Environmental Management Plan

For

Manufacturing of Various Kinds of Bags Project

December 2024

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15-12-2024	00	1st Issue	Dr. Than Khin	Daw Yu Wai Yan Thein Tan	U Aye Thiha	Liao Chen Wei

Project Proponent

Golden Tri-Light Myanmar Co., Ltd

Prepared by

E Guard Environmental Services Co., Ltd

Report Review Form

Report Title: Environmental Management Plan Report Project: Manufacturing of Various Kinds of Bags Project	
Report Version: Version - 00	
Proposed By: **Golden Tri Light Myanmar Co., Ltd** Plot No.4, Myay Taing Quarter (24), 4th Road, Ngwe Pin Lal Industrial Zone, Hlaing Thar Yar Township Yangon Region, Myanmar Phone: +95(9) 979 106 110, +95(9) 430 401 98 Email: trilightmyanmar@gmail.com	**Prepared By:** **E Guard Environmental Services Co., Ltd.** No. (145 A2-3), Thiri Mingalar Street, Ward No (4), 8 Mile, Mayangone Township, 11062, Yangon Region, Myanmar. Tel: + 95 (1) 9667757, Fax: + 95 (1) 9667757 Mobile +95 (9) 797005160 Email: info@eguardservices.com

Prepared by: Dr. Than Khin	**Position: Principle Consultant**
Submitted Date: 17/12/2024	**Signature:**
Checked by: Daw Yu Wai Yan Thein Tan	**Position: Advisor**
Checked Date: 20/12/2024	**Signature:**
Summary: ESIA Report This document presents the Environmental Management Plan (EMP) Report as required for Manufacturing of Various Kinds of Bags Project.	**Approved by: U Aye Thiha** **(Managing Director)**

Distribution:

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DISCLAIMER

This report has been prepared by an independent environmental consulting firm, E Guard Environmental Services, for manufacturing of various kinds of bags (trolley, backpack, sport bags, ladies' bag, canvas long wallet, canvas backpack) project, located Plot No.4, Myay Taing Quarter (24), 4th Road, Ngwe Pin Lal Industrial Zone, Hlaing Thar Yar Township Yangon Region, Myanmar. The report preparation was done inside the framework of Myanmar Environmental Impact Assessment Procedure (2015).

The study works had been done based on the provided data of the proposed plan of project from the client and observation of environmental parameters guide by Myanmar Government Environmental Authority, Environmental Conservation Department, hereinafter ECD.

The impact assessment and mitigation measures are prepared based on the facts and figures of detail plan/ processes of the project obtained from Golden Tri-Light Myanmar Company Limited.

This report has been prepared in compliance with the prevailing active Laws, Rules, Procedure, Guidelines and Standards etc. of Myanmar legal system on (October/ 2024). The drawings, sketches, maps and other illustrative figures in this report are for the demonstrative/ descriptive purposes only and not to be considered as approved boundary nor accepted territory nor recognized properties extend of any kind.

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The individual/ personal, organizational and commercial data and information found in this report are included based on the concerned authority's requirement. The privacy and trade secrets concerned are to be addressed to the concerned authority, ECD.

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Commitment to Follow and Compliance with Environmental Conservation Law, Rules, Environmental Impact Assessment Procedure, National Environmental Quality (Emission) Guidelines, Relevant Environmental Standards and Mitigation Measures Stated in the Environmental Management Plan (EMP) Report

With regard to the above matter,

We, E Guard Environmental Services have prepared the Environmental Management Plan (EMP) Report for Manufacturing of various kinds of bags (trolley, backpack, sport bags, ladies' bag, canvas long wallet, canvas backpack) Project which is located in Plot No.4, Myay Taing Quarter (24), 4th Road, Ngwe Pin Lal Industrial Zone, Hlaing Thar Yar Township, Yangon Region, Myanmar. Our company strongly commits that this EMP report has been prepared by followed by following Environmental Conservation Law (2012), Environmental Conservation Rules (2014), Environmental Impact Assessment Procedure (2015), National Environmental Quality (Emission) Guideline (2015) and relevant Environmental Standards through successful implementation of mitigation measures and monitoring plans stated in the Environmental Management Plan (EMP) report.

Aye Thiha
Managing Director
E Guard Environmental Services

Third Party

E Guard Environmental Services Co., Ltd

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အဆိုပြုလုပ်ငန်းသည်CMPစနစ်ဖြင့် အိတ်ချုပ်လုပ်ခြင်းလုပ်ငန်းအတွက် ရင်းနှီးမြှုပ်နှံသော ကုမ္ပဏီဖြစ်ပါသည်။ ရင်းနှီးမြှုပ်နှံမှုလိုင်စင်ကို ၂၀၁၆ခုနှစ်၊ ဖေဖော်ဝါရီလ၊ (၂၉) ရက်နေ့တွင် (အတည်ပြုမိန့်အမှတ်ရကတ(၁၀၉၄/ ၂၀၁၆)၊ရန်ကုန်တိုင်းဒေသကြီး ရင်းနှီးမြှုပ်နှံမှု ကော်မတီမှ ရရှိပြီးဖြစ်ပါသည်။ လုပ်ငန်းလည်ပတ်ရန်အတွက် မြန်မာနိုင်ငံသယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင် ထိန်းသိမ်းရေးဝန်ကြီးဌာန(MONREC)၏ အတည်ပြုချက်ရယူရန် လိုအပ်ကြောင်း ကော်မရှင်မှ အကြောင်းကြားခဲ့ပါသည်။

ထိုကြောင့် မြန်မာနိုင်ငံပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ ၂၀၁၂ အရ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ် EMP ပြုလုပ်ရန် လိုအပ်ကြောင်း ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန၊ ရန်ကုန်တိုင်း ဒေသကြီးမှ သဘောထားမှတ်ချက် ရရှိပြီးဖြစ်ပါသည်။ ထိုကြောင့် EMPအစီရင်ခံစာရေးဆွဲရန် တတိယအဖွဲ့အစည်းဖြစ်သော Green Environmental, Health, Safety & Social Consultancy Company Limited မှ တာဝန်ယူ ရေးဆွဲခဲ့ပြီး၊ သို့သော် Green Environmental, Health, Safety & Social Consultancy Company Limited မှ ဆက်လက်ဆောင်ရွက်နိုင်ခြင်း မရှိပါသောကြောင့် E Guard Environmental Services Co. Ltd မှ တာဝန်ယူ ပြင်ဆင်ခဲ့ပါသည်။

EMP အစီအစဉ်တွင် Golden Tri Light Co., Ltd ၏ CMP စနစ်ဖြင့် အိတ်ချုပ်လုပ်ခြင်းလုပ်ငန်း စီမံကိန်း အတွက် E Guard Environmental Services Co. Ltd မှ ရေးသားပြုစု ထားသော ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီရင်ခံစာ ဖြစ်သည်။ အဆိုပါလေ့လာဆန်းစစ်ခြင်း၏ ရည်ရွယ်ချက်များမှာ-

- ✓ သဘာဝပတ်ဝန်းကျင်နှင့်လူမှုပတ်ဝန်းကျင်အပေါ် စီမံကိန်းဆောင်ရွက်ချက်များကြောင့် ထိခိုက်မှုများကို လေ့လာရန်။
- ✓ ထိုထိခိုက်မှုများကို လျှော့ချနိုင်ရန်လျှော့နည်းစေမည့်နည်းလမ်းများကိုဖော်ပြရန်။
- ✓ စီမံကိန်းအတွက်ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အစီရင်ခံစာလုပ်ဆောင်ရာတွင်လုံလောက်မှုရှိစေရန်။
- ✓ ဒေသခံများ၏ လူမှုရေးသက်သာချောင်ချိမှုများ တိုးမြှင့်ရန်နှင့် ဒေသတွင်း ဖွံ့ဖြိုးတိုးတက်မှုများအတွက် မရှိမဖြစ် အရေးပါသော လူမှုစီးပွားတာဝန်ယူမှု အစီအစဉ်အား အကောင်အထည်ဖော်ရန်တို့ ဖြစ်ပါသည်။

အဆိုပြုထားသောစီမံကိန်း၏ ရည်ရွယ်ချက်သည် CMPစနစ်(ဖြတ်၊လုပ်၊ထုတ်) စနစ်ကိုအသုံးပြု၍ အဝတ်အထည် အမျိုးမျိုးကိုထုတ်လုပ်ပြီး နိုင်ငံခြားသို့ ၁၀၀% တင်ပို့ရန်ဖြစ်သည်။

စီမံကိန်းဆိုင်ရာအချက်အလက်များ

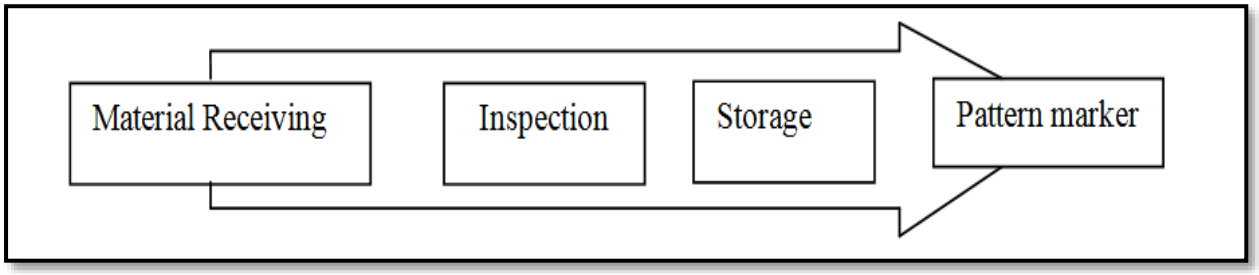
အဆိုပြုလုပ်ငန်းအတွက် တည်နေရာနှင့်စက်ရုံအတွင်းပါရှိသည့် ရုံးခန်းအဆောင်များ၊ စားသောက်ဆောင်၊ စတို အခန်း၊ ပြုပြင်ထိန်းသိမ်းရေးအခန်း၊ မီးဖိုချောင်အစရှိသည့်တို့ကို သီးခြားဖော်ပြထားပါသည်။ ထို့အပြင်ထုတ်လုပ်မှု နည်းလမ်းများ၊ လိုအပ်သည့်ကုန်ကြမ်းများ၊ နှစ်စဉ်ထွက်ကုန်များနှင့်စက်ပစ္စည်းများအား ဖော်ပြထားပါသည်။ အဆိုပြုလုပ်ငန်းအတွက် လိုအပ်သည့်စွမ်းအင်နှင့် အသုံးပြုသည့်ပမာဏများကိုလည်း ထည့်သွင်းဖော်ပြထားပါသည်။ ကျန်လုပ်ငန်းသုံးယာဉ်နှင့်ရုံးသုံးပစ္စည်းများကိုပြည်တွင်းမှဝယ်ယူအသုံးပြုပါသည်။

ဇယား (၁) စီမံကိန်းဆိုင်ရာအချက်အလက်

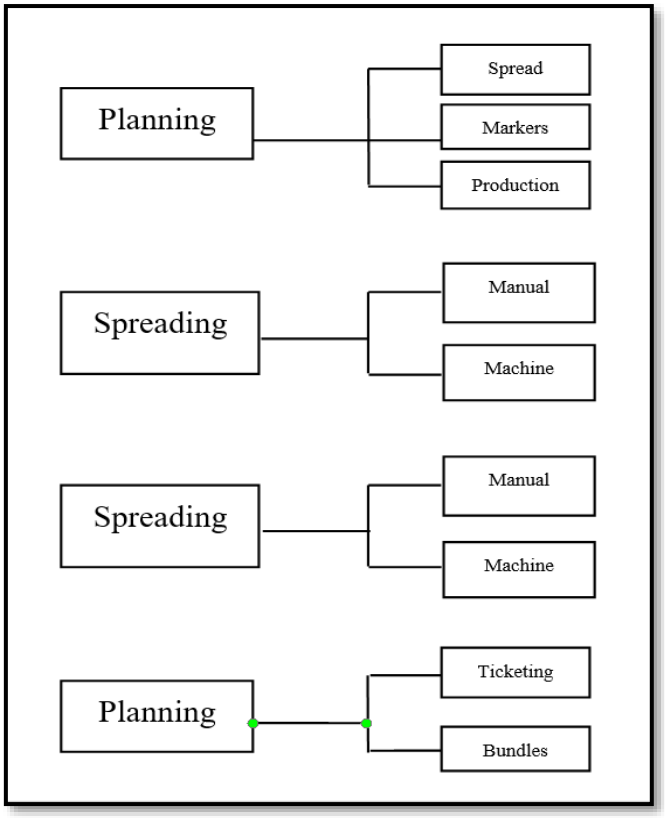
စီမံကိန်းအဆိုပြုသူ	Golden Tri Light Co., Ltd
အဆိုပြုထားသောစီမံကိန်း	အဝတ်အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း
စီမံကိန်းတည်နေရာ	မြေကွက်အမှတ် (၄) ၊ မြေတိုင်းရပ်ကွက် (၂၄) ၊ (၄) လမ်း၊ ငွေပင်လယ်စက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး။
စီမံကိန်းတည်ထောင်သူ	MR. NGAI SIU LUNG
ရင်းနှီးမြှုပ်နှံမှုပမာဏ	USD 0.8455 million
ရင်းနှီးမြှုပ်နှံမှုပုံစံ	၁၀၀% နိုင်ငံခြားသားရင်းနှီးမြှုပ်နှံမှု
အဆိုပြုရင်းနှီးမြှုပ်နှံမှုကာလ	၅၀ နှစ်
အဆောက်အဦဧရိယာ	100'x 250'
ကုန်ချောထုတ်လုပ်နိုင်မှုပမာဏ	Approx; 200,000 pcs/month
လောင်စာဆီသုံးစွဲမှုပမာဏ	Approx; Diesel 10812 gallons/year
လျှပ်စစ်သုံးစွဲမှုပမာဏ	10325 units/month
လျှပ်စစ်သုံးစွဲသည့်အရင်းအမြစ်	Yangon Electricity Supply Corporation (YESC)
ရေရယူသုံးစွဲသည့်အရင်းအမြစ်	အဝီစိတွင်း
မြေဧရိယာ	၂.၇၇၃ ဧက
မြေနေရာပုံစံ	စက်မှုဇုန်မြေ
စက်ရုံလက်ရှိအခြေအနေ	စက်ရုံလည်ပတ်လျက်ရှိခြင်း
ရေဆိုးထွက်ရှိမှု	မရှိခြင်း
စွန့်ပစ်ပစ္စည်းစီမံခန့်ခွဲမှု	Recyclableပစ္စည်းများအားခွဲ၍ထားရှိခြင်း၊ကျန်ရှိသည့်စွန့်ပစ်ပစ္စည်းများအား ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးကော်မတီနှင့်ချိတ်ဆက်၍စွန့်ပစ်ခြင်း
အလုပ်သမားဦးရေ	၄၆၆ ဦး
လုပ်ငန်းအနီးရှိစက်ရုံများ	Myanmar Soe San Win Manufacturing Co., Ltd

	Jiu Sheng (Myanmar) Knitted Wear Co., Ltd Universal Apparel Co., Ltd
အမည်	MR. NGAI SIU LUNG
ဖုန်းနံပါတ်	+95(9) 979 106 110, +95(9) 430 401 98
မှတ်ချက်	BSCI Audit Certificate

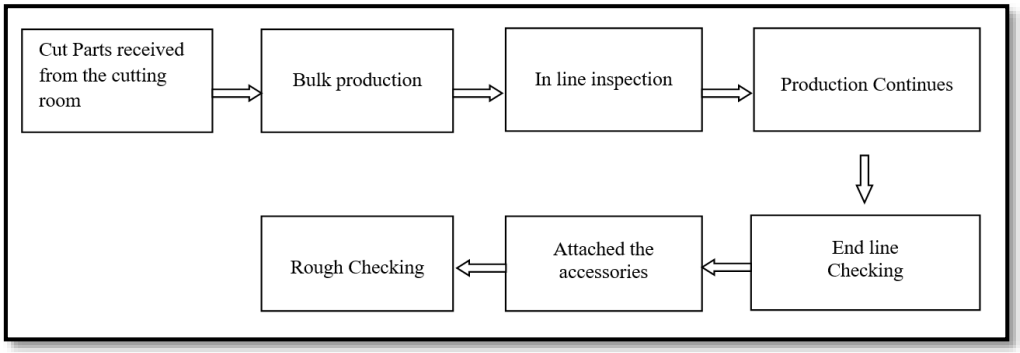
နိုင်ငံသား(ပြည်တွင်း)လုပ်သား(၄၆၀)ဦးဖြင့် ဆောင်ရွက် သွားမည်ဖြစ်သည်။ ကုန်ထုတ်လုပ်ခြင်း လုပ်ငန်းမှာ Automatic Machine နှင့် လူစွမ်းအားကို အသုံးပြုသော လုပ်ငန်းမျိုးဖြစ်ပါသည်။ ထုတ်လုပ်ပုံ အဆင့်ဆင့်ကို အောက်ဖော်ပြပါ ပုံပြဇယားတွင် ဖော်ပြထားပါသည်။



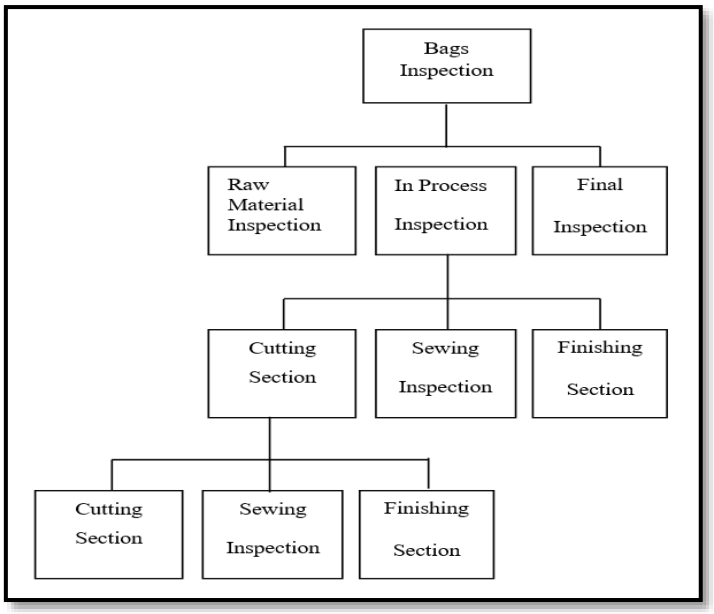
ကုန်ကြမ်းပစ္စည်းရရှိမှုအဆင့်ဆင့်



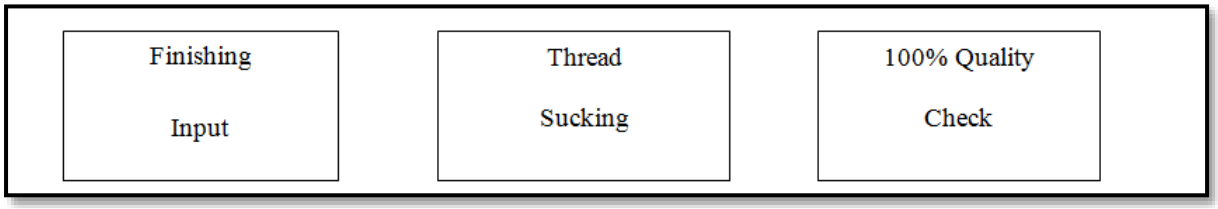
ဝိတ်ဖြတ်လုပ်ငန်းအဆင့်ဆင့်



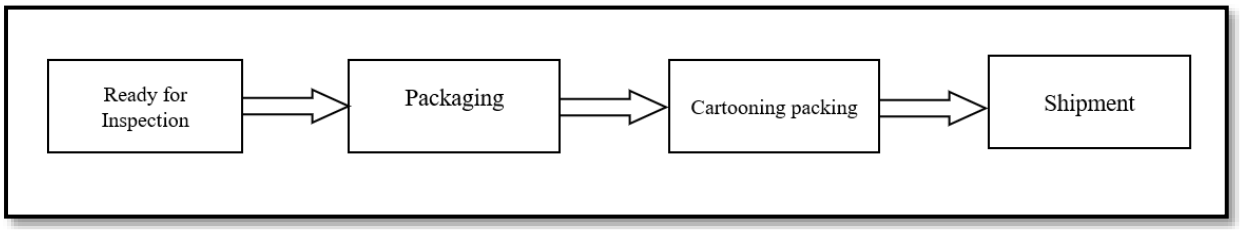
ချုပ်လုပ်မှုလုပ်ငန်းအဆင့်ဆင့်



စစ်ဆေးမှုလုပ်ငန်းအဆင့်ဆင့်



ကုန်ချောဌာနလုပ်ငန်းအဆင့်ဆင့်



တင်ပို့မှုလုပ်ငန်းအဆင့်ဆင့်

ဥပဒေနှင့်မူဝါဒဆိုင်ရာအချက်အလက်များ

EMP ရေးဆွဲခြင်း၏ ရည်ရွယ်ချက်မှာ နိုင်ငံတော်နှင့် နိုင်ငံတကာမှချမှတ်ထားသော ပတ်ဝန်းကျင်ထိန်းသိမ်း ရေးအစီအစဉ်များ၊ စည်းမျဉ်းစည်းကမ်းများ၊ ဥပဒေနှင့်နည်းဥပဒေများကို လိုက်နာပြီး ပတ်ဝန်းကျင်နှင့်လိုက်ရောညီထွေရှိသော ထိခိုက်မှုလျှော့ချရေး အစီအစဉ်များပြုလုပ်ရန် ဖြစ်ပါသည်။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ် အစီရင်ခံစာ ရေးသားပြုစုသူများ၏ ကျွမ်းကျင်မှု နယ်ပယ်ဆိုင်ရာ ဖော်ပြချက်များကို ရေးသား ဖော်ပြထားပါသည်။ ဥပဒေနှင့် နည်းဥပဒေအခန်းတွင် MONREC မှ ထုတ်ပြန်ထားသည့် ပတ်ဝန်းကျင်ထိခိုက်မှု ဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများ၊ အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး(ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များအပြင် စက်ရုံနှင့်ဆက်စပ် သက်ဆိုင်နေပြီး လိုက်နာရမည့် ဥပဒေနှင့်နည်းဥပဒေများ၊ ဒေသတွင်းသို့မဟုတ် အပြည်ပြည်ဆိုင်ရာ သဘာဝပတ်ဝန်း ကျင်နှင့်လူမှုပတ်ဝန်းကျင်ဆိုင်ရာမူဝါဒများ၊ ဆက်စပ်နေသည့် နိုင်ငံတကာသဘောတူညီချက်များကို အကျဉ်းချုပ် ရေးသားဖော်ပြထားပါသည်။ စက်ရုံအတွင်း လိုက်နာဆောင်ရွက်ရမည့် စည်းမျဉ်းစည်းကမ်းများ၊ လုပ်ငန်းခွင် အန္တရာယ်ကင်းရှင်းရေးနှင့် ကျန်းမာရေးဆိုင်ရာ အခြေခံစည်းမျဉ်းစည်းကမ်းများလည်း ထည့်သွင်းဖော်ပြထားပါသည်။ Golden Tri Light Co., Ltd ၏ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဆိုင်ရာ ကတိကဝတ်များအပြင် ပတ်ဝန်းကျင်ထိခိုက်မှုလျှော့ချရေးမူဝါဒများ ကိုလည်း ထည့်သွင်းဖော်ပြထားပါသည်။

