 to 5000 ppb

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
1	2.00	5	1.05	ppb		0.00%		0.00%

Environmental Report

Start: 9/1/2021 9:00 AM End: 9/2/2021 9:00 AM

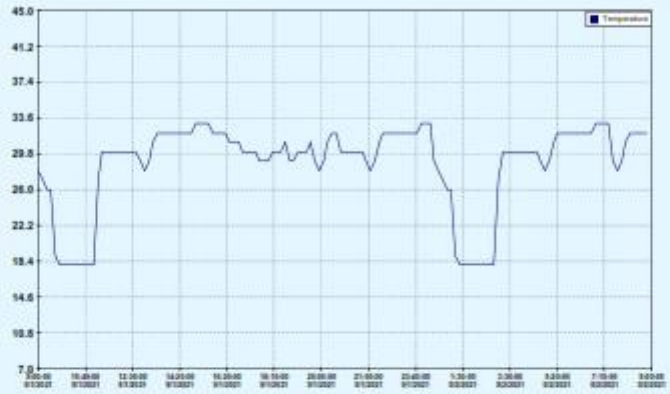
Collected by:

Logger ID 915085 Record Count 145

TEMP **Temperature** TEMP Sensor ID

Range: -20 to 60 Deg. C

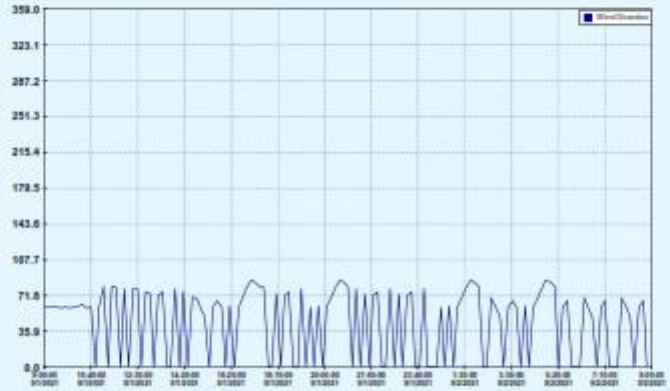
Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
18	29.00	33	4.58	Deg. C		0.00%		0.00%



W. DIR. **Wind Direction** W. DIR. Sensor ID

Range: 0 to 359 Deg.

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
0	45.00	87	33.99	Deg.		0.00%		0.00%



Environmental Report

Start: 9/1/2021 9:00 AM End: 9/2/2021 9:00 AM

Collected by:

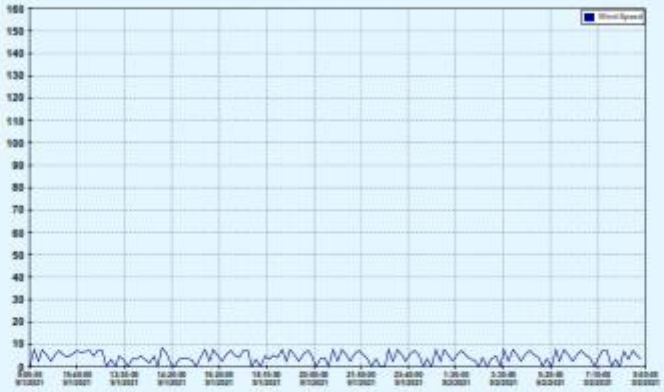
Logger ID 915085 Record Count 145

Wind Speed

Sensor ID

Range: 0 to 100 mph

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
0	4.20	8.3	2.54	mph		0.00%		0.00%