၁။ ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်ဖွဲ့စည်းပုံအခြေခံဥပဒေ (၂၀၀၈)
၂။ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ (၂၀၁၂)
၃။ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနည်းဥပဒေများ (၂၀၁၄)
၄။ ပတ်ဝန်းကျင် ထိခိုက်မှု ဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံး လုပ်နည်း (၂၀၁၅)
၅။ အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး(ထုတ်လွှတ်မှု)လမ်းညွှန်ချက်များ (၂၀၁၅)
၆။ မြန်မာနိုင်ငံအမျိုးသားပတ်ဝန်းကျင်ရေးရာမူဝါဒ (၂၀၁၉)
၇။ နိုင်ငံခြား ရင်းနှီးမြှုပ်နှံမှု ဥပဒေ (၂၀၁၂)
၈။ နိုင်ငံခြား ရင်းနှီးမြှုပ်နှံမှု နည်းဥပဒေ (၂၀၁၃)
၉။ မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှု ဥပဒေ(၂၀၁၆) (ပြင်ဆင် ၂၀၁၉)
၁၀။ မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှု နည်းဥပဒေများ (၂၀၁၇)(ပြင်ဆင် ၂၀၁၈)
၁၁။ မြန်မာ့အာမခံ ဥပဒေ (၁၉၉၃)
၁၂။ အခကြေးငွေပေးချေရေးဥပဒေ (၂၀၁၆)
၁၃။ ရန်ကုန်တိုင်းဒေသကြီး စည်ပင်သာယာရေး ဥပဒေ (၁၉၉၀)
၁၄။ အလုပ်ရုံများအက် ဥပဒေ (၁၉၅၁, ၂၀၁၆)
၁၅။ ပုဂ္ဂလိက စက်မှုလုပ်ငန်းဥပဒေ (၁၉၉၀)

၁၆။ ပို့ကုန်သွင်းကုန် ဥပဒေ (၂၀၁၂)
၁၇။ ဓာတုပစ္စည်းနှင့် ဆက်စပ်ပစ္စည်းများ အန္တရာယ်မှ တားဆီးကာကွယ်ရေး ဥပဒေ (၂၀၁၃)
၁၈။ မြေအောက်ရေ အက်ဥပဒေ (၁၉၃၀)
၁၉။ မြန်မာနိုင်ငံမီးသတ်တပ်ဖွဲ့ဥပဒေ (၂၀၁၅)
၂၀။ လျှပ်စစ်ဥပဒေ (၂၀၁၄)
၂၁။ ဘွိုင်လာဥပဒေ (၂၀၁၅)
၂၂။ အလုပ်သမားရေးရာအငြင်းပွားမှု ဖြေရှင်းရေးဥပဒေ (၂၀၁၂)(ပြင်ဆင် ၂၀၁၉)
၂၃။ လူမှုဖူလုံရေးဥပဒေ (၂၀၁၂)
၂၄။ အလုပ်အကိုင်နှင့် ကျွမ်းကျင်မှုဖွံ့ဖြိုးတိုးတက်ရေးဥပဒေ (၂၀၁၃)
၂၅။ အလုပ်သမားများ၏ လျော်ကြေးငွေအက်ဥပဒေ (၁၉၂၃)
၂၆။ ခွင့်ရက်နှင့် အလုပ်ပိတ်ရက် အပ်ဥပဒေ (၁၉၅, ၂၀၁၄)
၂၇။ အနည်းဆုံးအခကြေးငွေဥပဒေ (၂၀၁၃)
၂၈။ ပြည်ထောင်စု မြန်မာနိုင်ငံ ပြည်သူ့ကျန်းမာရေးဥပဒေ (၁၉၇၂)
၂၉။ ကူးစက်ရောဂါများ ကာကွယ်နှိမ်နင်းရေး ဥပဒေ (၁၉၉၅) (ပြင်ဆင် ၂၀၁၁)
၃၀။ လုပ်ငန်းခွင်ဘေးအန္တရာယ်ဘေးကင်းရေးနှင့်ကျန်းမာရေးဆိုင်ရာ ဥပဒေ (၂၀၁၉)
၃၁။ မော်တော်ယာဉ် ဥပဒေ (၂၀၁၅)
၃၂။ ရေအရင်းအမြစ်နှင့်မြစ်ချောင်းများထိန်းသိမ်းရေးဥပဒေ (၂၀၀၆) (ပြင်ဆင်၂၀၁၇)
၃၃။ ကုန်သွယ်လုပ်ငန်းခွန် ဥပဒေ (၁၉၉၀) (ပြင်ဆင် ၂၀၁၄)
၃၄။ သဘာဝဘေးအန္တရာယ်ဆိုင်ရာစီမံခန့်ခွဲမှုဥပဒေ (၂၀၁၃)

အနီးပတ်ဝန်းကျင်အခြေအနေ

ကနဦးစစ်တမ်း ကောက်ယူခြင်းနှင့် ဒေသဆိုင်ရာမှ အချက်အလက်များ ရယူခြင်းသည် အလွန်အရေးကြီးပါသည်။ ပတ်ဝန်းကျင်အရည်အသွေးတိုင်းတာခြင်း ကဲ့သို့သော ကနဦးစစ်တမ်း ကောက်ယူခြင်းသည် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီရင်ခံစာတွင် အရေးပါသောအခန်းအဖြစ် တည်ရှိနေသည်။ ထို့အတွက် စီမံကိန်းသို့ ကွင်းဆင်းလေ့လာမှုများကို ၉ ရက်၊ ဩဂုတ်လ ၂၀၁၉ ခုနှစ်တွင် လက်တွေ့ကွင်းဆင်းလေ့လာခဲ့ပြီး၊ လိုအပ်သည့် လေအရည်အသွေး၊ ဆူညံမှု၊ အလင်း၊ အပူချိန်နှင့်စိုထိုင်းမှုအစရှိသည့် အချက်အလက်များကို ရယူခဲ့ပါသည်။ ကွင်းဆင်းလေ့လာထားသည့် အချက် အလက်များကို သက်ဆိုင်ရာခေါင်းစဉ်အလိုက် အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး ထုတ်လွှတ်မှုလမ်းညွှန်ချက်များ နှင့် နှိုင်းယှဉ်၍ ဖော်ပြထားပါသည်။ ထိုနည်းတူ လျှော့ချရမည့်နည်းလမ်းများကိုလည်း ထည့်သွင်းဖော်ပြထားပါသည်။ စီမံကိန်းတည်ရှိရာဒေသရှိ ရာသီဥတု၊ မိုးရေချိန်၊ လူမှုစီးပွားရေးဆိုင်ရာ အချက်အလက်များကိုလည်း ဖော်ပြထား ပါသည်။

ဖြစ်ပေါ်နိုင်သော ပတ်ဝန်းကျင်အပေါ် ထိခိုက်မှုနှင့် လျော့ချရမည့် နည်းလမ်းများ

Golden Tri Light Co., Ltd သည် မြေကွက်အမှတ် (၄)၊ မြေတိုင်းရပ်ကွက် (၂၄)၊(၄)လမ်း၊ ငွေပင်လယ်စက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ် အတွင်းတည်ရှိနေသောကြောင့် သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဘဝတို့အပေါ် ဖြစ်ပေါ်နိုင်သော ထိခိုက်မှုများမှာ နည်းပါးပါသည်။ စက်ရုံလုပ်ငန်း ဆောင်ရွက်ခြင်းများကြောင့် ပတ်ဝန်းကျင်ဆိုင်ရာအရင်းအမြစ်များ၊ ဂေဟဆိုင်ရာ အရင်းအမြစ်များ၊ လူ့စွမ်းအားအရင်းအမြစ်များနှင့် စွန့်ပစ်ပစ္စည်းများစွန့်ပစ်ခြင်း စသည့်ဖြစ်လာနိုင်သည့်ထိခိုက်မှုများကို ခွဲခြားသတ်မှတ်ပြီး ၎င်းတို့၏ ရလဒ်များကိုထိခိုက်မှု ဆန်းစစ်သည့်နည်းလမ်းများကို အသုံးပြု၍ သတ်မှတ်ခဲ့ပါသည်။ စက်ရုံ၏ ကုန်ထုတ်လုပ်မှုလုပ်ငန်းတွင် ရေအသုံးပြုမှုမရှိပါ။ စက်ရုံလုပ်ငန်း လည်ပတ်စဉ်တွင် ဖြစ်ပေါ်သောထိခိုက်မှုများမှာ (၁)လေထုညစ်ညမ်းမှု၊ (၂)အသံဆူညံမှု၊ (၃)ရေဆိုးစွန့်ပစ်မှု၊ (၄)စွန့်ပစ်အစိုင်အခဲ၊ (၅)လုပ်သားများ၏ ကျန်းမာရေးနှင့် ဘေးအန္တရာယ် ကင်းရှင်းမှုတို့ ဖြစ်ပါသည်။ စက်ရုံမှပတ်ဝန်းကျင်သို့ ထိခိုက်မှုများကို အပိုင်း(၃)ပိုင်းခွဲ၍ သတ်မှတ်ထားပါသည်။ ၎င်းအမျိုးအစားများမှာ တည်ဆောက်သည့်ကာလ၊ လုပ်ငန်း လည်ပတ်သည့်ကာလနှင့် လုပ်ငန်းဖျက်သိမ်းမည့် ကာလများဖြစ်ပါသည်။ စက်ရုံလုပ်ငန်းလည်ပတ်ခြင်းကြောင့် ဖြစ်ပေါ်နိုင်သော ပတ်ဝန်းကျင်ထိခိုက်မှုနှင့် လျော့ချရမည့်နည်းလမ်းများကို အောက်ပါဇယားတွင် ဖော်ပြထားပါသည်။

ဇယား(၂) ပတ်ဝန်းကျင်ဆိုင်ရာထိခိုက်မှုများနှင့် လျော့ချရမည့်နည်းလမ်းများအားအကဲဖြတ်ဇယား

ပတ်ဝန်းကျင် ထိခိုက်မှု	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှု အဆင့်	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
တည်ဆောက်ရေးကာလ			
ပတ်ဝန်းကျင်ထိခိုက်မှုလေ့လာချိန်တွင် စက်ရုံတည်ဆောက်ပြီး၊ လုပ်ငန်းလည်ပတ်နေချိန်ဖြစ်သောကြောင့် ဤကာလကို ထည့်သွင်းမစဉ်းစားပါ။			
လုပ်ငန်းလည်ပတ်ခြင်းကာလ			
လေထုညစ် ညမ်းမှု	• စက်ရုံအတွင်းအသုံးပြုသောမီးစက်နှင့် ဒီဇယ်ဘွိုင်လာမှ မီးခိုးငွေ့များထွက်ရှိ ခြင်း။ • စက်ရုံဝင်းအတွင်းနှင့် လုပ်ငန်းခွင်အတွင်း သန့်ရှင်းရေး ပြုလုပ်ခြင်းမှ ဖုန်မှုန့်များ ထွက်ရှိခြင်း။	အနည်းငယ်	• မီးစက်နှင့် အခြားစက်ပစ္စည်းများ ကောင်းမွန်စွာ လည်ပတ်နိုင်စေရန် ပုံမှန်ပြုပြင်ထိန်းသိမ်းခြင်း။ • စက်ရုံဝင်းအတွင်းနှင့် လုပ်ငန်းခွင်အတွင်း ဖုန်မှုန့်များ ပျံ့လွင့်မှု လျော့နည်းစေရန် သန့်ရှင်းရေး ပုံမှန် ပြုလုပ်ခြင်း။ • စက်ရုံအတွင်းနှင့် အနီးအနားတွင် သစ်ပင်ပန်းမံ စိုက်ပျိုးခြင်းဖြင့် ကာဗွန်ထွက်ရှိမှုကို လျော့ချ ပေးခြင်း။ • လုပ်ငန်းခွင်အတွင်း အလုပ်သမားများအတွက် နှာခေါင်းစည်းများ ထောက်ပံ့ ပေးခြင်း။
စွန့်ပစ်ရေဆိုး	• စက်ရုံရှိ ကန်တင်း၊ စားဖိုချောင်၊ အိမ်သာများနှင့် လက်ဆေးဘေစင်များ စသည်တို့မှ လုပ်သားများ အသုံးပြုပြီးသော အိမ်သုံး စွန့်ပစ် ရေဆိုး ထွက်ရှိခြင်း။ • စက်ရုံဝင်းအတွင်းမှ မိုးရေနှင့် အခြားရေ များအား ပြင်ပရှိ စက်မှုဇုန် ရေမြောင်း အတွင်းသို့ စွန့်ထုတ်ခြင်း။	အနည်းငယ်	• မိလ္လာရေဆိုးများအား ပုံမှန်သိမ်းဆည်းခြင်းနှင့် လုံလောက်သော မိလ္လာကန်စနစ် ထားရှိ၍ ဆောင်ရွက် ခြင်း။ • မိလ္လာကန်နှင့် မိလ္လာစနစ်ကို လူဦးရေနှင့် သင့်တင့်သည့်ပမာဏရှိရန် စီစဉ်ထားခြင်း။ • မိုးရေ၊ အိမ်သုံးစွန့်ပစ်ရေဆိုးနှင့် မိလ္လာရေဆိုးများ အတွက် ရေမြောင်းများ လုံလောက်စွာ ထားရှိ ဆောင်ရွက်ခြင်းနှင့် သန့်ရှင်းရေး ပုံမှန် ဆောင်ရွက် ခြင်း။ • အိမ်သုံးစွန့်ပစ်ရေဆိုးများနှင့် အခြားရေဆိုးများ အတွက် စက်ရုံအတွင်း ရေမြောင်းများ လုံလောက်စွာ ထားရှိခြင်း။

ပတ်ဝန်းကျင်ထိခိုက်မှု	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျှော့ချရေးနှင့် ထိန်းချုပ်မှု
	• ဝန်ထမ်းများအသုံးပြုသော အိမ်သာများ၏ မိလ္လာရေဆိုးများအား မိလ္လာကန်များ အတွင်းသို့ စွန့်ထုတ်ခြင်း။		
မြေဆီလွှာညစ်ညမ်းမှု	• လုပ်ငန်းလည်ပတ်ရာမှ အသုံးပြုသော စက်ပစ္စည်းများမှ ထွက်ရှိသည့် ဆီအဟောင်းများ ထွက်ရှိခြင်းနှင့် မတော်တဆ ဆီယိုဖိတ်ကျခြင်း။ • လောင်စာဆီ(ဒီဇယ်ဆီ) ဖြည့်သည့်နေရာ၌ ၎င်းဆီများ မတော်တဆ ယိုစိမ့်မှု ဖြစ်ပေါ်နိုင်ခြင်း။	အလွန်နည်း	• အသုံးပြုသော စက်ပစ္စည်းများမှ ထွက်ရှိသည့် ဆီအဟောင်းများအား သီးခြားနေရာ၌ စနစ်တကျ ထားရှိပြီး၊ ထင်ရှားသည့် သင်္ကေတ အမှတ် အသားများ ပြုလုပ်ထားခြင်း။ • စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင် ထိန်းသိမ်းပေး ခြင်းဖြင့် စက်ပစ္စည်းများမှ ဆီများ မတော်တဆ ယိုစိမ့်မှုအား လျှော့ချနိုင်ခြင်း။ • ဘေးအန္တရာယ်ရှိသော စွန့်ပစ်ပစ္စည်းများအား သီးခြားနေရာ သတ်မှတ်၍ စနစ်တကျထားရှိပြီး၊ ထင်ရှားသည့် သင်္ကေတအမှတ်အသားများ ပြုလုပ် ထားခြင်း။
အသံဆူညံမှု	• မီးစက်၊ လေမှုတ်စက်စသည့် စက်ပစ္စည်းကိရိယာများ အသုံးပြုမှုကြောင့် အသံ ဆူညံမှု ထွက်ရှိခြင်း။ • မီးစက်မောင်းနှင်ရာမှ အသံဆူညံမှု ထွက်ရှိခြင်း။	အနည်းငယ်	• အသံဆူညံမှု အနည်းငယ်သာ ထွက်ရှိသော စက်ပစ္စည်းများနှင့် ကိရိယာများ အသုံးပြုခြင်း။ • လုပ်ငန်းခွင်အတွင်း ပဲ့တင်ရိုက်သံများ လျော့နည်းစေရန် အသံဆူညံမှု လျော့နည်းစေသည့် ပစ္စည်းများ တပ်ဆင်ခြင်း။ • လုပ်ငန်းခွင်အတွင်း အသံဆူညံသောနေရာများ၌ လုပ်ရသော အလုပ်သမားများအား အသံဆူညံမှုမှ ကာကွယ်ရန် နားကြပ်များနှင့် အသံထိခိုက်မှုမရှိသည့် ကိရိယာများ ထောက်ပံ့ပေးခြင်း။ • စက်ရုံဝင်းအတွင်း သစ်ပင်များစိုက်ခြင်းဖြင့် ဘေးပတ်ဝန်းကျင်သို့ ဆူညံသံ ပျံ့လွင့်မှုအား လျှော့ချ ခြင်း။
စွန့်ပစ်အမှိုက်	• စက်ရုံလည်ပတ်ရာမှ ထွက်ရှိသော စွန့်ပစ်ပစ္စည်းများ ဖြစ်သည့် ပိတ်စများ၊ ဖြတ်စ၊ ညှပ်စအပိုင်းအစများနှင့် ထုတ်ပိုး ပစ္စည်းများ ထွက်ရှိခြင်း။ • လူသုံးအမှိုက်များနှင့် ရုံးသုံးအမှိုက်များဖြစ်သည့်	အနည်းငယ်	• အမှိုက်များကို အမှိုက်အမျိုးအစား အလိုက် သတ်မှတ်ထားသော အမှိုက်ပုံးများထဲတွင် ခွဲခြား စွန့်ပစ်ခြင်း။ • လုပ်ငန်းလည်ပတ်ရာတွင် အမှိုက်ထွက်ရှိမှု ပမာဏ လျော့နည်းနိုင်သမျှ လျော့နည်းအောင် ဆောင်ရွက် ခြင်း။

ပတ်ဝန်းကျင်ထိခိုက်မှု	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျှော့ချရေးနှင့် ထိန်းချုပ်မှု
	(ဥပမာ-ပလတ်စတစ်အိတ်များ၊ စက္ကူများ၊ ရေဘူးခွံများနှင့် စားကြွင်းစားကျန်များ စသည့်တို့) ထွက်ရှိခြင်း။		• စွန့်ပစ်အမှိုက်များကို ရန်ကုန်မြို့တော် စည်ပင်သာယာရေး ကော်မတီ (သို့) စက်မှုဇုန် ကော်မတီမှ သတ်မှတ်ထားသော အမှိုက်ပုံး၊ အမှိုက်ကန်များတွင်သာ စွန့်ပစ်ခြင်း။
လုပ်ငန်းခွင်ကျန်းမာရေးနှင့် ဘေးအန္တရာယ်ကင်းရှင်းရေး			
မီးဘေး အန္တရာယ်ကင်းရှင်းရေး	• စက်ရုံ၏ မီးဘေးအန္တရာယ်မှာ အောက်ပါအချက်များကြောင့် ဖြစ်ပေါ်နိုင်ခြင်း • အရည်အသွေးမမှီသော မီးကြိုးများသွယ်တန်းခြင်း (သို့) ဝါယာရှော့ ဖြစ်ခြင်းကြောင့် မီးလောင်နိုင်ခြင်း၊ • လုပ်ငန်းလည်ပတ်ရာတွင် လျှပ်စစ်သုံးစက်ပစ္စည်းများနှင့် ကိရိယာများအားပေါ့လျော့စွာကိုင်တွယ် ခြင်းကြောင့် မီးလောင်နိုင်ခြင်း၊ • လောင်စာဆီ၊ စက်သုံးဆီများ ယိုစိမ့်ခြင်းကြောင့် မီးလောင်နိုင်ခြင်း၊ • မီးလောင်လွယ်သော လောင်စာဆီနှင့် စက်သုံးဆီများ မတော်တဆ ပေါက်ကွဲမှု ဖြစ်ခြင်းကြောင့် မီးလောင်နိုင်ခြင်း၊ • ဆေးလိပ်သောက်ခြင်း ကြောင့် မီးလောင်နိုင်ခြင်း။	အနည်းငယ်	• စက်ရုံအတွင်း မီးသတ်ဌာန၏ ဖုန်းနံပါတ်များ ထားရှိပေးခြင်း။ • မီးသတ်ပိုက်များ၊ မီးသတ်ဆေးဘူးများ၊ မီးငြိမ်းသတ်ရေးကိရိယာများ၊ မီးဘေးအန္တရာယ်အချက်ပေးစနစ်များနှင့် အလိုအလျောက် ရေဖြန်းစနစ်များအား စက်ရုံ၏လုပ်ငန်းလည်ပတ်မှု အပေါ် အခြေခံ၍ အသစ်တပ်ဆင်ခြင်းနှင့် အရေအတွက် လုံလောက်စွာ တပ်ဆင်ခြင်း။ • မီးဘေးနှင့် သဘာဝဘေးအန္တရာယ်များ ကြုံတွေ့ရလျှင် ဖြေရှင်းရမည့် နည်းလမ်းများ၊ ပညာပေးအစီအစဉ်များ သင်ကြားပေးခြင်း။ • မီးဘေးလုံခြုံရေးဆိုင်ရာလုပ်ငန်းနှင့် သက်ဆိုင်သောစနစ်များ တပ်ဆင်မှုကို မီးသတ်ဦးစီးဌာနနှင့် ညှိနှိုင်းဆောင်ရွက်ခြင်း။ • အရေးပေါ်အခြေအနေဖြစ်လာပါက အကူအညီ တောင်းခံရန်ဆေးရုံများ၊ မြို့နယ်မီးသတ်စခန်းများ သက်ဆိုင်ရာ အစိုးရ အာဏာပိုင် အဖွဲ့အစည်းများ နှင့် တိုက်ရိုက် ဆက်သွယ်နိုင်ရန် ဆောင်ရွက် ထားရှိခြင်း။ • အစမ်းမီးငြိမ်းသတ်ခြင်းနှင့် evacuation practices အား ဝန်ထမ်းများနှင့် ပုံမှန်ဇာတ်တိုက် လေ့ကျင့်ခြင်းများ ဆောင်ရွက်ရန် စက်ရုံ မန်နေဂျာမှ လုပ်ဆောင်ရမည် ဖြစ်ခြင်း။