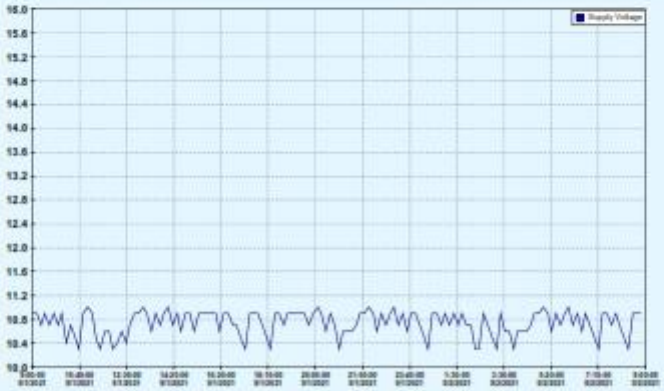


Supply Voltage

Sensor ID

Range: 10 to 16 V

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
10.3	10.70	11	0.20	V		0.00%		0.00%



Main | Preferences | Header | Data | Report

Environmental Report

Record Cnt 145

Start Date 9/1/2021 9:00:00 AM

145

End Date 9/2/2021 9:00:00 AM

	CO2 ppm	CO ppb	NO2 ppb	O3 ppb	PMA uG/m3	PMB uG/m3	RH %	SO2 ppb	TmpC Deg. C	VOCS ppb	WDir Deg.	WSpd mph	Pwr V
Ave	**239.503**	**1.77931**	**14.5655**	**31.9034**	**22.5655**	**11.1034**	**61.3655**	**2.24137**	**28.7724**	**0**	**45.3862**	**4.20827**	**10.7379**
Max	754	4	54	50	42	21	71	5	33	0	67	8.3	11
Min	15	1	2	12	2	1	54	1	18	0	0	0	10.3
EPAS Header 266146	**239.503**	**1.77931**	**14.5655**	**31.9034**	**22.5655**	**11.1034**	**61.3655**	**2.24137**	**28.7724**	**0**	**45.3862**	**4.20827**	**10.7379**
	754	4	54	50	42	21	71	5	33	0	67	8.3	11
	15	1	2	12	2	1	54	1	18	0	0	0	10.3
Daily Wed, Sep 1, 2021	**217.043**	**1.84615**	**15.3186**	**32.2417**	**21.0989**	**10.3076**	**61.0879**	**2.28571**	**29.0659**	**0**	**47.1758**	**4.25604**	**10.7549**
	754	4	54	50	42	21	71	5	33	0	67	8.3	11
	15	1	2	12	2	1	54	1	18	0	0	0	10.3
Ave Period 10 9/1/2021 9:00:00	**15**	**1**	**4**	**46**	**20**	**15**	**67**	**1**	**29**	**0**	**60**	**7.5**	**10.9**
	15	1	4	46	20	15	67	1	29	0	60	7.5	10.9
	15	1	4	46	20	15	67	1	29	0	60	7.5	10.9
9/1/21	15	1	4	46	20	15	67	1	29	0	60	7.5	10.9
Ave Period 10 9/1/2021 9:10:00	**100**	**1**	**2**	**44**	**22**	**14**	**62**	**2**	**28**	**0**	**60**	**0**	**10.9**
	100	1	2	44	22	14	62	2	28	0	60	0	10.9
	100	1	2	44	22	14	62	2	28	0	60	0	10.9
9/1/21	100	1	2	44	22	14	62	2	28	0	60	0	10.9
Ave Period 10 9/1/2021 9:20:00	**200**	**1**	**8**	**50**	**21**	**18**	**66**	**2**	**27**	**0**	**60**	**7.5**	**10.9**
	200	1	8	50	21	18	66	2	27	0	60	7.5	10.9
	200	1	8	50	21	18	66	2	27	0	60	7.5	10.9
9/1/21	200	1	8	50	21	18	66	2	27	0	60	7.5	10.9
Ave Period 10 9/1/2021 9:30:00	**111**	**1**	**10**	**49**	**28**	**19**	**69**	**1**	**26**	**0**	**61**	**2.3**	**10.7**
	111	1	10	49	28	19	69	1	26	0	61	2.3	10.7
	111	1	10	49	28	19	69	1	26	0	61	2.3	10.7
9/1/21	111	1	10	49	28	19	69	1	26	0	61	2.3	10.7