ပတ်ဝန်းကျင်ထိခိုက်မှု	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျော့ချရေးနှင့်ထိန်းချုပ်မှု
အပူလွန် ကဲခြင်း	• အပူချိန်မြင့်မားသော လုပ်ငန်းခွင်အတွင်း လုပ်ကိုင်ရခြင်းကြောင့် ခန္ဓာကိုယ်၌ အပူလွန်ကဲခြင်းတို့ ဖြစ်ပေါ်နိုင်ခြင်း။	အနည်းငယ်	• ကန့်သတ်နေရာများနှင့် လုပ်ငန်းခွင်အတွင်း နေရာများအား လေကောင်းလေသန့် ရရှိအောင် ဆောင်ရွက်ထားခြင်း။ • အပူချိန်မြင့်မားသော လုပ်ငန်းခွင်အတွင်းမှ အလုပ်သမားများအား အပူလွန်ကဲမှု လျော့ကျစေရန် လုံလောက်သော နားချိန်ပေးခြင်း။ • အလုပ်သမားများအတွက် မီးဘေးအန္တရာယ် ထိခိုက်မှုများ လျော့ကျစေရန် လက်အိတ်များ ထောက်ပံ့ပေးခြင်း။
ရုပ်ပိုင်းဆိုင်ရာ ထိခိုက် ဒဏ်ရာ ရရှိခြင်း	• မတော်တဆလဲကျခြင်း၊ ချော်လဲခြင်းနှင့် ပြုတ်ကျခြင်း၊ ချောနေသော ကြမ်းပြင်ပေါ် လဲကျခြင်း။ • စက်ပစ္စည်းနှင့် ပစ္စည်း ကရိယာများကို ကိုင်တွယ် အသုံးပြုရာမှ မတော်တဆ ထိခိုက် ဒဏ်ရာရရှိခြင်း။	အနည်းငယ်	• လုပ်ငန်းခွင်တွင် ဆေးပစ္စည်းနှင့် ဆေးသေတ္တာများ ထောက်ပံ့ပေးထားခြင်း။ • စက်ရုံအတွင်း ဆေးပစ္စည်းများ၊ ဆေးခန်းနှင့် သူနာပြုထားရှိပေးခြင်း။ • အရေးပေါ်ဆက်သွယ်ရန် ဆေးရုံများ၏ ဖုန်းနံပါတ်များနှင့် မြေပုံများထားရှိ ပေးထားခြင်း။
လုပ်ငန်းပိတ်သိမ်းခြင်းကာလ			
လေထု ညစ်ညမ်းမှု	• အဆောက်အဦများ ဖြိုချမှုများ • ဖြိုချပစ္စည်းများ သယ်ယူမှုများ	အနည်းငယ်	• NOxထွက်ရှိမှု နည်းသော နည်းပညာမြှင့် စက်ပစ္စည်းများ သုံးခြင်း။ • စက်ပစ္စည်းများကို ပုံမှန် ထိန်းသိမ်းပေးခြင်း၊
ရေ	• ဖြိုမှုများ	အနည်းငယ်	• ပုံမှန် သန့်ရှင်းရေး ပြုလုပ်ပေးခြင်း။ • စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင် ထိန်းသိမ်းပေးခြင်း။
မြေဆီလွှာ ညစ်ညမ်းမှု	• အဆောက်အဦနှင့် ဆက်စပ်ပစ္စည်းများ • ဖြိုချပစ္စည်းများ သယ်ယူမှုများ	အနည်းငယ်	• မတော်တဆမှု မဖြစ်စေရန် ထိန်းသိမ်းခြင်း။
အမှိုက် စွန့်ပစ်မှု	• အဆောက်အဦများ • ဖြိုချပစ္စည်းများသယ်ယူမှုများ	အလွန်နည်း	• စွန့်ပစ်အမှိုက်များအား ပြန်လည်သုံးစွဲရန်နှင့် စွန့်ပစ်ရန် အဖြစ် သတ်မှတ်ပြီး သီးခြား စွန့်ပစ်စေခြင်း။

ပတ်ဝန်းကျင်ထိခိုက်မှု	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျှော့ချရေးနှင့်ထိန်းချုပ်မှု
အန္တရာယ်ရှိအမှိုက်	• စက်များမှ ဆီယိုစိမ့်မှုများ၊ မော်တော် ယာဉ်များပြုပြင်ထိန်းသိမ်းမှုမှထွက်ရှိသည့် အမှိုက်များ • ဖြိုချပစ္စည်းများသယ်ယူမှုများ	အလွန်နည်း	• စက်သုံးဆီများအား စနစ်တကျ အသုံးပြုစေခြင်း၊ စနစ်တကျသိုလှောင်ခြင်းနှင့် အန္တရာယ်ရှိပစ္စည်းများ အား စနစ်တကျ ထားရှိစေခြင်း။
မတော်တဆထိခိုက်မှုများ	• အဆောက်အဦများဖြိုချမှုများ • ဖြိုချပစ္စည်းများသယ်ယူမှုများ	အနည်းငယ်	• မတော်တဆမှု မဖြစ်စေရန် ထိန်းသိမ်းခြင်း။
လူမှုစီးပွား ဘဝ	• ဒေသခံပြည်သူများအတွက် အလုပ်အကိုင်		

ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုမှုအစီအစဉ်

ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုမှုအစီအစဉ် (Monitoring Plan) တွင် လုပ်ငန်းလည်ပတ်ဆောင်ရွက်သည့် ကာလနှင့် စက်ရုံပိတ်သိမ်းခြင်းကာလတို့အတွက် စောင့်ကြပ်ကြည့်ရှုရမည့် အကြောင်းအရာများနှင့် စောင့်ကြပ်ကြည့်ရှု မည့်နေရာများကို ဖော်ပြထားပါသည်။ စီမံကိန်း၏ကာလ(၂)ရပ်လုံးတွင် ပတ်ဝန်းကျင်မပျက်စီးအောင် ထိန်းသိမ်း စောင့်ရှောက်ရေးအတွက် ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုခြင်းသည် ပတ်ဝန်ကျင်စီမံခန့်ခွဲမှု၏ အလွန်ပင်အရေးပါသော အ ခန်းကဏ္ဍတစ်ရပ်ပင် ဖြစ်သည်။ ဤစောင့်ကြပ်ကြည့်ရှုခြင်း အစီအစဉ်သည် လက်တွေ့ လိုက်နာဆောင်ရွက်နိုင်ပြီး၊ cost effective ဖြစ်စေပါသည်။ စက်ရုံလည်ပတ်စဉ်ကာလအတွက် ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုမှု အစီအစဉ်ကို အကောင်အထည် ဖော်ဆောင်ရွက်ရန် အသုံးစရိတ် ရန်ပုံငွေကို တစ်နှစ်လျှင် အမေရိကန်ဒေါ်လာ(၃၀၀၀)ခန့် လျာထားပါသည်။ ပတ်ဝန်းကျင် စောင့်ကြပ်ကြည့်ရှုမှု အစီအစဉ်အရ Golden Tri Light Co., Ltd သည် ပတ်ဝန်းကျင် လေထုအရည်အသွေး၊ ဆူညံသံ၊ စွန့်ထုတ်ရေအရည်အသွေးနှင့် ဘေးအန္တရာယ် ကင်းရှင်းရေးတို့ကို စောင့်ကြပ်ကြည့်ရှုရမည်ဖြစ်သည်။ စောင့်ကြပ်ကြည့်ရှု၍ ရရှိလာသော လေထုတိုင်းတာရရှိမှုများ၊ ရေအရည်အသွေးတိုင်းတာရရှိမှုများနှင့် ဆူညံသံတိုင်းတာရရှိမှု ရလဒ်များကို ပြန်လည် စိစစ်စစ်ဆေးနိုင်ရေးအတွက် မှတ်တမ်းများကို ဖိုင်များဖြင့် သေချာစွာ သိမ်းဆည်းထိန်းသိမ်းထားရန် လိုအပ်ပြီး သက်ဆိုင်ရာ တာဝန်ရှိဌာနများသို့ တင်ပြ အစီရင်ခံရမည် ဖြစ်ပါသည်။

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်

Golden Tri Light Co., Ltd လုပ်ငန်း လည်ပတ်ခြင်းကြောင့် ဖြစ်ပေါ်နိုင်သည့် ပတ်ဝန်းကျင်ဆိုင်ရာ ထိခိုက်မှုများ ကို လျော့နည်းစေရန်အတွက် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် အစီရင်ခံစာ Environmental Management Plan (EMP)ကို သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း၏ ရလဒ်များကို အခြေခံ၍ရေးဆွဲထားပါသည်။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အစီရင်ခံစာ၏ အဓိကအရေးပါသော စီမံခန့်ခွဲမှုစီမံချက်များမှာ အောက်ပါအတိုင်းဖြစ်ပါသည်-

၁။ လေထုညစ်ညမ်းမှုနှင့် ဖုန်မှုန်ဆိုင်ရာစီမံခန့်ခွဲမှုအစီအစဉ်
၂။ ဆူညံသံထိန်းချုပ်ခြင်းဆိုင်ရာစီမံခန့်ခွဲမှုအစီအစဉ်
၃။ ရေအရည်အသွေးစီမံခန့်ခွဲမှုအစီအစဉ်
၄။ အစိုင်အခဲစွန့်ပစ်ပစ္စည်းစီမံခန့်ခွဲမှုအစီအစဉ်

၅။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကင်းရှင်းရေးအစီအစဉ်

၆။ အရေးပေါ်တုန်ပြန်ရေးအစီအစဉ်

၇။ စောင့်ကြပ်ကြည့်ရှုရေးအစီအစဉ်

၈။ သဘာဝပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်

၉။ လူမှုပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်

၁၀။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်အတွက် ငွေကြေးလျာထားမှု

Golden Tri Light Co., Ltd ၏ ဝန်ထမ်းများအားလုံးအတွက် ဆိုးကျိုးကင်းစင်၍ ဘေးအန္တရာယ်ကင်းသည့် လုပ်ငန်းခွင်တစ်ခုအဖြစ် ဖန်တီးပေးနိုင်ရေးအတွက် အစဉ် ကြိုးပမ်းလုပ်ဆောင်နေပါသည်။ ထို့ကြောင့်ပင် ကောင်းမွန်သည့် အလုပ်သမား သက်သာ ချောင်ချိရေးနှင့် လုပ်ငန်းခွင်သာယာရေးအတွက် စီမံထားမှု (good employee welfare plan) ကို ချမှတ်အကောင်အထည်ဖော် ဆောင်ရွက်လျက်ရှိပါသည်။ Golden Tri Light Co., Ltd သည် စက်ရုံလုပ်ငန်း လည်ပတ်လုပ်ကိုင်နေသည့် ကာလတစ်လျှောက်လုံးတွင် ပတ်ဝန်းကျင် ထိန်းသိမ်းရေးဆိုင်ရာ ဥပဒေ၊ နည်းဥပဒေ၊ စည်းမျဉ်းစည်းကမ်းများနှင့် ချမှတ်ထားသော မူဝါဒလမ်းညွှန်ချက်များအတိုင်း လိုက်နာဆောင်ရွက်ကျင့်သုံးရန် အစဉ် ကြိုးပမ်းဆောင်ရွက်လျက် ရှိပါသည်။

လူမှုရေးဆိုင်ရာတာဝန်ခံမှု

Golden Tri Light Co., Ltdသည် လုပ်ငန်းလည်ပတ်သည့် ကာလတစ်လျှောက်လုံးတွင် လူမှုရေးဆိုင်ရာ တာဝန်ခံမှုအစီအစဉ် (CSR) ကို လုပ်ဆောင်လျက်ရှိပြီး ရရှိလာမည့် အသားတင် အမြတ်ငွေ (သို့) စက်ရုံ၏ဘဏ္ဍာငွေပေါ် အခြေခံထားပြီး နှစ်စဉ်အမြတ်ငွေ၏ ၂ ရာခိုင်နှုန်းကို ရန်ပုံငွေအဖြစ် လျာထားပါသည်။

အရေးပေါ်အခြေအနေတုံ့ပြန်မှုနှင့်ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုမှုအစီအစဉ်

အရေးပေါ်တုံ့ပြန်မှုအစီအစဉ်တွင်စက်ရုံလုပ်ငန်းလည်ပတ်ခြင်းကြောင့်ဖြစ်ပေါ်နိုင်သောပတ်ဝန်းကျင်ထိခိုက်မှုနှင့် လူထုပတ်ဝန်းကျင်ထိခိုက်မှုများကို လျော့ပါးအောင်ဆောင်ရွက်ထားရမည်ဖြစ်ပါသည်။ ထိခိုက်မှုလျော့ပါးအောင် ပြုလုပ်ဆောင်ရွက်ရမည့်အချက်များမှာ-

- ဆေးဝါးများနှင့်ဆေးပစ္စည်းများကို ပြည့်စုံအောင် ဆောင်ရွက်ပေးထားခြင်း။
- မီးငြိမ်းသတ်ရေးပစ္စည်းများထားရှိပေးထားခြင်း။
- အရေးပေါ်အခြေအနေများအတွက် နီးစပ်ရာဆေးရုံများ၏ ဖုန်းနံပါတ်များနှင့် ဆယ်သွယ်ရန်လိပ်စာများ ထားရှိပေးထားခြင်း။
- မီးသတ်ဌာန၊လျှပ်စစ်ရုံး၊ရဲစခန်းအစရှိသော သက်ဆိုင်ရာဌာနများ၏ ဆက်သွယ်ရန်လိပ်စာနှင့် ဖုန်းနံပါတ် များထားရှိပေးခြင်း။

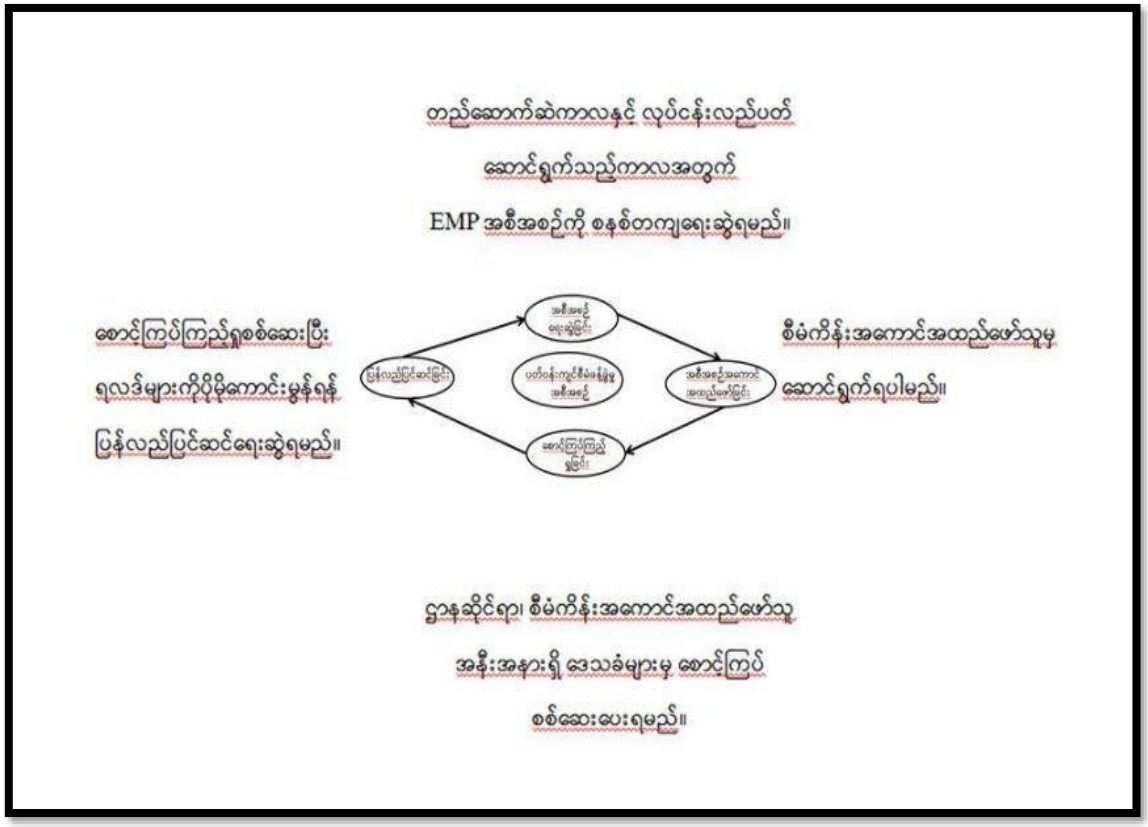
လုပ်ငန်းလည်ပတ်စဉ်တွင်အရေးပေါ်တုံ့ပြန်မှုအစီအစဉ်၌အောက်ပါအချက်များပါဝင်သင့်ပါသည်-

- စီမံခန့်ခွဲခြင်း (ဥပမာ။ အုပ်ချုပ်ရေး၊ ဖြန့်ဖြူးရေး၊ လုပ်ငန်းဆောင်ရွက်ရေး)
- အရေးပေါ်အခြေအနေအတွက်အဖွဲ့အစည်း (ဥပမာ။ ဆေးခန်း ၊ အကြံပေးဌာန ၊ ဆေးပေးသည့်နေရာ)
- အရေးပေါ်အခြေအနေအတွက် တာဝန်ယူမည့်အဖွဲ့အစည်း (သို့) လူပုဂ္ဂိုလ်
- ဆက်သွယ်ရေးစနစ်
- အရေးပေါ်အခြေအနေအတွက် ဝန်ဆောင်မှုများ (ဥပမာ- မီးသတ်ဌာန၊ ဆေးခန်း၊ ဆေးရုံ)

လုပ်ငန်းလည်ပတ်စဉ်ကာလနှင့် လုပ်ငန်းဖျက်သိမ်းမည့်ကာလတွင် ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုရမည့် အချက်များအတွက် စက်ရုံမှလျာထားသော ရန်ပုံငွေများကို အစီရင်ခံစာတွင် ထည့်သွင်းဖော်ပြထားပါသည်။ စောင့်ကြပ်ကြည့်ရှုခြင်းအစီအစဉ်တွင် ပြုလုပ်ရမည့်အချက်များ၊ စောင့်ကြည့်ရမည့် နေရာ၊အချိန်ကာလနှင့် တာဝန်ယူမည့်အဖွဲ့အစည်းတို့ပါ ဝင်ပါသည်။

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုလုပ်ငန်းစီမံချက်များ

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်ရေးဆွဲရခြင်း၏ ရည်ရွယ်ချက်မှာ စက်ရုံလုပ်ငန်းလည်ပတ်ဆောင်ရွက်ခြင်းကြောင့် ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှု မရှိစေရန် သက်ဆိုင်ရာ အာဏာပိုင်အဖွဲ့အစည်းများ၏ ချမှတ်ထားသော သဘာဝ ပတ်ဝန်းကျင်ဆိုင်ရာဥပဒေ ၊ စည်းမျဉ်းများနှင့် အညီသင့်လျော်သော လျော့ချရေး အစီအစဉ်များကို အကောင်အထည် ဖော်ဆောင်ရွက်ခြင်း ဖြစ်ပါသည်။ ထိုသို့ အကောင်အထည်ဖော်ဆောင်ရွက်ရာ၌ အောက်တွင် ဖော်ပြထားသော စီမံခန့်ခွဲမှုအစီအစဉ် Plan-Do-Check-Act (PDCA) အချက်လေးချက်ပေါ် မူတည်ပြီး ပြုလုပ်ရပါမည်။



ပုံ (၂) ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ပြစက်ဝိုင်း

❖ Plan (P) - အစီအစဉ်ရေးဆွဲခြင်း

စက်ရုံလုပ်ငန်းလည်ပတ်ခြင်းကြောင့်ပတ်ဝန်းကျင်အပေါ်ထိခိုက်မှုဖြစ်စေနိုင်သော လေထုညစ်ညမ်းမှု၊ အသံဆူညံမှု၊ ရေဆိုးစွန့်ပစ်မှု၊ အမှိုက်စွန့်ပစ်မှု၊ ကျန်းမာရေးနှင့် ဘေးအန္တရာယ်ကင်းရှင်းမှုစသော ထိခိုက်မှုများ လျော့ပါးစေရေး အတွက် အချိန်ဇယားနှင့် အစီအစဉ်များ ရေးဆွဲရပါမည်။

❖ **Do(D) - အကောင်အထည်ဖော်ဆောင်ခြင်း**

ပတ်ဝန်းကျင်ထိခိုက်မှုအတွက် ရေးဆွဲထားသော လျော့ချရေးအစီအစဉ်များကို စက်ရုံမှ တာဝန်ရှိသူများမှ အကောင်အထည်ဖော် ဆောင်ရွက်ပါမည်။

❖ **Check (C) - စောင့်ကြပ်ကြည့်ရှုခြင်းနှင့် စစ်ဆေးခြင်း**

လျော့ချရေးအစီအစဉ်များ အကျိုးသက်ရောက်မှုရှိ/မရှိကို စောင့်ကြပ်ကြည့်ရှုခြင်းနှင့် စစ်ဆေးခြင်းများကိုပြုလုပ်ရပါမည်။ စောင့်ကြည့်မှုအတွက် စက်ရုံမှတာဝန်ရှိသူအပါအဝင် သက်ဆိုင်ရာအနီးပတ်ဝန်းကျင်ရှိ ပုဂ္ဂိုလ်များ၊ အုပ်ချုပ် ရေးပိုင်းဆိုင်ရာ တာဝန်ရှိပုဂ္ဂိုလ်များ အစရှိသော သက်ဆိုင်ရာအဖွဲ့အစည်းများ စုပေါင်း၍ လေ့လာစောင့်ကြည့်မှု ပြုလုပ်ရပါမည်။ ၎င်းစောင့်ကြည့်မှုကိုလည်း အစီရင်ခံစာပြုစုပြီး သက်ဆိုင်ရာဝန်ကြီးဌာနသို့ တင်ပြရမည်ဖြစ်သည်။

❖ **Act (A) - ပြန်လည်ပြင်ဆင်ခြင်း**

စောင့်ကြပ်ကြည့်ရှုခြင်းအစီအစဉ်တွင် လက်ရှိဖြစ်ပေါ်သော ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများနှင့် ကိုက်ညီမှု မရှိခဲ့လျှင် လျော့ချရေးအစီအစဉ်များကို ပြန်လည်ပြင်ဆင်ခြင်းများ ပြုလုပ်ရပါမည်။ စီမံကိန်းစက်ရုံအတွက် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်တွင် ဖြစ်ပေါ်နိုင်သည့် ထိခိုက်မှု၊ စီမံခန့်ခွဲမှု ၊ လျော့ချရမည့် နည်းလမ်းများနှင့် စောင့်ကြပ် ကြည့်ရှုရမည့် အချက်များကို ရေးသားပြင်ဆင်ရပါမည်။ Golden Tri Light Co., Ltd သည် လျော့ချရမည့်နည်းလမ်း နှင့် စောင့်ကြပ်ကြည့်ရှုရမည့် အစီအစဉ်များကို တာဝန်ယူဆောင်ရွက်ရမည် ဖြစ်ပါသည်။

အများပြည်သူတို့ဖြင့် တိုင်ပင်ဆွေးနွေးခြင်းနှင့် ပြည်သူတို့၏ ပူးပေါင်းပါဝင်မှု

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်တွင် အများပြည်သူနှင့် တိုင်ပင်ဆွေးနွေးပွဲပြုလုပ်ခြင်းမှာလည်း လိုအပ်သော အခန်းကဏ္ဍတစ်ခု ဖြစ်ပါသည်။ အများပြည်သူနှင့် တွေ့ဆုံပွဲပြုလုပ်ရခြင်း၏ ရည်ရွယ်ချက်မှာ အစိုးရဌာနဆိုင်ရာ အဖွဲ့အစည်းများ၊ စက်ရုံကို စစ်ဆေးမည့်သူများနှင့် ပတ်ဝန်းကျင် ပြည်သူလူထုအား စက်ရုံလုပ်ငန်းလည်ပတ်မှုမှ အချက်အလက် များဖြစ်သော ထုတ်လုပ်မှု ပုံစံအဆင့်ဆင့်၊ စွန့်ပစ်ပစ္စည်းများ စွန့်ပစ်မှုစနစ်နှင့် ပတ်ဝန်းကျင်အပေါ် အကျိုးသက်ရောက် မှုများကို ရှင်းလင်းတင်ပြရန်ဖြစ်ပါသည် ။ အများပြည်သူတွေ့ဆုံပွဲကို Golden Tri Light Co., Ltd နှင့် Green EHSS တို့ပူးပေါင်း၍ စက်ရုံအကြောင်းအရာများ၊ စက်ရုံလုပ်ငန်းလည်ပတ်မှုအဆင့်ဆင့်၊

စက်ရုံအနီးအနားရှိ ပတ်ဝန်းကျင်အခြေအနေ၊ ပတ်ဝန်းကျင်အပေါ် အကျိုးသက်ရောက်မှုများနှင့် လျော့ချရေးအစီအစဉ်များ အားတင်ပြပါမည်။

နိဂုံး

နိဂုံးချုပ်အနေဖြင့် Golden Tri Light Co., Ltd ၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် လေ့လာမှုတွင် အောက်ဖော်ပြပါအချက်များကို သတ်မှတ်ဖော်ပြထားပါသည်။

၁။ ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်၏ လမ်းညွှန်ချက်များ၊ ပတ်ဝန်းကျင်ဆိုင်ရာဥပဒေ၊ နည်းဥပဒေ၊ စည်းမျဉ်းစည်းကမ်းများနှင့် ချမှတ်ထားသော မူဝါဒလမ်းညွှန်ချက်များအတိုင်း လိုက်နာဆောင်ရွက်ကျင့်သုံး သွားမည်ဖြစ်ပါသည်။

၂။ ဤအစီရင်ခံစာတွင် ဖော်ပြထားသော သက်ရောက်မှုအားလုံးကို အလေးထားရန်နှင့် ဖော်ပြထားသော ဖြေလျော့နိုင်မည့် နည်းလမ်းများကို လိုက်နာဆောင်ရွက်သွားပါမည်။

၃။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့် စောင့်ကြပ်ကြည့်ရှုလေ့လာခြင်း အစီအစဉ်ကို ဆောင်ရွက်သွားမည် ဖြစ်ပါသည်။

ထို့ကြောင့် Golden Tri Light Co., Ltd အနေဖြင့် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် အစီရင်ခံစာတွင်ပါရှိသည့်အဆိုပြုအချက်အလက်များကို အပြည့်အဝ အကောင်အထည်ဖော် လိုက်နာဆောင်ရွက်သွားမည်ဖြစ်ကြောင်း၊ ဒေသ တွင်း လူမှုစီးပွားတိုးတက်ဖွံ့ဖြိုးတိုးတက်အောင် ယခုထက်ပိုမိုဆောင်ရွက်သွားမည်ဖြစ်ကြောင်း နှင့် နိုင်ငံတော်အတွက် အခွန်ဘဏ္ဍာများ တိုးတက်ရရှိအောင် ဆောင်ရွက်သွားမည် ဖြစ်ကြောင်း တင်ပြအပ်ပါသည်။

1 EXECUTIVE SUMMARY

The project is investment for manufacturing of various kinds of bags (trolley, backpack, sport bags, ladies' bag, canvas long wallet, canvas backpack) by contract manufacturing process (CMP) basis company. The project is issued by the Yangon Region Investment Committee (YRIC) on 29th February 2016 with the Endorsement No. YaKaTa (1094/2016). YRIC notified for the environmental approval and comments of the Ministry of the Natural Resources and Environmental Conservation (MONREC) on the proposed project and had approved the proposal for investment in manufacturing of various kinds of bags on CMP basis under the name of Golden Tri Light Co., Ltd as a solely owned foreign investment from China.

According to the Myanmar Environmental Conservation Law 2012, it requires that the proponents of every development project in the country submit either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) to Ministry to Natural Resources and Environmental Conservation (MONREC). As per the comments of Environmental Conservation Department (ECD) said project requires an Environmental Management Plan (EMP) to meet the environmental assessment requirements. The specific objectives of this study area

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

The proposed project aims to manufacture various kinds of bags (trolley, backpack, sport bags, ladies' bag, canvas long wallet, canvas backpack) under CMP basis and 100% export to foreign country. The main purpose of this EMP report is to obey the rule and regulation of local and International Environmental Protection programs and harmonize with the environmental and describes the responsible person and his responsibility.

Project Description

The proposed project is jackets, pants and dresses sewing business using the CMP system. A brief description of the project related content is as follows.

Table 1-1 Project Description

Project Descriptions	
Project Proponent	Golden Tri Light Co., Ltd
Type of Project	Manufacturing various kinds of bags (trolley, backpack, sport bags, ladies' bag, canvas long wallet, canvas backpack)
Address of proposed project	Plot No.4, Myay Taing Quarter (24), 4th Road, Ngwe Pin Lal Industrial Zone, Hlaing Thar Yar Township Yangon Region, Myanmar
Project Investor	MR. NGAI SIU LUNG
Total Amount of Capital	USD 0.8455 million
Type of Investment	100% foreign investment
System of Sales	100 % Export
Building Area	100'x 250'
Land Area	2.773 Acres
Production Started Year	2016
Capacity	200,000 pcs/month
Fuels	Approx; Diesel 10812 gallons/year
Power Requirement	10325 units/month
Source of Electrical Power	Yangon Electricity Supply Corporation
Source of Water	Artisan Well
Raw Materials Imported Country	China
Type of Land	Industrial Land
Current Status of the Project	Operating Status
Effluent	Domestic effluent; Sewage treatment facilities will be provided for all sewage generated on site. Factory effluent; no process water effluent
Solid waste management system	Solid waste management system Recyclable domestic waste will be recycled. Other domestic waste will be disposed of in a domestic waste disposal site as directed by YCDC
Nos of Workers	466 persons
Surrounding Factories	Myanmar Soe San Win Manufacturing Co., Ltd Jiu Sheng (Myanmar) Knitted Wear Co., Ltd Universal Apparel Co., Ltd
Contact Name	MR. NGAI SIU LUNG
Contact Phone	+95(9) 979 106 110, +95(9) 430 401 98
Remark	BSCI Audit Certificate

The proposed project is located at Yangon region. The total area of project site is 2.773 acres. Main structure is designed into production area for one building. Generator room, canteen and production area are separated by main factory building structure. The factory layout plan which is also can be seen in this report. Production is requiring of work force 6 foreign technicians and 460 local employees for first year operation to 10 years operation. The main product of the Golden Tri Light Co., Ltd factory is various kinds of bags (trolley, backpack, sport bags, ladies' bag, canvas long wallet, canvas backpack). The utilities for proposed factory include fuel oil for emergency used generator and water for domestic use.

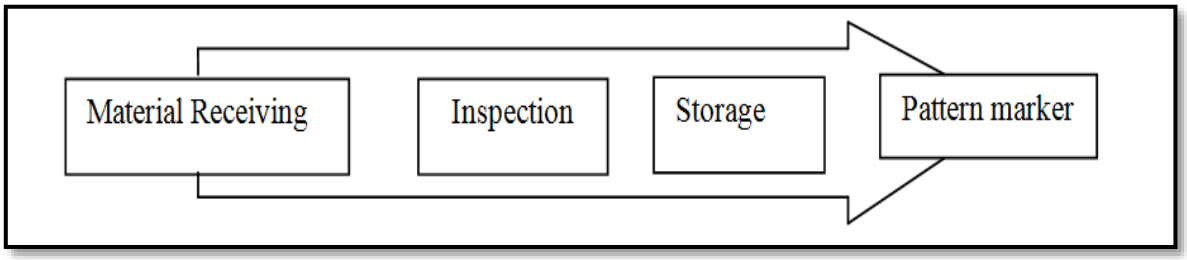


Figure 1-1: Process Flow for Material Receiving

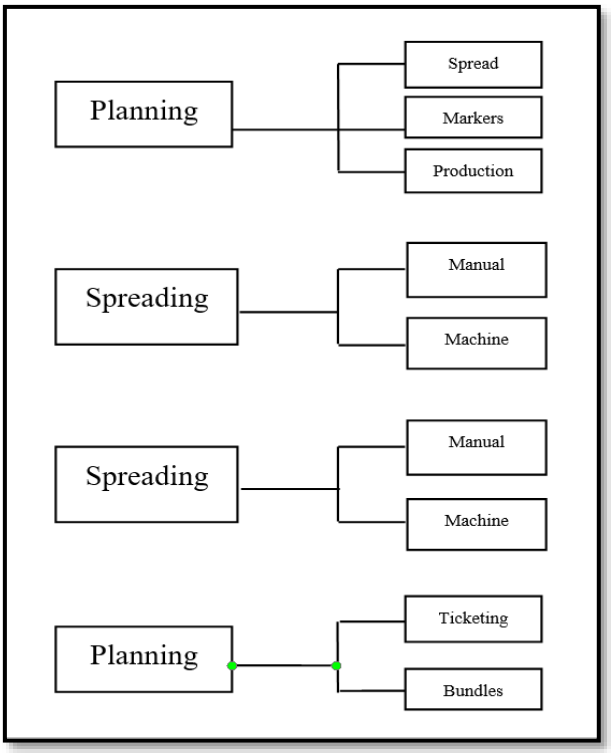


Figure 1-2: Process Flow for Cutting

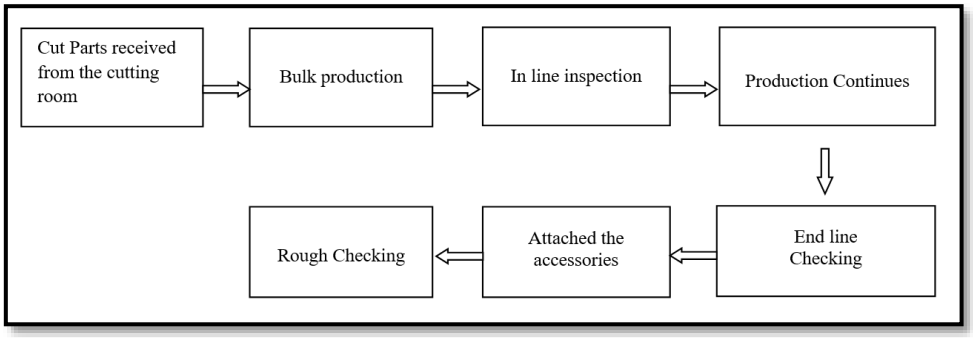


Figure 1-3: Process Flow for Sewing

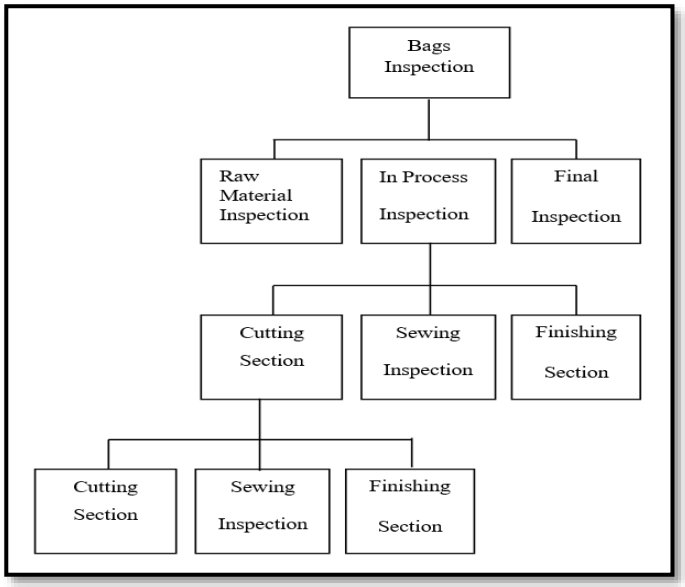


Figure 1-4: Process Flow for Inspection

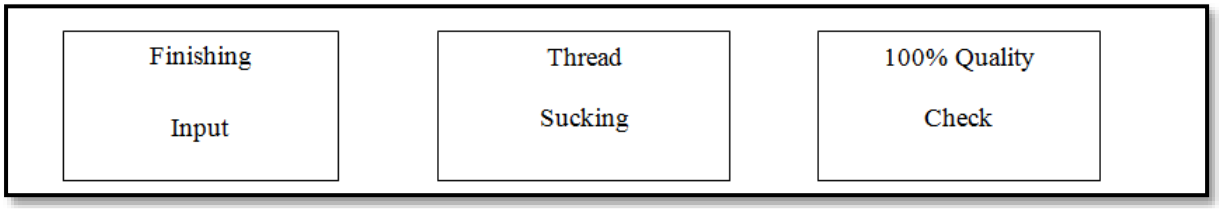


Figure 1-5: Process Flow for Finishing

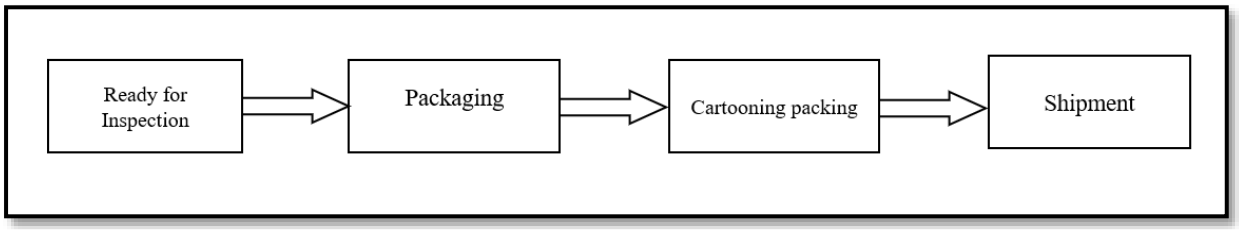


Figure 1-6: Process flow for Shipping

Policy, Legal and Institutional Framework

National laws and Regulations, International Guidelines are referred for Environmental Management Plan of the proposed project.

1. Constitution of the Republic of the Union of Myanmar (2008)
2. The Environmental Conservation Law (2012)
3. The Environmental Conservation Rules (2014)
4. Environmental Impact Assessment Procedure (2015)
5. National Environmental Quality (Emission) Guideline (2015)
6. National Myanmar Environmental Policy (2019)
7. Foreign Investment Law (2012)
8. Foreign Investment Rule (2013)
9. Myanmar Investment Law (2016, 2019)
10. Myanmar Investment Rule, (2017) (Amendment 2018)
11. Myanmar Insurance Law (1993)
12. Payment of Wages Law (2016)
13. Yangon City Development Committee Law (1990)
14. The Factories Act (1951, 2016)
15. The Private Industrial Enterprise Law (1990)
16. The Export and Import Law (2012)
17. The Prevention of Hazard from Chemical and Related Substances Law (2013)
18. The Underground Water Act (1930)
19. Myanmar Fire Brigade Law (2015)
20. The Electricity Law (2014)
21. The Boiler Law (2015)
22. The Settlement of Labor Dispute Law (2012) (Amendment 2019)
23. The Social Security Law (2012)
24. The Employment and Skill Development (2013)
25. The Worker's Compensation Act (1923)
26. The Leave and Holidays Act (1951, 2014)
27. The Minimum Wage Law (2013)
28. Public Health Law (1972)
29. Prevention and Control of Communicable Disease Law (1995) (Amendment 2011
30. Occupational Safety and Health Law (2019)
31. The Motor Vehicles Law (2015)
32. The Conservation of Water Resource and River Law (2016) (Amendment 2017)
33. The Commercial Tax Law (1990) (Amended 2014)
34. The Natural Disaster Management Law (2013)

Brief Description of Surrounding Environment

Primary data and secondary data collections are very imported to assess environmental impacts. Primary data collections (environmental quality measurements and monitoring) play and important role for conducting EMP. Therefore, Green Environmental, Health, Safety & Social Consultancy Company Limited (Green EHSS Co., Ltd) conducted air quality, temperature and humidity, noise level measurement and light pollution measurement on 9th, August 2019 and compared with the National Environmental Quality (Emission) Guidelines and described how to reduce the impact and how to maintain the pollutions also described the weather conditions, rainfalls and socio-economic component of the proposed project.

Environmental Impacts and Mitigation Measures

Golden Tri Light Co., Ltd would invariably create potential environmental issues but their impacts on the population and the natural environment would be low as the factory is located in Plot No.4, Myay Taing Quarter (24), 4th Road, Ngwe Pin Lal Industrial Zone, Hlaing Thar Yar Township operation process does not generate any wastewater from factory operation process. The significant impact specific to the factory operation phase will be; (a) Air pollution, (b) Noise, (c) Wastewater, (d) Solid waste and (e) Health and safety of the workers. Potential impacts for the factory production processes are normally differentiated into three categories, via construction phase, operation phase and decommissioning phase. Potential environmental impact and mitigation measures for the operation phase are shown in following table.

Table 1-2: Evaluation of Environmental Impacts and Mitigation Measures

Environmental & Social Aspect	Impact	Significant of Potential Impacts	Mitigation Measures
Construction Phase			
Construction Phase; It is not assessed in this phase because of construction is already completed during EMP preparation.			
Operation Phase			
Air Pollution	● Exhaust emission from the generators. ● Dust from floor cleaning and housekeeping in factory operation and working areas.	Moderate	● Regular maintenance of generators. ● Good housekeeping practices to reduce fugitive dust levels down ● Plant the trees in compound and neighboring to reduce carbon emission. ● Provide personal protective equipment for all the workers at the workplace such as masks and caps.
Water Pollution	● Domestic wastewater discharged from canteen, kitchen, toilets etc. by passing through the internal drainage to industrial zone drainage system. ● Sanitation wastewater from toilets etc. discharged to the septic tanks. ● Storm water discharged through the factory compound to industrial zone drainage system.	Low	● Regular sewage collection and adequate septic tanks should be provided for the factory. ● Provide adequate drainages for domestic wastewater, storm water and grey water. ● Provide adequate toilets for employees. ● Regular check and maintain the drainage systems for sanitary wastewater to avoid clogging.
Soil Pollution	● Spent/waste oils from the operation process and accidentally spilled. ● Various types of spilled Diesel fuel from fuel filling area.	Low	● Spent/waste oils are stored at an isolated storage place in with clearly marked signs. ● Store the other hazardous wastes at an isolated storage place with clearly marked bins. ● Regular maintenance of machines and equipment to minimize the spillage of oil.
Noise	● Noise emission from the operating machineries in the production lines.	Moderate	● Use equipment and machines which generate low noise levels.

	• Noise emission from generator.		• Generator is in the proper enclosure of the generator room located at an isolated place. • Install noise absorbers to reduce reverberation in working areas. • Provide adequate ear protection (ear plugs or muffs) to workers working in the excessive noise areas. • Plant the trees to reduce potential noise disturbances for neighboring communities.
Waste	• Industrial waste generated from factory operation includes fabric waste, clipping waste and packaging materials etc. • Domestic wastes and office wastes such as food waste, plastic bags, plastic water bottles, soft drink bottles, papers, cans etc.	Moderate	• Segregate the waste into reusable waste and recyclable waste. • Reduce the waste from the production process. • Non-hazardous waste should be disposed at YCDC or industrial estate allocated dumping sites.
Occupational Health and Safety			
Fire	• Fire can be started from various things such as bad electrical connection, handling carelessly of electrical devices, oil/diesel spillage, chemical explosion and smoking cigarettes. • Fire or chemical explosion can be started from combustible materials, flammable liquids, gases or vapors.	Low	• Follow fire codes according to requirement of the factory. • Equip fire detectors, alarm systems, sprinkler systems and provision of fire-fighting equipment based on the requirement of the factory. • Factory fire safety manager will train the firefighting training and regular fire drill for the operators. • Establish emergency exit ways and musters in the factory compound with clear marking. • Cooperate with fire brigades for rescue, evacuation and emergency control plan for the emergency. • Provide access to emergency services of the nearby hospitals and direct communication link with local fire brigades and other relevant government authorities.
Heat	• Heat exposure- working in a hot environment can also cause the body to overheat known as heat stress	Low	• Follow by set periods of rest to reduce the risk of heat stress and heat exhaustion. • Provide sufficient fresh air for indoor and confined work spaces • Wear PPE (suitable gloves) to reduce burn injury.

Physical Injuries	• Fall on slippery floors and accidental slip, trip and fall. • Improper use of machines and tools.	Low	• Provide first aid kits in the workplace. • Provide first aid room which should be kept under the supervision of a medical officer and nursing staff. • Draw up emergency response plan, nearest hospital location maps and phone numbers in the factory.
Decommissioning Phase			
Air Pollution	• Demolishing of buildings and related materials.	Low	• Use the advanced technology of generators, which emit low NOx. • Regular maintenance of generators and machineries. • Sprinkling water on the top soil can reduce dust emission from demolishing activities.
Water Pollution	• Sewage from demolishing workers. • An accidental spill of fuel and oil from demolition machinery equipment.	Low	• Provide appropriate sanitary facilities for demolishing workers. • Avoid an accidental spill of oil fuel and oil. • Dispose the waste generated from demolishing activities into the drainage channels is prohibited. • Regular maintenance of machineries.
Soil contamination	• Demolishing of buildings and related materials. • Transportation of demolished materials.	Low	• Avoid of any accidental spills of fuel oil or other hazardous waste. • Construction wastes and demolishing should be disposed properly.
Waste disposal	• Sewage system. • Demolished debris such as bricks concrete materials.	Very Low	• Construction wastes and demolishing should be disposed properly. • Reuse the waste if applicable. • Provide sufficient sewage system.
Hazardous waste	• Used lubricants from decommissioning vehicles and machines.	Very Low	• Store the fuel oil and other hazardous lubricants at isolated storage places and sell to recycling contractor.
Occupational health and safety (accidents, injuries)	• Demolishing activities. • Transportation of demolished materials.	Low	• Provide personal protective equipment to workers. • Monitoring and evaluation of accidental hazards.

Monitoring Plan

The environmental **MONITORING PLAN** including monitoring items and locations in the operation and decommissioning phases are also provided. Environmental monitoring is a very important aspect of environmental management during the operation stage of the factory to safeguard the environment. A proposed environmental monitoring program must be practical, relevant and cost effective. The budget in environmental monitoring program is estimated to be 3,000 USD for operation phase. According to the monitoring plan, Golden Tri Light Co., Ltd will be responsible for the implementation of monitoring for air, noise, water and safety measures. Results of air quality and noise level monitoring and analysis of water quality will be recorded in files to check and audit. Monitoring will be carried out strictly as required by the related national regulations and the monitoring results of required parameters should be reported should be reported to local authorities.

Environmental Management Plan

According to the outcomes from the Environmental and Social Impact Analysis **ENVIRONMENTAL MANAGEMENT PLANS** are addressed to mitigate the potential impacts. The EMP generally takes account of the following crucial management plans.

1. Air Pollution/ Dust Management Plan
2. Noise Pollution Management Plan
3. Solid Waste Management Plan
4. Waste Water Management Plan
5. Occupational Health and Safety Management Plan
6. Hazardous Waste Management Plan
7. Water Consumption Management Plan
8. Emergency Response Management Plan
9. Environmental Monitoring and Reporting
10. Corporate Social Responsible (CSR) Plan
11. Budget Plan
12. Grievance Redress Mechanism

Golden Tri Light Co., Ltd is always proactive to provide a risk free and safe workplace for all of its employees. The factory practices good employee welfare plan. The activities of Golden Tri Light Co., Ltd are environmentally acceptable and it is expected that Golden Tri Light Co., Ltd will follow all environmentally compatible steps during its course of operation and will sets a positive example as an environmentally friendly unit. See in chapter (8).

Table 1-3 Environmental Management Plan Estimated Cost

No	Item	Frequency/Times	Cost (USD)
Monitoring Plan			
1	Air Pollution/Dust Management Plan	Twice per year	1000 per year
2	Noise Management Plan	Once per year	250 per year
3	Solid Waste Management Plan	Twice per year	300 per year
4	Wastewater Management Plan	Once per year	250 per year
5	Occupational Health and Safety Management Plan	Once per year	200 per year
6	Hazardous Waste Management Plan	Once per year	100 per year
7	Water Consumption Management Plan	Once per year	100 per year
8	Emergency Response Management Plan	Once per year	100 per year
Decommissioning Phase			
1	Air quality	One time during this phase	200 per year
2	Water quality	One time during this phase	150 per year
3	Noise	One time during this phase	150 per year
4	Rehabilitation	One time during this phase	100 per year
5	Occupational Health and Safety Management	One time during this phase	100 per year

Corporate Social Responsibility Plan (CSR)

Golden Tri Light Co., Ltd will implement Corporate Social Responsibility (CSR) plan. The factory has allocated 2% on net profit or company finical after for spending CSR activities.

Emergency Response and Environmental Monitoring Plans

Emergency response plan is proposed to mitigate harms on humans and environment in the factory and its vicinity in case of incidents. Facilities should contain at minimum the followings;

- Fully equipped first-aid station;
- Fire-fighting equipment;
- Access to emergency services of the nearby hospital;
- Direct communication link with local fire brigades and other relevant government authorities such as Yangon Electricity Supply Board and the local police station.

Emergency response plan for operation phase should include the followings:

- Administration (policy, purpose, distribution, definitions etc.)
- Organization of emergency areas (command centers, clinic or medical station etc.)

- Roles and responsibilities of emergency response personnel
- Communication systems
- Emergency resources (Fire service or medical service)

Environmental monitoring is integral part of evaluating the environmental performance of a factory. The frequency and methods of data collection including budget for construction and operation phases are presented in the report.

Environmental Management Action

The objective of the environmental management is to ensure potential environmental issues managed by proper mitigation measures in compliance with the relevant laws and regulations enforced by national authorities. Environmental management is based on the basic principles of management known as the PDCA cycle. Environmental management consists of four related tasks as described below:

- Plan (P) – What need to be done
- Do (D) – Implement the plan
- Check (C) – Monitor and evaluate the results of implementation
- Act (A) – Taking corrective actions to improve the results, if found inadequate

The prepared Environmental Management Plan (EMP) for the proposed projects covers a potential environmental impact, management, mitigation measures, and monitoring plan for air pollution, noise, wastewater, solid waste and health and occupational health & safety during operation phase. Golden Tri Light Co., Ltd has responsible to take all these mitigation measures.

Figure 1-7 Environmental Management Plan Circle

Public Consultation

The main objective of public consultation was to provide factory information, production procedures, waste management plan, and potential environmental impacts to various stakeholders such as the local government, regulators, authorities, and local communities. Golden Tri Light Co., Ltd (factory owner) and Green EHSS (consultant) will make public consultation in future and explain the related to the factory background, operation processes, current and potential environmental conditions, brief summary of impacts assessment and proposed mitigation measures and CSR.

Conclusion

In conclusion, the studies of Environmental Management Plan of Golden Tri Light Co., Ltd, the following factors are described in this EMP:

- The environmental management practices, procedures and responsibilities are defined here in to get full compliance with the existing environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.
- Heed to all the impacts addressed in this report and duly undertake all the mitigation measures prescribed.
- Implement the Environmental Management Plan (EMP) and the Environmental Monitoring Plan.
- Duly undertake the rehabilitation task during the operation of the factory activities.

Golden Tri Light Co., Ltd pledges to get full compliance with the proposed facts in this Environmental Management Plan (EMP) and the country will benefit from increased employment, increased earnings, increased tax revenue, increased investment and industrial development of the nation.

2 INTRODUCTION

The objective of Golden Tri Light Co., Ltd is to manufacture various kinds of bags (trolley, backpack, sport bags, ladies' bag, canvas long wallet, canvas backpack) for 100% export CMP basis and to offer our clients the best required quality products in the required qualities, at the precise time. Type of investment is foreign investment and export only. Project site (with building) leased in 2016 and production started in 2016.

Environmental Management Plan is required for ensuring sustainable development. It should not affect the surrounding environmental adversely. The management plan presented in this chapter needs to be implemented by the proposed expansion of Golden Tri Light Co., Ltd. The Environmental Management Plan (EMP) aims at controlling pollution at source with available and affordable technology followed by treatment measures. Waste minimization and waste recycling measures are emphasized. In addition to the industry specific control measures, the proposed industry should adopt following guidelines. The specific objectives of this study are

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

2.1 Project Background

The project is new investment for manufacturing various kinds of bags (trolley, backpack, sport bags, ladies' bag, canvas long wallet, canvas backpack) on CMP Basis Company from China. The Yangon Region Investment Committee (YRIC) issues the project on 29th February 2016 with the Endorsement No 1094/2016. YRIC notified for the environmental approval and comments of the Ministry of the Natural Resources and Environmental Conservation (MONREC) on the proposed project and had approved the proposal for investment in manufacturing of various kinds of bags on CMP Basis under the name of Golden Tri Light Co., Ltd.

According to the Myanmar Environmental Conservation Law 2012, it requires that the proponents of every development project in the country submit either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) to Ministry of Natural Resources and Environmental Conservation (MONREC). As per the comments of Environmental Conservation Department (ECD) said project requires an Environmental Management Plan (EMP) to meet the Environmental assessment requirements. Therefore, Golden Tri Light Co., Ltd commissioned Green Environmental, Health, Safety & Social

Consultancy Company Limited (Green EHSS Co., Ltd) for EMP report study. However, Green Environmental, Health, Safety & Social Consultancy Company Limited was unable to continue, Hence, E Guard Environmental Services Co. Ltd. prepared under responsibility.

2.2 Project Proponent Profile

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

Table 2-1 Information of Investor

No	Investor Name	Citizenship	NRC/ Passport No.
1	MR. NGAI SIU LUNG	Chinese	KJ0624193
2	MR LIAO CHEN WEI	Chinese	301371731
3	MRS. CHENG HSIU HUI	Chinese	KJ0645641

2.3 Investment Plan and Salient Features of the Project

The estimated authorized capital investment is 0.845 million US Dollar (Table 2-2). Organization chart of Golden Tri Light Co., Ltd is presented in Figure 2-1.

Table 2-2 Salient Features of the Project

Type of Proposed Business	Manufacturing various kinds of bags (trolley, backpack, sport bags, ladies' bag, canvas long wallet, canvas backpack)
Type of Investment	100 % Foreign Investment
Type of Land	Industrial Land
Type of Land area	2.773 Acres
Production Started Year	2016
Project Site Leased Year	2016
Address	Plot No.4, Myay Taing Quarter (24), 4th Road, Ngwe Pin Lal Industrial Zone, Hlaing Thar Yar Township, Yangon Region, Myanmar
Contact Person	MR. NGAI SIU LUNG
Contact Phone	+(95) 9 979 106 110, +(95) 9 430 401 98

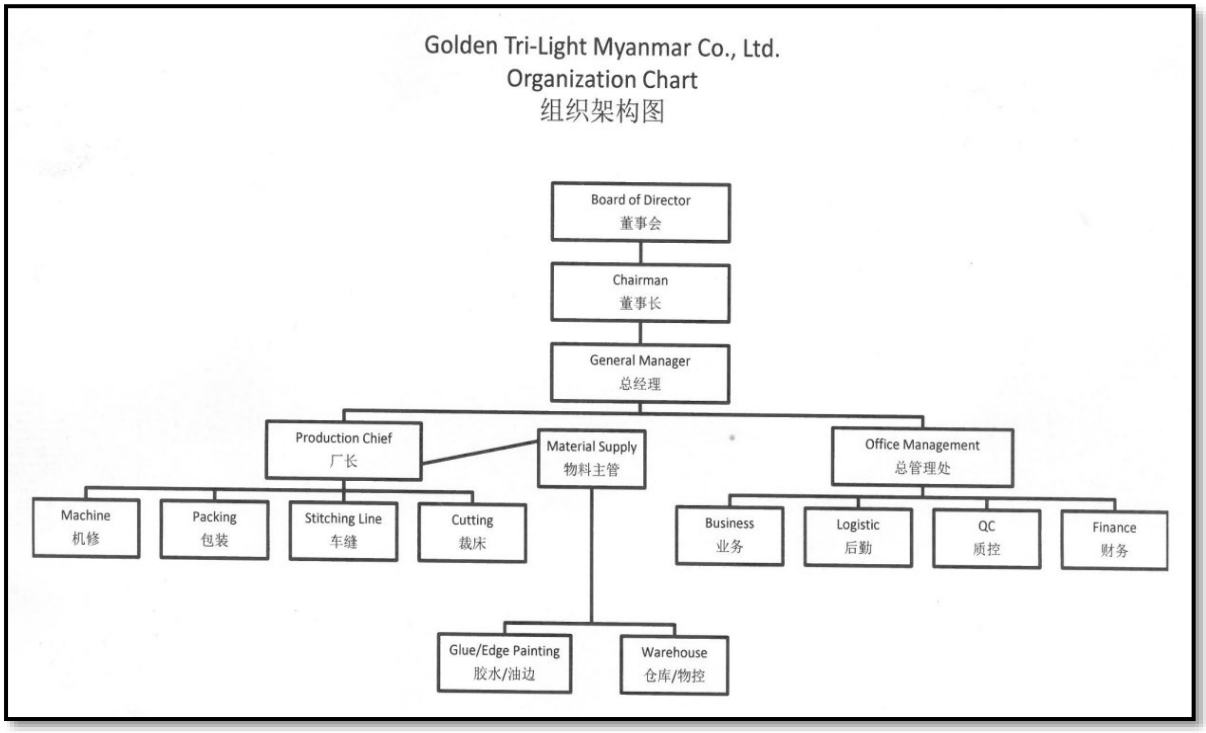


Figure 2-1 Organization chart of Golden Tri Light Co., Ltd

2.4 Identification of EMP Study Team

Environmental Management Plan (EMP) for the proposed project is prepared by E Guard Environmental Services Co., Ltd. The environmental study was carried out by the study team and the following is a summary of team member's responsibilities.

Table 2-3 Environmental Management Plan Study Team Members for Manufacturing of Various Kinds of Bags Project

Sr.	Name	License Number	Organization	Contact Details	Area of expertise
Team Leader of the Study Team					
1.	Dr. Than Khin	EIA-AC 012/2023	E Guard Environmental Services	No. (145- A2-3), Thiri Mingalar Street, Ward No. (4), 8th Mile, Mayangone Township, Yangon, 11062, Myanmar. Ph- 09797005211	- Solid Waste and Hazardous Waste Management - Risk Assessment and Hazard Management
Team Members of the Study Team					
2.	U Aye Thiha	EIA-C 005/2023	E Guard Environmental Services	Same with above Ph-09782042233	- Air Pollution Monitoring
3.	U Soe Min	EIA-C 031/2023	E Guard Environmental Services	Same with above Ph-09797005160	- Air Pollution Prevention and Control - Water Pollution Prevention, Control, Monitoring and Prediction of Impacts
4.	Daw Thein Mwe Khin	EIA-C 006/2023	E Guard Environmental Services	Same with above Ph-09797005174	- Social Study and Analysis
5.	U Aung Myint Myat	EIA-C 008/2023	E Guard Environmental Services	Same with above Ph-09797005168	- Noise and Vibration
6.	U Si Thu Aung	EIA-AC 094/2024	E Guard Environmental Services	Same with above Ph-09797005178	- Hydrology, Surface Water and Ground Water Conservation
7.	Daw Chan Myaie Hnin	Supporting Team Member	E Guard Environmental Services	Same with above Ph-09797005197	- Noise and Vibration

Dr. Than Khin (Team Leader)

Dr. Than Khin is a Principal Consultant, and holds consultant License number EIA-AC 012/2023, described expertise in Water Pollution Prevention, Control, Monitoring and Prediction of Impacts, Solid Waste and Hazardous Waste Management, Risk Assessment and Hazard Management and General Environmental Management. She has over 25 years of experience in Environmental and Social Impact Assessment (ESIA), Initial Environmental Examination (IEE), Environmental Management Plans (EMP), Natural Resources Management, Wastewater Treatment System, Solid Waste and Hazardous Waste Management, Risk Assessment and Hazard Management, Occupational Health and Safety, Chemical Laboratory Analysis, Process Design & Control, Operation Process Management in Thailand and Myanmar. She has led several environmental and social impact assessment projects, wastewater treatment, solid and hazardous waste management and renewable energy projects of private, government and international funds project in Thailand and Myanmar. She has three international published papers and eight international conferences.

U Aye Thiha (Managing Director)

Since E Guard was established, U Aye Thiha is working as Managing Director and he obtained his bachelor's degree from University of Forestry in 1995. Furthermore, he got the Master Degree in Natural Resources Management from Asia Institute of Technology, Thailand in 2001 and Master Degree of Business Administration from Yangon University of Economics in 2018. In 2019, he also obtained Post Graduate Diploma in Geographical Information Systems from Dagon University. He managed and implemented numerous Projects (including local and foreign funded development as well as investment projects). His professional consultant registration number is EIA-C 005/2023 which allowed him to works as expert in the field of Ecology and Biodiversity, Health (Impact Studies and Analysis), Meteorology, Air Quality Assessment and Forecast and Air Pollution Monitoring. At E Guard, he is also responsible for project supervision, cost estimation, contracting, staff recruitment, etc. As a member of this IEE study, he provides his expertise on meteorology and air quality assessment and forecast.

U Soe Min (Director)

U Soe Min is a director of E Guard Environmental Services Co., Ltd (well known as E Guard). He is also a principal consultant of the company responsible for successful implementation of the environmental related projects overseeing and coordinating the various aspects of the EIA process. His environmental consultant license number is EIA-C 031/2023.

He is a civil, water resources and environmental engineer. He received Bachelor of Civil Engineering Degree (B.E, Civil) from Rangoon Institute of Technology (RIT) Yangon and pursued Master of Environmental Engineering (M.E) from Asian Institute of Technology (AIT) Bangkok, Thailand. He had worked and trained in water resources engineering,

irrigation and drainage engineering disciplines for a decade long period in his career development.

As a civil-water resources engineer, he was involved in water resources development projects from investigation and feasibility studies to planning, design and construction. He had experience of local and international practices on design, construction management and contractual documentations. He had oversea working experiences in Thailand and Singapore. He had worked as a local environmental consultant for various technical assistant project of ADB and World Bank supporting capacity-building projects in strengthening environmental safeguard systems in Myanmar.

He has keen interest in environmental monitoring and establishment of environmental data acquisition system. He provides capacity building training and knowledge sharing on topics related to Environmental Protection and Safeguarding. Taking the role of a principal consultant at E Guard, currently he is leading the local consultant team and collaborating with international consultant firms providing environmental related services in Myanmar.

U Soe Min provides his expertise on Water Pollution Prevention, Control, Monitoring and Prediction of Impacts in this IEE study area.

Daw Thein Mwe Khin (Senior Consultant)

Daw Thein Mwe Khin is a Senior Consultant, who holds her license to conduct the environmental impact assessment with her expertise in social study and analysis and Economy and Biodiversity. She received her master's degree in Regional and Rural Development Planning from Asian Institute of Technology in 2019 and bachelor's degree in forestry from the University of Forestry in 2013. She worked as a social expert in Yangon Outer Ring Road Construction Project, Hanthawaddy New International Airport Development Project and Wataya Bridge Construction project. She had experience in working as a survey team leader for YCRL Updating Project and Dry Zone Water Supply Project in 2014, 2015 and 2016 respectively. She had her experiences in working as a core team member of the social team who did the preparation of RAP for Construction of Kyarkalay Bypass and 2 Bridges and RAP for Construction of Thaton Bypass and 2 Bridges in 2014. In addition, she has a project leader role in the preparation of four IEE reports for various types of projects, tender preparation, many social surveys, FGDS for various EIA/IEE/EMP projects during around five years of working life in the EIA field. She also studied the socioeconomic impact of rural electrification on the well-being of rural households in central dry zone, Myanmar as her master thesis in 2018.

Daw Thein Mwe Khin contributed to Social Study and Analysis as a team leader of this IEE study.

U Aung Myint Myat (Consultant)

U Aung Myint Myat, is a Consultant, who holds consultant registration number EIA-C 008/2023, described expertise in Ecology and Biodiversity and Noise and Vibration. He has Bachelor Degree in Forestry from the University of Forestry and Environmental Science in 2014. He also got full time Diploma in Environmental Impact Assessment and Environmental Management System from Yangon Technological University in 2019 and Diploma in GIS&RS form Dagon University. He has more than ten years experiences in conducting environmental site inspection, socio-economic surveys and data interpretation, negotiating with clients, government authorities and local people to conduct stakeholder engagement and public consultation meeting, Environmental Quality measurement and data analysis and also reporting for EMP, IEE & ESIA of various nature of project. He also conducts preparation of socio-economic questionnaires, scoping the study area, Environmental Quality data analysis, Environmental and social impact assessment, biodiversity survey, analysis and reporting. As the member of this EIA study, he has taken the responsibility of the following area of expertise on Noise and Vibration.

U Si Thu Aung (Consultant)

U Si Thu Aung is a Consultant at E Guard Environmental Services Co. Ltd. He gained his Civil Engineering Degree from Thanlyin Technological University in 2014. He also pursued his Master Degree in Environmental Engineering at Yangon Technological University in 2018 while he started his career with E-Guard. He is also a Registered Engineer (Water Supply and Sanitation) at Myanmar Engineering Council and holding Associate Consultant License No. 094/2024 with Hydrology, Surface Water and Ground Water Conservation and Water Pollution Prevention, Control, Monitoring and Prediction of Impact expertises from Environmental Conservation Department. Through his time at E-Guard, he has been involved in the preparation of ESIA, related reports and in negotiation with relevant stakeholders such as Report Writing, Stakeholders Engagement, Secondary Data Collection, Site Investigation, Impact Assessment, Mitigation Measures and Environmental Management Plan, etc. He has worked in Myanmar EIA Field and in a range of different local and international projects over six years. His quest for seeking out new sources and making friends for data collection led to him assist his primary works and provide information to the organization and colleagues. Currently he is working in the organization as a motivated and collaborative team player.

As a member of this IEE study team, he supported in the area of Hydrology, Surface Water and Ground Water Conservation.

Daw Chan Myaie Hnin (Project Associate)

Daw Chan Myaie Hnin has been working as a project Associate in E Guard Environmental Services. She received Bachelor of Engineering in Electrical Engineering from West Yangon Technological University,2014. She worked as QS Engineer, Electrical Design Engineer and

Electrical Design Consultant in M&E construction field for Golden Empire Hotel Project, Summit Park View Hotel Extension Project, Metro Star II Thilawa Project, PTTEP Office Building Project, Yangon Complex Project, Land Mark Project and Tourist Burma Building Project in Yangon Region within last 4 years. Her contribution to the projects in E Guard Environmental Services is being part of the environmental assistant work. Her involvement in this project is to provide administrative and logistical support to the project team. She provides expertise in the areas of electrical and electronic equipment and machines. She assists noise and vibration assessment and analysis assist in document preparation, filing, and data entry. coordinate travel arrangements, meetings, and communication with stakeholders.

2.5 Environmental Consultant Profile

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

Table 2-4 Members of EMP Study Team

No	Name	Designation	Academic and Professional Qualifications	Years of Experience
1	Catherine Soe Soe Aung	Team Leader, Sr. Environmentalist Certified Environmental Professional, Canada Approved Risk Consultant, MOM, Singapore ADB's Consultant Management	Master in Environmental Engineering, National University of Singapore Master in Zoology, YU Bachelor in Zoology, YU	25
2	Dr. May Thin Swe	Department Head Jivitadanan Sangha Hospital	M.B.B.S(Yangon)	30
3	Dr.Theingi Ye Myint	Waste Management and Water Quality Specialist	PhD (YU) Master in Environmental Engineering, NUS Master in Industrial Chemistry, YU	5

No	Name	Designation	Academic and Professional Qualifications	Years of Experience
			Bachelor in Industrial Chemistry, YTU	
4	Dr. Nyo Nyo Lwin	Biodiversity Specialist, Fauna Team Leader	PhD (YU) Master in Zoology, YU Bachelor in Zoology, YU	15
5	Dr. Thet Thet Mar Win	Biodiversity Specialist, Flora Team Leader	PhD (YU) Master in Botany, YU Bachelor in Botany, YU	15
6	U San Aye	Mapping and GIS Specialist	Bachelor in Maths, Diploma in Mapping, Japan	40
7	Dr. Pwint Thu Aye	Aquatic and Marie Biologist	PhD (YU) Master in Zoology, YU Bachelor in Zoology, YU	6
8	Daw Swe Swe Aung	Social Impact Assessment Specialist	Master in Geography, YU Bachelor in Geography, YU Diploma in GIS, Communication Skill for Business, Singapore Polytechnic	18
9	Daw Mi Mi Soe	Social Impact Assessment Specialist	Master in Public Administration Bachelor in Chemistry Diploma in Computer Science Post-Graduate Diploma In Applied Psychology	24

Table 2-5 Members of EMP Study Team and Its Expertise

No	Name	Areas of Expertise
1	Daw Catherine Soe Soe Aung	Air pollution control Ground water and hydrology Noise vibration Meteorology modeling for air quality Risk assessment and hazard management Socio-economy Water pollution control Waste management
2	Dr.Theingi Ye Myint	Air pollution control Meteorology modeling for air quality Noise vibration Risk assessment and hazard management
3	Daw Swe Swe Aung	Water pollution control Water management

3 POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

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

3.1 Myanmar Regulatory Framework

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

3.2 Laws and Regulations Related to Environmental and Social Considerations

Requirements related to environmental and social impact management for development projects are described in Table 3-1

Table 3-1: List of Myanmar's Law Relating to Environmental Management

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

Law and Regulation	Description
Section 3	(c) To enable to emerge a healthy and clean environment and to enable to conserve natural and cultural heritage for the benefit of present and future generations; (d) To reclaim ecosystems as may be possible which are starting to degenerate and disappear; (e) To enable to manage and implement for decrease and loss of natural resources and for enabling the sustainable use beneficially.
Section 7	(a) To specify categories and classes of hazardous waste generated from the production and use of chemicals or other hazardous substances in carrying out industry, agriculture, mineral production, sanitation and other activities; (b) To prescribe categories of hazardous substances that may affect signification at present or in the long run on the environment; (c) To promote and carry out the establishment of necessary factories and stations for the treatment of solid wastes, effluents and emissions which contain toxic and hazardous substances; (j) To prescribe the terms and conditions relating to effluent treatment in industrial estates and other necessary places and buildings and emissions of machines, vehicles and mechanisms; (m) To lay down and carry out a system of EIA and SIA as to whether or not a project or activity to be undertake by any Government department, organization or person may cause a significant impact on the environment; (o) To manage to cause the polluter to compensate for environmental impact, cause to contribute fund by the organizations which obtain benefit from the natural environmental service system, cause to contribute a part of the benefit from the businesses which explore, trade and use the natural resources in environmental conservation works.
Section10	The Ministry may, with the approval of the Union Government and the committee, stipulate the following environmental quality standards: (a) Suitable surface water quality standards in the usage in rivers, streams, canals, springs, marshes, swamps, lakes, reservoirs and other inland water sources of the public; (b) water quality standards for coastal and estuarine areas; (c)underground water quality standards; (d) atmospheric quality standards; (e) noise and vibration standards; (f) emissions standards; (g) effluent standards; (h) solid wastes standards; (i) other environmental quality standards stipulated by the Union Government.
Section 14	A person causing a point source of pollution shall treat, emit, discharge and deposit the substances which cause pollution in the environment in accord with stipulate environmental quality standards.
Section 15	The owner or occupier of any business, material or palace which causes a point source of pollution shall install or use an on-site facility or controlling equipment in order to monitor, control, manage, reduce or eliminate environmental pollution. If it is impracticable, it shall be arranged to dispose the wastes in accord with environmentally sound methods.
Section 16	A person or organization operating business in the industrial estate or business in the SEZ or category of business stipulated by the Ministry: (a) is responsible to carry out by contribution 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 fee for the environmental conservation according to the relevant industrial estate, SEZ and business organization; (c) shall comply with the directives issued for environmental conservation according to the relevant industrial estate, SEZ or business.
Section 24	The project proponent has to allow relevant governmental organization or department to inspect whether performing is conformity with the terms and condition include in prior permission, stipulated by the ministry or not.

Law and Regulation	Description
Section 25	The project proponent has to comply with the terms and conditions include in prior permission.
Section 41	The project proponent has to abide by the stipulations included in the rules, regulation, by law, order, notification and procedure which are issued by said law.
Environmental Conservation Rules (2014)	
Rules 58	The Ministry shall form the EIA Report Review Body with the experts from the relevant Government departments, organizations.
Rules 59	The Ministry may assign duty to the Department to Scrutinize the report of EIA prepared and submitted by any organization or person relating to EIA and report through the EIA Report Review Body.
Rule 61	The ministry may approve and reply on the EIA report or IEE or EMP with the guidance of the Committee.
Sub rule (a) of rule 68	The project proponent has to avoid emit, discharge or dispose the materials which can pollute to environment or hazardous waste or hazardous material prescribed by notification in the place where directly or indirectly injure to public.
Sub rule (b) of rule 68	The project proponent has to avoid performing to damage to ecosystem and the environment generated by said ecosystem.
Environmental Impact Assessment Procedure (2015)	
Screening: Article 23	a) The project proponent shall submit the Project Proposal to the Ministry for Screening b) The Ministry will send the Project Proposal to the Environmental Conservation Department to determine the need for environmental assessment. c) Following the preliminary Screening and verification that the Project Proposal contains all required documents and related materials, subject to Articles 8, 9, 10, 11, 26 and 27 the Department shall make a determination in accordance with Annex 1= Categorization of Economic Activities for Assessment Purposes', taking into account Article 28 in order to designate the Project as one of the following, and then submit it to the Ministry: i) An EIA Type Project, or ii) An IEE Type Project, or iii) A Non-IEE or EIA Type, and therefore not required to
Article 102 (a)	The project proponent has to be liable for all adverse impacts caused by doing or emitting of project owner or contractor, sub-contractor, officer, employee, representative or consultant who is appointed or hired to perform on behalf of project owner.
Article 102 (b)	The project proponent has to support after consulting with effected persons by project relevant government organization, government department and other related persons to resettlement and rehabilitation for livelihood until the effected persons by the project receiving the stable socio-economy which is not lower than the status in pre-project
Article 103	The project proponent has to fully implement all commitments of project and conditions included in EMP. Moreover, the project proponent has to be liable for contractor and sub-contractor who perform on behalf of him/her have to fully abide by the relevant laws, rules, this procedure EMP and all conditions
Article 104	The project proponent has to be liable and fully & effectively implement all requirements included in ECC, relevant laws and rules, this procedure and standards
Article 105	The project proponent has to inform the completed information, after specifying the adverse impacts caused by the project, from time to time.
Article 106	The project proponent has to continuously monitor all adverse impacts in the pre-construction phrase, construction phrase, operation phrase, suspension phrase, closure phrase and post-closure phrase, moreover has to implement the EMP with abiding the all conditions included in ECC, relevant laws & rules and this procedure

Law and Regulation	Description
Article 107	The project proponent has to submit, as soon as possible, the failures of his or her responsibility other implementation, ECC or EMP. If dangerous impact caused by this failure or failure should be known by the Ministry the project proponent has to submit within 24 hours and other than this situation has to submit within 7 days from knowing it.
Article 108	The project proponent has to submit the monitoring report dually or prescribed time by Ministry in line with the schedule of EMP.
Article 109	The project proponent has to prepare the monitoring report in accord with the rule.
Article 110	The project proponent has to show this monitoring report in public palace such as library, hall and website and office of project for the purpose to know this report by public within 10 days from the date which the report is submitted to the Ministry. Moreover, has to give the copy or this report by email or other way which agreed with the asked person, to any asked person or organization
Article 113	The project proponent has to allow inspector to enter and inspect in working time and if it is needed by Ministry has to allow inspector to enter and inspect in the office and work place to this project in any time.
Article 115	The project proponent has to allow inspector to immediately enter and inspect in any time if it is emergency or failure to implement the requirement related to social or environment or caused to it.
Article 117	The project proponent has to allow inspector to inspect the contractor and sub0contractor who implement on behalf of project.
National Environmental Quality (Emission) Guidelines (NEQG) (2015)	
Objectives	To provide the basis for regulation and control of noise and vibration, air emissions, and liquid discharge from various sources in order to prevent pollution for purpose of protection of human and ecosystem health.
National Environmental Policy of Myanmar (2019)	
National Environmental Policy Vision & Mission	**Vision** A clean environment, with healthy and functioning ecosystem, that ensures includes development and wellbeing for all people in Myanmar. **Mission** To establish national environmental policy principle for guiding environmental protection and sustainable development and for mainstreaming environmental consideration into all policies, laws, regulation, plans, strategic, programs and projects in Myanmar.
Foreign Investment Law (2012)	
Section 8	(a) To support the primary objectives of the national economic development plan, and for business that cannot yet be run by the State and citizens or businesses that have insufficient funds and technology. (b) Development of employment activities (l) Protection and conservation of the environment. (q) Appearing the required modern services for the Unions and citizens.
Section 17	(a) To abide by the existing laws of the Republic of the Union of Myanmar. (b) To carry out the business by forming a company under the existing laws of Myanmar by the investor. (h) To carry out not to cause environmental pollution or damage in accord with existing laws in respect of investment business. (k) To carry out the systematic transfer of high technology relating to the business which are carried out by the investor to the relevant enterprises, departments or organizations in accord with the contract.

Law and Regulation	Description
Foreign Investment Rule (2013)	
Rule 54	The promoter or investor shall. (a) comply with Environmental Protection Law in dealing with environmental protection matters related to the business; (b) shall carry out socially responsible investment in the interest of the Union and its people; (c) shall co-operate with authorities for occasional or mandatory inspection; (d) shall exercise due diligence to be in conformity and harmony with norms and standards prescribed by relevant Union Ministry in conducting construction of factories, workshop, buildings and other activities; (e) shall enforce Safety and Health
Myanmar Investment Law (2016, 2019)	
Section 51	The investor: a)May appoint any citizen who is a qualified person as senior manager, technical and operational expert, and advisor in his investment within the union in accordance with the law.
Section 65	The investor: f) Shall not mate any significant alternation of topography or elevation of the land on which he is entitled to lease or to use, without of the commission. g) Shall abide by applicable laws, rules, procedures and best standards practiced internationally for this investment so as not to cause damage, pollution, and loss to the natural and social environment and not to cause damage to cultural heritage; i) Shall close and discontinue the investment only after payment of compensation to employees in accordance with applicable laws for any breach of employment contracts, closure of investment, sale and transfer of investment, discontinuation of investment, or reduction of workforce; j) Shall pay wages and salaries to employees in accordance with applicable laws, rules, procedures, directives and so forth during the period of suspension of investment for a credible reason; k) Shall pay compensation and indemnification in accordance with applicable laws to the relevant employee or his successor for injury, disability, disease and death due to the work; l) Shall supervise foreign experts, supervisors and their families, who employ in their investment, to abide by the applicable laws, rules, orders and directives, and the culture and traditions of Myanmar; m) Shall respect and comply with the labor laws; o) Shall pay effective compensation for loss incurred to the victim, if there are damage to the natural environment and socioeconomic losses caused by logging or extraction of natural resources which are not related to the scope of the permissible investment, except from carrying out the activities required to conduct investment in a permit or and an endorsement. p) Shall allow the Commission to inspect in any places, when the Commission informs the prior notice to inspect the investment; q) Shall take in advance permit or endorsement of the Commission for the investments which need to obtain prior approval under the Environmental Conservation Law and the procedures of environmental impact assessment, before undertaking the assessment, and shall submit the situation of environmental and social impact assessment to the Commission along the period of activities of the investments which obtained permit or endorsement of the Commission.
Section 73	The investor shall insure the types of insurance stipulated in the provision of the rules at any insurance enterprise which is entitled to carry out insurance businesses within the Union.
Myanmar Investment Rules (2017, 2018)	
Rule 202	The project proponent has to comply with the conditions of the permit issued by the MIC and applicable laws when making the investment.

Law and Regulation	Description
Rule 203	The project proponent has to fully assist while negotiating with the authority for settling the grievance of the local community which has been affected due to investment.
Rule 206	The project proponent has to submit the passport, export evidence or document of degree and profile to the MIC office for approval if decide to appoint a foreigner as senior management, technician expert or consultant according to subsection (a) of section 51 of Myanmar Investment Law.
Myanmar Insurance Law (1993)	
Section 15	If the project proponent uses the owned vehicles the project owner has to ensure the insurance for the injured person.
Section 16	The project proponent has to ensure insurance to compensate for general damages because the project may cause damages to the environment and injury to the public.
Payment of Wages Law (2016)	
Section 3 & 4	The project proponent has to pay the wages in accord with section 1 and 4 of said law.
Section 5	The project proponent has to submit with the agreements of employees & reasonable ground to the department if it is difficult to pay because of force majeure included in a natural disaster.
Section 7-13	The project proponent has to abide by the provisions of section 7 to 13 in the chapter (3) in respect of deduction from wages,
Section 14	The project proponent has to pay the overtime fees, prescribed by law, to the employees who work over working hours.
Yangon City Development Committee Law (1990)	
Section 317	The proponent shall not block the natural river channel, change the course and disrupt the water channel, filling with soil within the city boundaries without the consent of the Committee.
Section 318	The project proponent shall not construct buildings, factories and industries without sewage, toilet, septic tanks and wastewater treatment system.
Section 322	The project proponent is not allowed to make activities that will produce noise pollution, water pollution, air pollution and soil pollution to impact the environment within the city's boundaries.
The Factories Act (1951, 2016)	
Section 3	Mentions responsibilities of employer and manager regarding waste disposal, ventilation, extreme temperature, dust and gas generation, minimum space for each worker, lighting, portable drinking water and toilets for employees.
Section 4	States responsibilities of employer and manager concerning with machine guarding, personal protective equipment, housekeeping, aisles and exists, chemical storage and fire protection system to avoid accident.
The Private Industrial Enterprise Law (1990)	
Section 3	Private Industrial Enterprise shall be conducted in accordance with the following basic principles: - (a) to enhance the higher proportion of the manufacturing value added in the gross national product and value of services, and to the production of the respective economic enterprises which are related to the industrial enterprise;

Law and Regulation	Description
	(b) to acquire modern technical know- increase how for raising the efficiency of industrial enterprises and to established the sale of finished goods produced by the industrial enterprise not only in the local market, but also in the foreign market; (d) to cause narrowing down of the gap between rural development and urban development by causing the development and improvement of industrial enterprises; (e) to cause opening up of more employment opportunities; (f) to cause avoidance of or reduction of the use of technical know-how which cause environmental pollution; (g) to cause the use of energy in the most economical manner.
The Export and Import Law (2012)	
Objectives	The objectives of this law are as follow: a) To enable to implement the economic principles of the State successfully. b) To enable to lay down the policies relating to export and import that supports the development of the state. c) To cause the policies relating to export and import of the State and activities are to be in conformity with the national trade standards. d) To cause to be streamlined and speedy in carrying out the matters relating to export and import.
Section 5	No persons shall export or import restricted, prohibited and banned goods.
Section 6	Without obtaining license, no person shall export or import the specified goods which are to obtain permission.
Section 7	A person who obtained any license shall not violate the conditions contained in the license.
The Prevention of Hazard from Chemical and Related Substances Law (2013)	
Objectives	To ensure to use the hazardous chemical and related substances safely and safety for the employees. Moreover, safety in carrying the hazardous chemical and related substances and storage place of it. If it is needed to train how to use the safety dresses which provided to the employees with free of charges. Insure to compensate for injury to person or damage to environment. The project has to be inspected for safety use of hazardous chemical and related substances before starting the project.
Section 15 Sub-section (a,b)	(a) Project owner has to be inspected for the safety and resistance of the machinery and equipment by the respective Supervisory Board and Board of Inspection before starting the business. (b) Project owner has to assign the employees, who will serve with the hazardous chemical and substances, to attend the trainings on prevention of hazardous chemical and substances in local or abroad.
Section 16 Sub-Section (a,b,c,d,e,f, g,h,i)	A Project owner has to (a) Abide by the conditions included in the license (b) Abide by and assign to the employees who serve in this work to abide by the instructions for safety in using the hazardous chemical and related substances (c) Arrange the enough safety equipment in the work-place and provide the safety dresses to the employees who serve in this work with free of charge (d) Train, in work-place my arrangement, the know-how to use the occupational safety equipment, personal protection equipment and safety dresses systemically in the work-place (e) Allow the receptive Supervisory Board and Board of Inspection to inspect whether the hazard may be injured to health of human or animal or damaged to environment. (f) Assign the healthy employees who have obtained the recommendation that is fit for this work after taken medical check- up and keep systematically the medical records of employees.

Law and Regulation	Description
	(g) Inform the copy of storage permission for hazardous chemical and related substances to the relevant township administrative office. (h) Obtain the approval with instructions of relevant fire force before starting the work if the project will use the fire hazard substances or explosive substances (i) Transport only the limited amount of the chemical and related substance in accord with the prescribed stipulations in local transportation.
Section 17	A Project owner has to insure, in accord with the stipulations, to pay the compensation if the project cause injury to person or animals or damage to environment.
Section 22	A Project owner has to abide by the conditions included in the registration certificate. Moreover, will abide by the orders and directives issued by the Central Supervisory Board from time to time.
Section 27 Sub-section (a,c)	(a) A Project owner has to classify the level of hazard to protect it in advance according to the properties of chemical and related substances. (c) A Project owner has to provide the safety equipment, personal protection equipment to protect and reduce the accident and assign to attend the training to use the equipment systematically.
Underground Water Act (1930)	
Section 1	According to Act the President of the Union may, by notification, direct and shall apply only to the tubes, exceeding a depth to be prescribed the President of the Union and may prescribe different depths for different local areas.
Section 2 Sub-section (a)	Accordingly, "underground water" means water obtained from below the surface of the ground by the sinking of tubes.
Section 2 Sub-section (b)	It is also stated that no person shall sink a tube for the purpose of obtaining underground water except under and in accordance with the terms of a license granted by the water officer, an officer by notification prescribed on his behalf.
Section 3	No person shall sink a tube for the purpose of obtaining underground water except under and in accordance with the terms of a license granted by the water officer. Every person owning a tube which was in existence before the extension of this Act to the local area concerned shall apply to the water officer for a license for the said tube, and such license shall be granted free of charge.
Section 5	Every person obtaining or attempting to obtain underground water shall supply the water officer with such information as the President of the Union may by rule prescribe.
Myanmar Fire Brigade Law (2015)	
Objectives	The Pyidaungsu Hluttaw enacted this law by Law No 11/2015 on the date of 17th march 2015 with the following objectives. (a)to take precautionary and preventive measures and loss of state own property, private property, cultural heritage and the live and property of public due to fire and other natural disasters (b)to organize fire brigade systemically and to train the fire brigade (c)to prevent from fire and to conduct release work when fire disaster, natural disaster, epidemic disease or any kind of certain danger occurs (d)to educate, organize and inside extensively so as to achieve public corporation (e)to participate if in need for national security, peace for the citizens and law and order

Law and Regulation	Description
Section 5	The Deputy Commissioners may issue order to erect the materials constructed to affect the waterpower by violating the Act, order issued under the Act.
Section 17	The relevant Government Department or organization shall for the purpose of precaution and prevention obtain the approval of the Fire force Department before granting permission for the following cases. a. Constructing three-storied and above buildings market and condominium buildings b. Operating hotel, motel, guest house enterprise c. Constructing factory, workshop storage facilities and warehouse d. Operating business expose to fire hazard by using in inflammable materials or explosive materials e. Producing and selling fire-extinguishing apparatuses f. Doing transport business, public utility vehicles train, airplane, helicopter, vessel, ship.
Section 18	The relevant government department or organization shall obtain the opinion of the fire services department for the purpose of fire precaution and prevention when laying down plans for construction for town, village and downtown or village development plans and for industrial zones and economic zones.
Section 25 Sub-section (a,b)	The project proponent has to (a) Institute the specific fire services. (b) Provide materials and apparatuses for fire precaution and prevention
The Electricity Law (2014)	
In 2014, the new electricity law a comprehensive piece of legislation covering licensing a new regulatory commission, standards, inspection, tariff and restrictions replaced the electricity law of 1984. The electricity law divides projects into small (up to 10 MW), medium (between 10 MW to 30 MW) and large (upwards of 30MW), the states and regions can issues permits for small and medium power plants. In case these plants are not connected to the national grid, the Union Government Ministry is not the primary authority involved. The authorities have a legal right to use land for the purpose of power plants under the electricity law and have the right to expand and maintain their facilities. The law also provides that the authorities can build transmission lines in accordance with existing laws.	
Boiler Law (2015)	
Objective	The objectives of this law are as follows: (a)To obtain boilers in compliance with Myanmar Standards or International Standards (b)To prevent the country and citizens from hazards caused by boiler accidents (c)To use boilers sin compliance with Myanmar Standards or International Standards within the factory (d)To develop boiler technology and to produce experts capable of manufacturing, handling, repair and maintenance of boilers (e)To optimize the use of boilers through effective utilization of fuel energy (f)To reduce the environmental, social and health impacts through long-lasting use of boilers.
Section 4	(a)Notify the inspection methods and instructions according to the national or international standards for safe operations of boilers in line with this law, procedures and instructions (b)Only the results obtained from the prescribed boiler standards and inspection methods will be approved
Section 5	Anybody who would like to use a boiler in any kind of business should be registered
Section 6	Boiler should be manufactured according to Myanmar Standards or International Standards
Section 7	Those who would like to apply for boiler registration according to Section 5 should apply to the inspector with the application, documents and vouchers related to boiler

Law and Regulation	Description
Section 8	If the application regarding registration of boiler according to Section 7, the Registration officer should conduct necessary inspection and submit results of the findings to the inspector General.
Section 9	The inspector general should assess and inspect the submission of the Registration Officer according to Section 8 and could allow or reject for registration of the boiler
Section 10	The inspector general shall define boiler size according to heated surface area in accordance with adopted procedures.
Section 59	According to Section 21, nobody must alter, change, deface, deform or make embossed registration unnoticeable illegitimately.
Section 60	Nobody is allowed to repair a boiler without boiler repair certificate.
Section 61	Nobody is allowed to maintain a boiler without boiler maintenance certificate.
Section 62	Nobody must after safety relief value in order to exceed the allowable pressure due to his consent or direction given by the owner.
Section 63	Nobody must manufacture boilers against Section 25, Subsection 25(a) and (b) enacted.
The Settlement of Labor Dispute Law (2012) (Amendment 2019)	
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 setting the dispute of employer and worker justly.	
This law enacted for safeguarding the right of workers or having good relationship between employer and workers and making peaceful workplace or obtaining the rights fairly, rightfully and quickly by setting the dispute of employer and worker justly. It stipulates that employer in which more than 30 workers are employed shall from the workplace coordinating committee consisting of the representatives of workers and the representatives of employer.	
Section 23	A party, employer or worker may complain individual dispute relating to his grievance to the Conciliation Body and if he is not satisfied with the conciliation of such body in accord body in accord with stipulated manners may apply to the competent court in person or by the legal representative.
Section 24	The relevant Conciliation Body shall respect of the collective dispute known or received by the complaint of either party, employer or worker in respect of the dispute information sent by the Minister or The Region or State Government or any other means carry out as follows(a)Conciliating so as to be settled within three days not including the official holidays from the day of knowing or receipt of such dispute (b)Concluding mutual agreement if the settlement is reached in Conciliating under sub-section (a) before the Conciliation Body.
Section 25	The Conciliation Body shall refer the collective dispute which does not reach settlement to the relevant Arbitration Body and inform the persons relating to the dispute.
Section 38	No employer shall fail to negotiate and coordinate in respect of the compliant within the prescribed period without sufficient cause.
Section 39	No employer shall after the conditions of service relating to workers concerned in such dispute at the consecutive period before commencing the dispute within the period under investigation of the dispute before Arbitration Body or Tribunal to affect the interest of such workers immediately.

Law and Regulation	Description
Section 46	The project proponent has to not close the work without negotiation, discussion on dispute in accord with this law, discussion by Tribunal
Section 51	The project proponent has to pay the compensation decided by Tribunal violates any act or any emission to omission to damage the interest of labour by reducing of product without efficient cause.
Section 46	Any Employer who violates ant prohibition contained in Section 38 and 39 shall on conviction be punished with a fine for a minimum of one-lakh kyats.
Section 23	A party, employer or worker may complain individual dispute relating to his grievance to the Conciliation Body and if he is not satisfied with the conciliation of such body in accord body in accord with stipulated manners may apply to the competent court in person or by the legal representative.
Section 24	The relevant Conciliation Body shall respect of the collective dispute known or received by the complaint of either party, employer or worker in respect of the dispute information sent by the Minister or The Region or State Government or any other means carry out as follows(a)Conciliating so as to be settled within three days not including the official holidays from the day of knowing or receipt of such dispute (b)Concluding mutual agreement if the settlement is reached in Conciliating under sub-section (a) before the Conciliation Body.
Section 25	The Conciliation Body shall refer the collective dispute which does not reach settlement to the relevant Arbitration Body and inform the persons relating to the dispute.
The Social Security Law (2012)	
The Social Security Law enacted in 2012 was amended the social Security Act in 1954. It stipulates the formation and implementation of social security systems	
Section 53(a)	The employers and workers shall co-ordinate with the Social Security Board or insurance agency in respect of keeping plans for safety and health in order to prevent employment injury, contracting disease and decease owing to occupation and in addition to safety and educational work of the workers and accident at the establishment
The Employment and Skill Development (2013)	
This law enacted for safeguarding the right of workers or having skillful of workers and making peaceful workplace or obtaining the rights fairly, rightfully and quickly by setting the dispute of employer and worker justly. Employer shall conduct occupational training to enhance the skills of workers.	
Section 14	Employer shall conduct occupational training to enhance the skills of workers who are to be employed as well as workers who are presently employed in accordance with the requirements of the enterprise and the policy of the Skills Development Agency.
The Worker's Compensation Act (1923)	
It stipulates that employer is required to make payments to employees who become injured or who die in any accidents arising during and in consequence of their employment. Such compensation also must be made for diseases which arise as a direct consequence of employment such as carpal tunnel syndrome.	
The Leave and Holidays Act (1951, 2014)	
This act has been used as the basic framework for leaves and holidays for workers with minor amendment in 2006 and 2014. This defines the public holidays that every employee shall be granted with full payment. It also defines the rules of leaves for workers including medical leave, earned leaved and maternity leave.	

Law and Regulation	Description
The Minimum Wage Law (2013)	
The minimum wage law passed in March 2013 was replaced the 1949 Minimum Wage Act. The Law provides a framework for minimum wage determination the presidential office establishing a tripartite minimum wage committee shall decide minimum wage with industrial variation based on a survey on living costs of workers possibly every two years. This also stipulates equal payment.	
Public Health Law (1972)	
Chapter 2 Prevention of Public Health Objectives	• To ensure the public health include not only employees but also resident people and cooperation with the authorized person or organization of health department. This law focuses as follows. • The project owner has to cooperate with the authorized person or organization in line with the section 3 and 5 of said law. • The project proponent has to abide by any instruction or stipulation for public health under the section 3 of said law. • The project proponent has to allow any inspection, anytime, anywhere if it is needed under the section 5 of said law.
Prevention and Control of Communicable Disease Law (1995) (Amendment in 2011)	
Chapter 2 Prevention Section 4	When a Principal Epidemic Disease of a Modifiable Disease occurs; Immunization and other necessary measures shall be undertaken by the Department of Health in order to control the spread thereof; The public shall abide by measures undertaken by the Department of Health under sub-section (a).
Chapter 4 Environmental Sanitation	For prevention of the outbreak of Communicable Disease and effective control of Communicable Disease when it occurs, the public shall under the supervision and guidance of the Health Officer of the relevant area, undertaken the responsibility of carrying out the following environmental sanitation measures; Indoor, outdoor sanitation or inside the fence outside the fence sanitation; Well, ponds and drainage sanitation; Proper disposal refuse and destruction thereof by fire; Construction and use of sanitary latrines Other necessary environmental sanitation measures
Occupational Safety and Health Law (2019)	
Purpose	To effectively implement measures related to safety and health in every industry and to set occupational safety and health standards.
Section 26 Sub-section (e)	The project proponent has to provide adequate and relevant personal protective equipment to workers free of charge and make them wear it during work so as not to expose workers to any serious occupational diseases or hazards.
Section 26 Sub-section (1)	The project proponent has to arrange and display occupational safety and health instructions, warning signs, notices, posters and signboards.
Section 30 Sub-section (a)	The worker shall wear or use at all times any protective clothes, equipment and tools provided by the employer for the propose of safety and health.
Section 30 Sub-section (d)	The worker shall proper and systematic use any equipment and tools machines, any parts of the machines, vehicles, electricity and other substances being used at the workplace.
Section 30 Sub-section (e)	The worker shall take reasonable care for the safety and health of himself/ herself and of other persons who may be affected by his/her acts or omissions at work.

Law and Regulation	Description
The Motor Vehicles Law (2015)	
Objectives	When the constructions periods and if it is needed in operation and production period for all vehicles The project proponent has to promise to abide by the nearly all provisions of said law and rules, especially the provisions related to air pollution, noise pollution and life safety
The Conservation of Water Resource and River Law (2016) (Amendment 2017)	
Aims	The aims of this law are as follows, (a)to conserve protect the water resources and rivers system for beneficial utilization by the public (b)to smooth and safety waterways navigation along economy through improving water resources and river system (c) to contribute to the development of state economy through improving water resources and river system (d) to protect environmental impact
Chapter (5) Prohibitions No 8	No person shall (a)carry put any act or channel shifting with the aim to ruin the water resources and rivers and creeks (b)cause the wastage of water resources willfully
Section 10	No person shall anchor the vessels where vessels are prohibited from anchoring in the rivers and creeks
Section 11 (a)	No person shall dispose of engine oil, chemicals, poisonous material and other materials which any cause environmental damage, or dispose of explosive from the bank or from a vessel which is plying, vessel which has berthed, anchored, standard or sunk.
Section 12	No person shall carry out growing garden, digging, filling, silt trapping, closing pond, dyke building or erecting spur in the river-creek boundary, bank boundary and waterfront boundary without the permission of the relevant government department and organization
Section 15	No person shall carry out the construction of switch back, dockyard, wet dockyard, water tight dockyard, building of jetty, pier, landing stage or vessel landing drainage in the river-creek boundary and water front boundary without the permission of the Directorate.
The Commercial Tax Law (1990) (Amended 2014)	
Chapter 5 Section 11 (b)	Any person who commences operation of a goods production enterprise or service enterprise shall furnish letter of intimidation on the commencement of the operations such to the relevant Township Revenue Officer as stipulated by regulations.
Chapter 6 Section 12 (a)	Any person who has taxable proceed of sale or receipt from service within a year, shall pay due monthly tax within ten days after the end of the relevant month. Moreover, a three-monthly return shall be furnished to the relevant Township Revenue Officer within one month after the end of relevant three-month.
Section 12(b)	The Township Revenue Officer may intimate any person to pay due monthly tax and send three-monthly return if three is cause to consider that he has taxable proceed of sale or receipt from service within a year.
Section 12(c)	If it is failed to pay tax under sub-section (a) or (b), or if there is cause to consider that the tax paid is less than the tax payable, the Township Revenue Officer may base on the information received, estimate and claim the tax payable or the additional tax payable.

Law and Regulation	Description
Section 12 (e)	The tax payable on goods imported under sub-section (c) of section 4 of the law shall be collected together with the customs duties by the Customs Department in accord with the manner of collecting customs duties.
The Natural Disaster Management Law (2013)	
The objectives of this Law are as follow: (a) to implement natural disaster management programs systematically and expeditiously in order to reduce disaster risks (b) to form the National Committee and Local Bodies in order to implement natural disaster management programs systematically and expeditiously (c) to coordinate with domestic and foreign government departments and organizations, social organizations, other non-government organizations or international organizations and foreign regional organizations in carrying out natural disaster management activities (d) to conserve and restore the environment affected by natural disasters (e) to provide health, education, social and livelihood programs in order to bring about better living conditions for victims	

3.3 International Guidelines

Organization's Guidelines, World Bank Safeguard Policies, IFC Performance Standards and National Environmental Quality (Emission) Guidelines (2015) are referred for EMP of the proposed factory project. The baseline environmental quality at the Project Site and its immediate surroundings was established by groundwater, wastewater and ambient air quality samples; as well as noise measurements at immediate surrounding areas. The data is presented below.

Table 3-2 Air Quality Guidelines

Parameters	Guideline values	Unit	Organization	Period
CO_2	5000	ppm	NAAQS	24 HRS
CO	35	ppm	ACGIH	
NO_2	200	µg/m3	NEQEG	
SO_2	20	µg/m3	NEQEG	
PM_{10}	50	µg/m3	NEQEG	
$PM_{2.5}$	25	µg/m3	NEQEG	

Table 3-3: Noise Level Standard

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

Table 3-4: Recommended Illumination and Limiting Glare Index based on IES code (1968)

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

Table 3-5: Drinking Water Quality Standard

Parameter	Existing Standard	Parameter	Standard for the Reprovisioned Sha Tin WTW South Works
pH at 25°C	8.2 – 8.8	pH at 25°C	8.2 – 8.8
Colour	Not exceeding 5 Hazen units	Colour	Not exceeding 5 Hazen units
Turbidity	Not exceeding 1.5 NTU	Turbidity	Not exceeding 1.0 NTU, and not exceeding 0.3 NTU in 95% of daily samples in any month
Iron as Fe	Not exceeding 0.1 mg/L	Iron as Fe	Not exceeding 0.1 mg/L
Manganese as Mn	Not exceeding 0.05 mg/L	Manganese as Mn	Not exceeding 0.05 mg/L
Aluminium as Al	Not exceeding 0.10 mg/L	Aluminium as Al	Not exceeding 0.10 mg/L
Free residual chlorine	0.5 - 1.5 mg/L	Free residual chlorine	0.5 - 1.5 mg/L
Fluoride as F	± 10% of norminal level (current 0.5 mg/L)	Fluoride as F	± 10% of norminal level (current 0.5 mg/L)
Taste and odour	Unobjectionable	Taste and odour	Unobjectionable
Total Coliforms & E.coli (no./100mL)	Absent	Total Coliforms & E.coli (no./100mL)	Absent
-	-	Cryptosporidium	4-log (99.99%) reduction or inactivation
-	-	Giardia	4-log (99.99%) reduction or inactivation
-	-	Viruses	4-log (99.99%) reduction or inactivation

3.4 Commitment of Golden Tri Light Co., Ltd

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

The following commitments for environmental and social components, which are outlines in this report, are made by Golden Tri Light Co., Ltd.

Table 3-6: List of Commitments

Chapter	Outlines	Commitments
Chapter 2	Introduction	Golden Tri Light Co., Ltd commits that the information about the proponent was correctly described.
		Golden Tri Light Co., Ltd commits that the information about the environmental and social study team for the EMP report preparation was correctly described.
Chapter 3	Policy, Legal and Institutional Framework	Golden Tri Light Co., Ltd commits to follow the environmental related Myanmar policies, laws, rules, regulations pertinent and National Environmental Quality (Emission) Guidelines relevant to the Project along with potentially applicable international standards, principles and agreement.
Chapter 4	Project Description	Golden Tri Light Co., Ltd commits that the information and data of the project and the production process were accurate and correct.
		Golden Tri Light Co., Ltd commits that Golden Tri Light Co., Ltd utilized the facilities designs and modernized equipment and machinery as described in Project description for operation.
Chapter 5	Baseline Environmental Quality	Golden Tri Light Co., Ltd commits that Air Quality, Noise Level, Lightening and Temperature, Water Quality, Solid Waste were measured with the descripted devices and compared the results with the National Environmental (Emission) Guideline and International Guideline.
		Golden Tri Light Co., Ltd commits not to disturb the existing Biological Environment/ Resources Conditions.
		Golden Tri Light Co., Ltd commits that the regional information of this project for socio-economic information, economy and health information are referenced and stated from selected Township regional information and cultural condition is exactly described.
Chapter 6	Environmental and Social Impact Assessment	Golden Tri Light Co., Ltd commits that thoroughly assess the environmental Impact for the project during operation and decommission phase.
Chapter 7		Golden Tri Light Co., Ltd commits that the time, date, list of attendants, the place and subject of discussion were correct.

Chapter	Outlines	Commitments
	Public Consultation Process	Golden Tri Light Co., Ltd commits to resolve any social and environmental related grievances locally in consultation with the aggrieved party to facilitate smooth implementation of the project.
Chapter 8	Environmental Management Plan	Golden Tri Light Co., Ltd commits to adopt mitigation measures for avoiding or reducing such environmental and socio-economic impacts potentially generated by Project during the operation and decommissioning phases.
		Golden Tri Light Co., Ltd commits to follow the mitigation measures for air pollution of project during the operation and decommissioning phase.
		Golden Tri Light Co., Ltd commits to follow the prevention/ mitigation measures for noise of project during the operation and decommissioning phase.
		Golden Tri Light Co., Ltd commits to follow the mitigation measures for water pollution of project during the operation and decommissioning phase.
		Golden Tri Light Co., Ltd commits to follow the mitigation measures for Waste (industrial Waste and Domestic Waste) during the operation and decommissioning phase.
		Golden Tri Light Co., Ltd commits to follow the mitigation measures for Natural Environmental Impact of project during operation and decommissioning phase.
		Golden Tri Light Co., Ltd commits to follow mitigation measures for social-economic condition during operation phase.
		Golden Tri Light Co., Ltd commits to follow the mitigation measures for Occupational Health and Safety (Fire, Heat, Accidents and Physical Injuries) during the operation and decommissioning phase.
		Golden Tri Light Co., Ltd commits to implement plan of Emergency Response Plan and Fire Prevention Plan during the operation and decommissioning phase.
		Golden Tri Light Co., Ltd implemented the Corporate Social Responsibility Plan for developing community development and improving socio-economic condition of local people.
		Golden Tri Light Co., Ltd commits to establish a Grievance Redress Mechanism with local people to solve the problems and complaints concerns with the project.
		Golden Tri Light Co., Ltd commits to certainly follow the Environmental Monitoring Plan.
		Golden Tri Light Co., Ltd commits to implement the employee welfare plan.
		Golden Tri Light Co., Ltd commits to certainly follow the Environmental and Social Management Sub-Plan.

Golden Tri-Light Myanmar Co., Ltd.
三光實業有限公司
Plot No.4,Myay Taing No.24,4th Road,Ngwe Pinle Industrial Zone,Hlaing Tharyar Township, Yangon,Myanmar.
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Commitment to follow Environmental Conservation Law, Rules, Standards and Mitigation and Management Measures Stated in the Environmental Management Plan (EMP) Report

With regards to the above matter, we, Golden Tri Light Myanmar Company Limited, strongly commits that all our operations will be performed in an environmental friendly manner by following existing laws and regulations, especially Environmental Conservation Law (2012), Environmental Conservation Rules (2014), Environmental Impact Assessment Procedure (2015), National Environmental Quality (Emission) Guidelines (2015) and other relevant environmental standards through successful implementation of mitigation measures and environmental monitoring plans stated in the Environmental Management Plan EMP report.

LIAO CHEN WEI
Mr. Liao Chen Wei
Director
Golden Tri-Light Myanmar Co., Ltd.

4 PROJECT DESCRIPTION

4.1 Location Proposed Project

The proposed project is located at 16° 55' 24.672" N and 96° 4' 11.172" E, Plot No.4, Myay Taing Quarter (24), 4th Road, Ngwe Pin Lal Industrial Zone, Hlaing Thar Tar Township, Yangon Region, Myanmar. The location map if the proposed project site is shown in Figure 4-1. Proposed project site leased in 2016 and production started in 2016.

Figure 4-1: Location (Satellite) Map of the Factory

4.2 Objectives of Proposed Project

The objective of Golden Tri Light Co., Ltd is to manufacture various kinds of bags (trolley, backpack, sport bags, ladies' bag, canvas long wallet, canvas backpack) for 100% export CMP basis and to offer our clients the best required quality products in the required qualities, at the precise time.

4.3 Site Description of Project Site

The total land area is 2.773 acres and build main factory, warehouse, kitchen, canteen, maintenance house, QC department, sewing department and cutting department for production building. Generator room and water treatment plant are separated by main factory building structure.

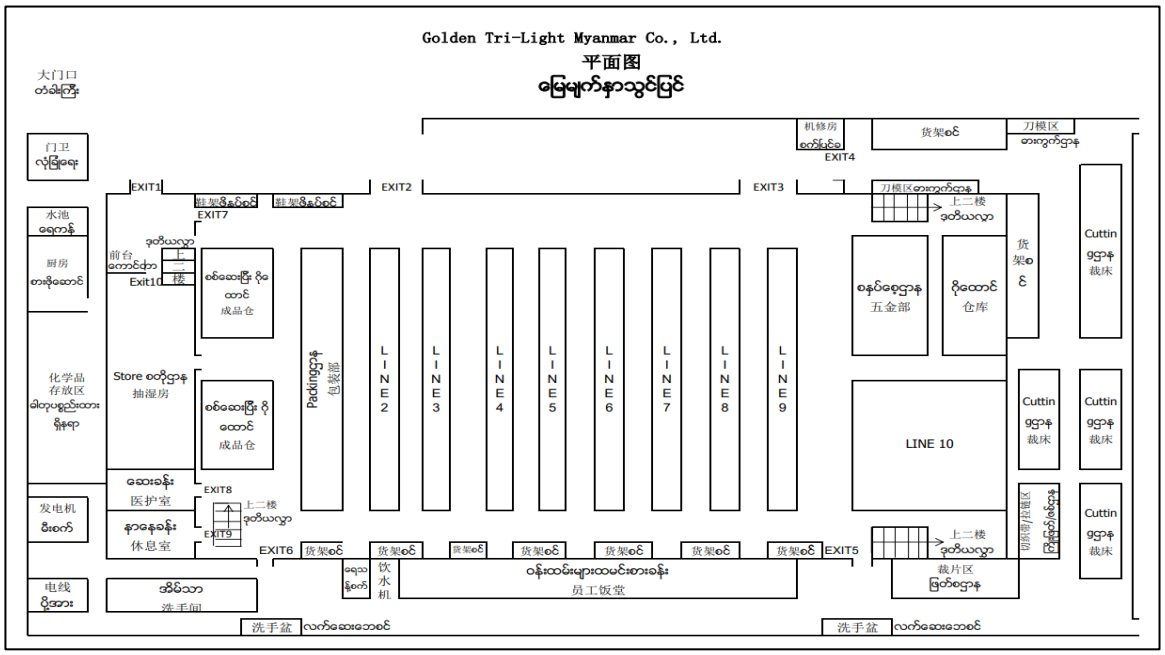


Figure 4-2: Factory Layout Plan

4.4 Salient Features of the Factory

The salient features of the company are mentioned below.

Name of Company	Golden Tri Light Co., Ltd
Address	Plot No. 4, Myay Taing Quarter (24), 4th Road, Ngwe Pin Lal, Industrial Zone, Hlaing Thar Yar Township, Yangon Region, Myanmar
Type of Business	Manufacturing various kinds of bags (trolley, backpack, sport bags, ladies' bag, canvas long wallet, canvas backpack)
Name of Principal Organization	Golden Tri Light Co., Ltd
Type of Investment	100% Foreign Investment
Total amount of Capital	USD 0.845 Million
System of Sales	100% Export
Raw Materials Imported Country	China
Type of Land	Industrial Zone
Contact Person	MR. NGAI SIU LUNG
Contact Phone	+95 (9) 979 106 110, + 95 (9) 430 401 98

4.5 Annual Raw Materials Requirement

The main raw materials are fabric, which are imported from China. Annually raw materials require for product is 43,719 kg/month, 524,628 kg/year and details described in Table (4-1).

Table 4-1: Raw Material Requirement

No	Description	Unit	Qty	Price	Total Cost
1	Nylon	KG	100	5.4	540.00
2	Polyester	KG	158413.17	4.95	784145.19
3	Printed polyester fabric	KG	9260.28	5.22	48338.66
4	PU	KG	9408.08	0.23	2163.86
5	Netting	KG	10724.87	5.14	55125.83
6	Aluminum foil	KG	4748.07	5.07	24072.71
7	PVC netting cloth	KG	26794.31	3.82	102354.26
8	PP non-woven fabric	KG	2170	2.11	4578.70
9	Polyester velvet	KG	7712.13	5.79	44653.23
10	Foam	KG	14341.83	6.45	92504.80
11	EPE	KG	14817.06	2.43	36005.46
12	2 way stretch polyester + sbr + 2 way stretch polyester	KG	21509.4	42.03	904040.08
13	Polyester + eva foam + 2 way stretch polyester	KG	9554.46	32.27	308322.42
Total					**2420818.35**

Table 4-2: Raw Material Requirement (Supporting Materials Per Year)

No	Description	Unit	Qty	Price	Total Cost
1	Zipper	KG	22249.56	4.16	92558.04
2	Zipper puller	KG	9068.05	9.46	85783.75
3	Plastic fittings	KG	6666.31	6.94	46264.19
4	Hardware accessories	KG	1913.63	42.67	81654.59
5	Webbing	KG	39342.22	3.56	140058.30
6	Velcro	KG	1200.12	5.8	6960.70
7	Plastic tape	KG	11180.76	1.86	20796.21
8	PE board	KG	37178.72	1.58	58742.38
9	Polyester thread	KG	6557.64	4.28	28006.70
10	Emblem	KG	1029.8	127.28	131072.94
11	Hardware pull bar	KG	375	4.03	1511.25
12	Wheel	KG	11636.57	3.86	44917.16
13	Carton	KG	31149.06	1.41	43920.17
14	LDPE	KG	11035.56	2.52	28490.01
15	Elevator	KG	2820.63	19.29	54409.95
16	Plumb line	KG	19.41	8.87	172.17
17	White paper	KG	221.41	1.44	318.83
Total					**865697.36**

4.6 Machinery and Equipment

There are 4 lines of operation and lists of machinery and equipment required for the Golden Tri Light Co., Ltd is following in Table 4.3 and Table 4.4.

Table 4-3: Lists of Machinery and Operation Machine to be Imported

No	Description	Qty	Price US$	Total US$	Remark
1	Single needle standard rotary hook & reverse sewing machine (8B)	80	580	46,400	Sewing
2	Single needle standard rotary hook & reverse sewing machine (341)	20	770	15,400	Sewing
3	Compound feeding flat sewing machine	320	480	153,600	Sewing
4	Regular compound feeding flat sewing machine	40	320	12,800	Sewing
5	Sewing machine	20	340	6,800	Sewing
6	Double beard needle sewing machine	40	480	19,200	Sewing
7	Direct drive lock stitch bar tacking machine	16	1850	29,600	Sewing
8	Electronically Controlled Sewing machine 20*10	12	1750	21,000	Sewing
9	Electronically Controlled Sewing machine 25*16	8	2000	16,000	Sewing
10	Electronically Controlled Sewing machine 30*20	12	2350	28,200	Sewing
11	High Pole Sewing Machine	4	1050	4,200	Sewing
12	Heavy duty compound feet lockstitch sewing machine	4	750	3,000	Sewing
13	Webbing Cutting Machine (cold cut)	4	400	1,600	Sewing
14	Webbing Cutting Machine (cold & hot cut)	4	600	2,400	Sewing
15	Peeling Machine	4	540	2,160	Sewing
16	Balance Hydraulic head cutting machine	8	6000	48,000	Sewing
17	Two stroke reviting machine	4	3000	12,000	Sewing
18	Botton machine	24	125	3,000	Sewing
19	Air compressor	8	250	2,000	Sewing
20	Grinders	8	30	240	Sewing
21	Leather stripping cutting machine	4	900	3,600	Sewing
22	Material Measuring Machine	4	500	2,000	Sewing
23	Electric Scissors	4	300	1,200	Sewing
24	Material cutting Scissors	4	100	400	Sewing
25	Finishing Blower for thread	20	50	1,000	Sewing
26	Welding Tools	4	100	400	Sewing
27	Manual grinder	4	30	120	Sewing
28	Electronic scales	4	350	1,400	Sewing
29	Wrapping machine	4	400	1,600	Sewing
30	Edge folding machine	20	150	3,000	Sewing
31	Resin Shredding machine	4	600	2,400	Sewing
32	Auto high frequency voltage machine	4	2,150	8,600	Sewing
33	SYSCAD Auto Pattern Software's & Ink-jet Cutting Machine (Sample Room)	2	13,000	26,000	Cutting
34	SYSCAD laser cutting machine (Sample Room)	2	7,000	14,000	Cutting
35	Constant Temperature Tunnel Oven	2	600	1,200	Cutting
36	Industrial Dehumidifier	5	600	3,000	Cutting
37	Belt Conveyer	10	500	5,000	Cutting
38	Cutting presses with Turning Arms	2	2,000	4,000	Cutting
Total		**743**		**506,520**	

Table 4-4: Lists of Machinery and Operation Machine to be Imported

No	Particular	A/U	Qty	Price US$	Value US$
1	Compound feeding flat Sewing machine (JL-0303D)	Set	80	480	38,400
2	Single needle standard rotary hook & reverse sewing machine (JL-8B)	Set	20	580	11,600
3	Single needle standard rotary hook & reverse sewing machine (JL-341)	Set	2	770	1,540
4	Regular Compound feeding flat sewing machine (JL-303)	Set	10	320	3,200
5	Sewing Machine (JL-8700)	Set	6	340	2,040
6	Double beard needle sewing machine (JL-872)	Set	6	480	2,880
7	Direct drive lock stitch bar tacking machine (JL-430D)	Set	2	1,850	3,700
8	High Frequency machine (LXT4-RQ)	Set	1	2,150	2,150
9	Electronically controlled sewing machine (JL-2010)	Set	2	1,750	3,500
10	Electronically controlled sewing machine (JL-3020)	Set	2	2,350	4,700
11	High pole sewing machine (JL-8365)	Set	2	1,050	2,100
12	Heavy duty compound feet lockstitch sewing machine (JL-4400)	Set	2	750	1,500
13	Webbing Cutting Machine (cold & hot cut) (JL-988)	Set	2	600	1,200
14	Peeling Machine (JL-801)	Set	2	540	1,080
15	Balance Hydraulic Head Cutting Machine (HR-5B40T)	Set	2	6,000	12,000
Total			**141**		**91,590**

Figure 4-3: Photos of Machines

4.7 Production Activity

Bags manufacturing is an assembly-oriented activity with a great range of raw materials, product types, production volumes, supply chains, retail markets and associated technologies. There are six main processes in the operation phase of the project. They are as follows;

1. Material Receiving
2. Cutting
3. Sewing
4. Inspection
5. Finishing
6. Packing and Shipping

4.8 Material receiving

Raw material received are inspected to ensure receive the right material in the right quantity and in the right quality as well and then storage in the proper condition.

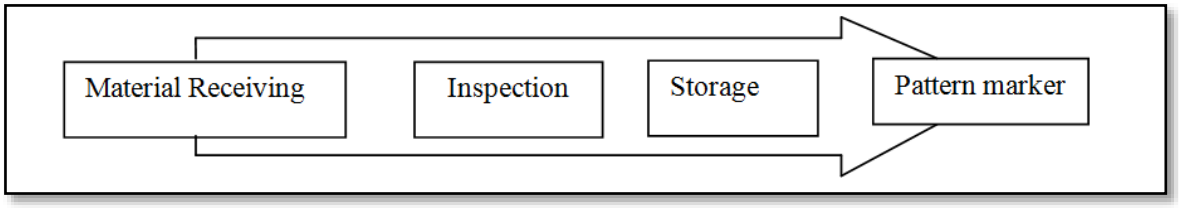


Figure 4-4: Process Flow of Material Receiving

Figure 4-5: Photos of Materials & Accessories Receiving

4.9 Cutting

Cutting department receives raw material from warehouse. Before cutting process, fabric is checked by fabric checking machine. After that, it is transferred to the spreading and cutting area of the bags manufacturing facility. The inspected fabric is placed on the cutting table in layers and cut into uniform plies and then spread in preparation for the cutting process. The fabric is then cut with the help of cloth cutting machine. Lastly, the fabric is cut to the shape of the bag forms using either manually operated cutting equipment or a computerized cutting system.

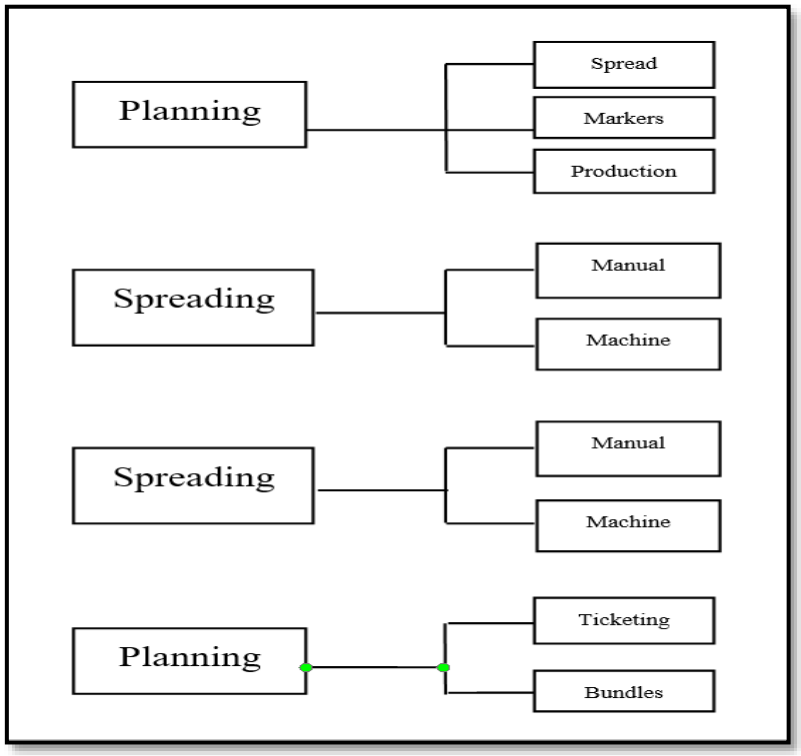


Figure 4-6: Process Flow for Cutting

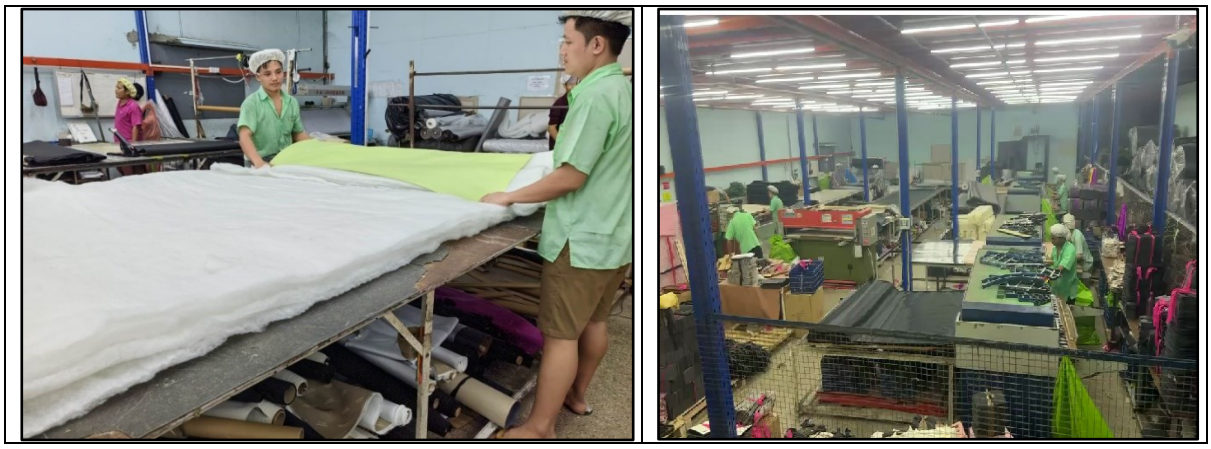


Figure 4-7: Photos of Cutting Section

4.10 Sewing

Sewing machine operators receive a bundle of cut fabric and repeatedly sew the same portion of the bag, passing that completed portion to the next operator. The sewing department takes in cut pieces according to their daily sewing capacity. The factory utilizes quality equipment. Stored machines are covered to protect them and oiled to prevent rust formation and, thus, keep them operation and ready for use at any given time.

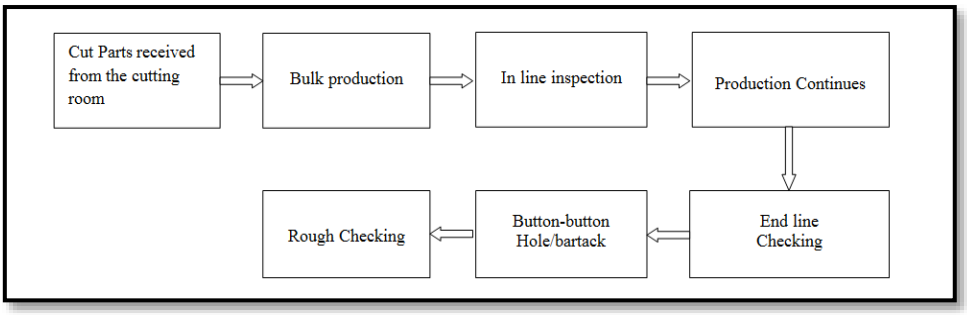


Figure 4-8: Process Flow for Sewing

Figure 4-9: Photos of Sewing Section

Figure 4-10: Photos of Stitching with Glue

4.11 Inspection

The quality of bags depends on proper inspection of every step of bag production. For maintaining the required quality level needs to check every step of bag production. This procedure is known as bags. In bags industry, there are three stages of bag inspection. The steps of bag inspection are as below.

1) Raw Material Inspection
2) In Process Inspection
3) Final Inspection

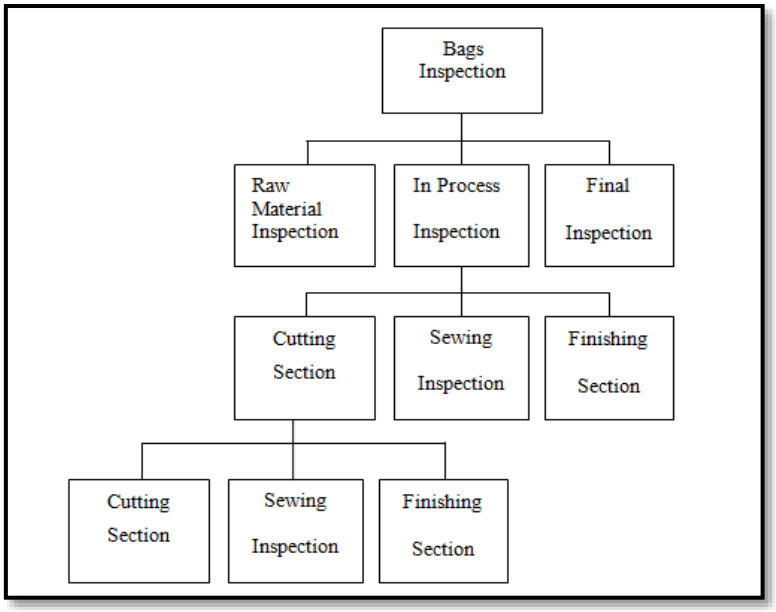


Figure 4-11: Process Flow for Inspection

Figure 4-12: Photo of Inspection Section

4.12 Finishing

Bags are treated by stream also required finishing should be completed here. This process is done by using manual method. Finally, the complete bags are inspected here according to the buyer's specification. Final inspection is done by manual method.

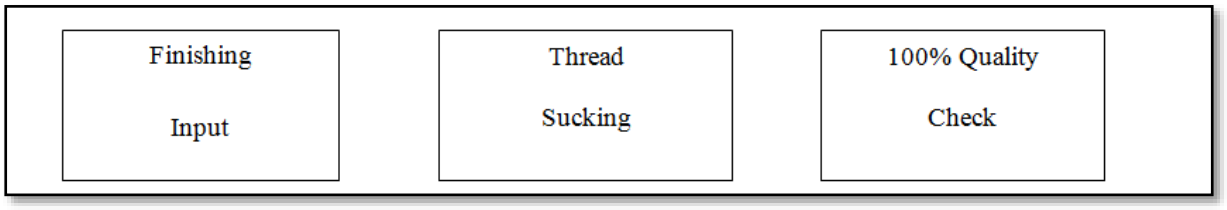


Figure 4-13: Process Flow for Finishing

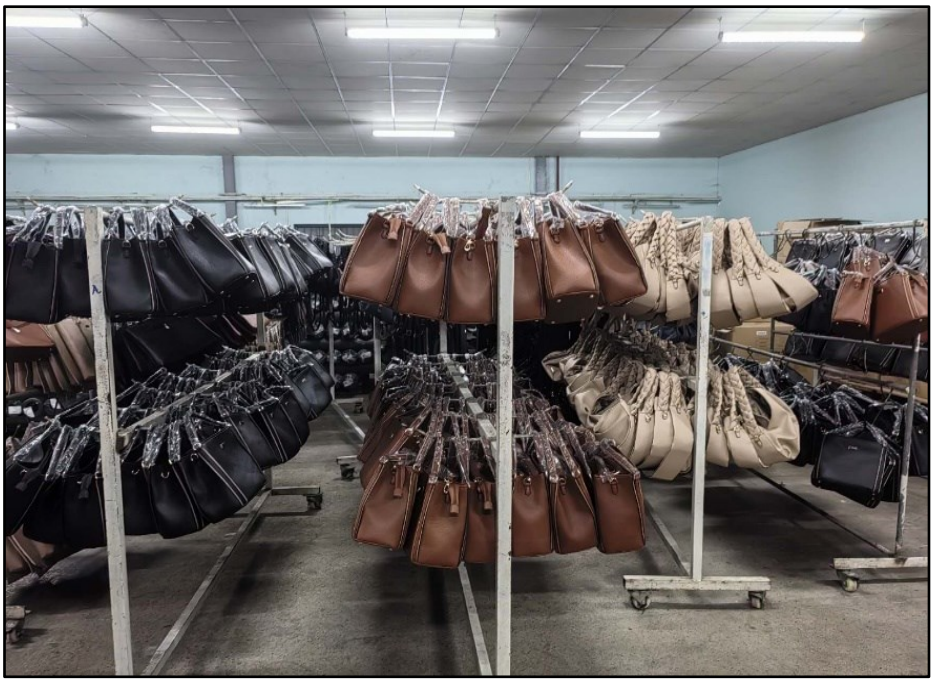
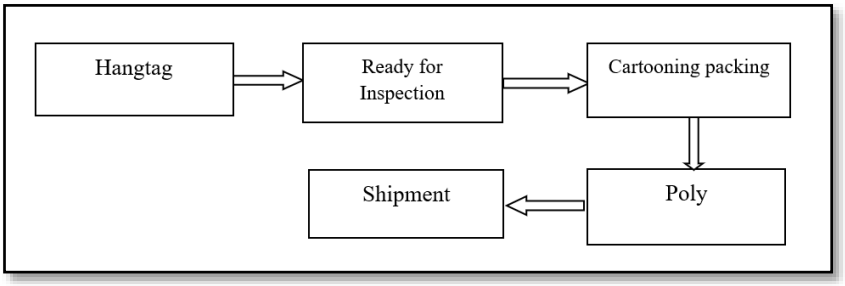


Figure 4-14: Photo of Finishing Products

4.13 Packing and Shipping

After above process, bags are ready to next step of packing. The bags are bagged to keep the bags dust, dirt and other impurities free and to send the bag safely. Complete bags are packed here by using buyers instructed poly bag. To minimize the damages of bag all the bags have to cartoon by maintaining buyer's instruction. After completing all the required processes it's finally send to the buyer.



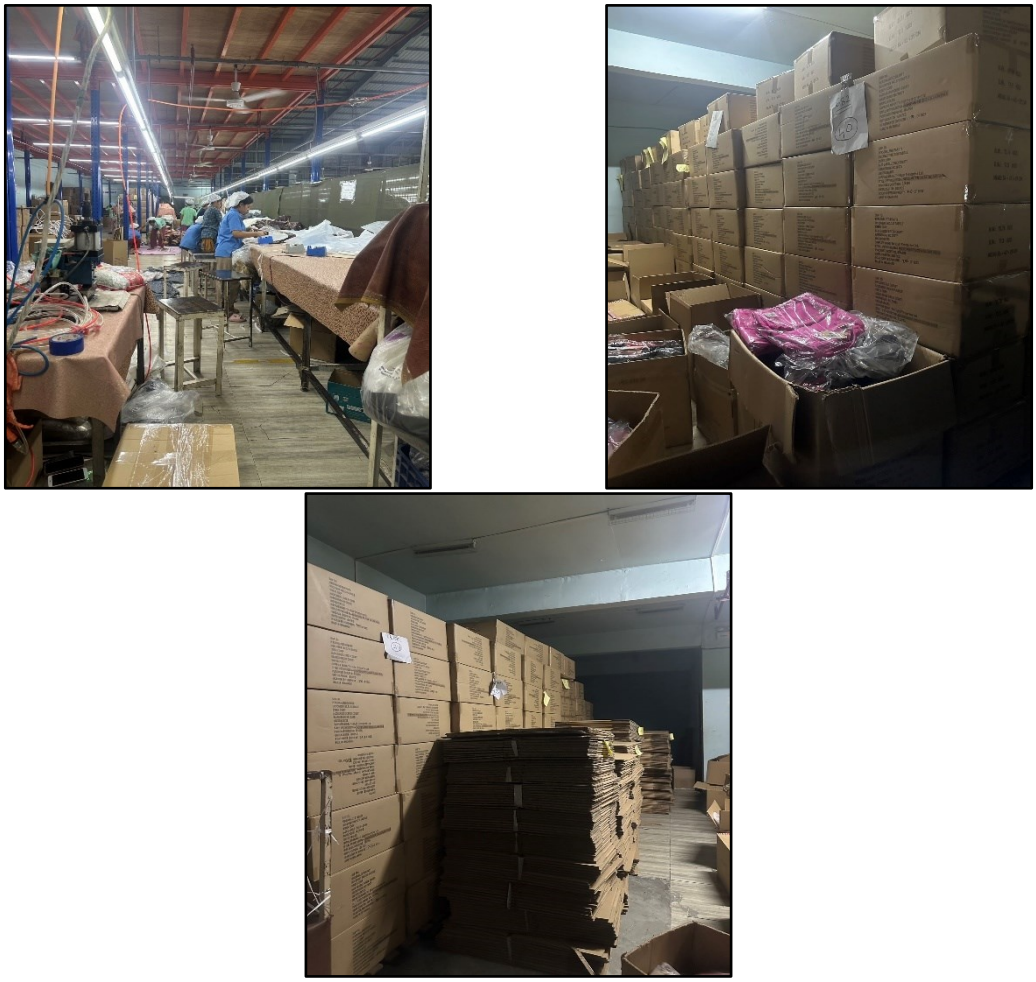


Figure 4-15: Photos of Packing Section and Finishing Products Area

4.14 Resource Requirement

4.15.1 Human Resource of Requirement

Golden Tri Light Co., Ltd composes of well-trained staffs and local people from nearby Hlaing Thar Yar Township as well as foreign experts. The production is managed by 6 foreign technicians. During the project assessment process 460 employees are local people. Local employment is the main socio-economic benefit that the project can directly bring to people living in the community nearest to the plant.

Table 4-5: Lists of Local and Foreign Employee

No	Type of Employee	Total
1	Foreign Technicians	6
2	Local Employee	460
Total Local Employees		**466**

4.15.2 Working Hour

Normally, there are twenty-six (26) working days per month and (295) working days per year.

Monday to Friday:	Working time	- 8:00 am to 4:30 pm
	Lunch Time	- 12:00 pm to 12:30 pm
	Over Time (if required)	- 5:00 pm to 6:30 pm
Saturday		- 8:00 am to 12:00 pm
Sunday		- OFF

Over Time (if required)

4.15 Products and Production Activity

The products of Golden Tri Light Co., Ltd are jackets, pants and dresses. Annual production capacity is around 200,000 pcs/month, 2,400,000 pcs/year.

Table 4-6: Sale Statement Activity

No	Particular	Unit	Year									
			Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Yr7	Yr8	Yr9	Yr10
1	**Export Sale** (a) Quantity All kinds of bags Trolley (GTL-SB10)	Pcs(000)	150.0	160.0	170.0	180.0	180.0	180.0	180.0	180.0	180.0	180.0
2	Backpack (GTL-Y2KA)	Pcs(000)	180.0	200.0	210.0	215.0	215.0	215.0	215.0	215.0	215.0	215.0
3	Sports bag (GTL-808)	Pcs(000)	160.0	170.0	180.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0
4	Ladies bag (GTL-5028)	Pcs(000)	190.0	195.0	200.0	205.0	205.0	205.0	205.0	205.0	205.0	205.0
5	Canvas long wallet (GTL-PS81)	Pcs(000)	160.0	170.0	175.0	180.0	180.0	180.0	180.0	180.0	180.0	180.0
6	Canvas backpack (GTL-CB151)	Pcs(000)	200.0	210.0	220.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0
7	**(b) CMP Charges** All kinds of bags Trolley (GTL-SB10)	US$/Pcs	3.00	3.00	3.20	3.20	3.50	3.50	3.50	3.50	3.50	3.50
8	Backpack (GTL-Y2KA)	US$/Pcs	2.00	2.00	2.10	2.10	2.20	2.20	2.20	2.20	2.20	2.20
9	Sports bag	US$/Pcs	1.30	1.30	1.50	1.50	1.80	1.80	1.80	1.80	1.80	1.80

No	Particular	Unit	Year									
			Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Yr7	Yr8	Yr9	Yr10
	(GTL-808)											
10	Ladies bag (GTL-5028)	US$/Pcs	2.00	2.00	2.30	2.30	2.50	2.50	2.50	2.50	2.50	2.50
11	Canvas long wallet (GTL-PS81)	US$/Pcs	1.20	1.20	1.20	1.20	1.40	1.40	1.40	1.40	1.40	1.40
12	Canvas backpack (GTL-CB151)	US$/Pcs	1.20	1.20	1.20	1.20	1.60	1.60	1.60	1.60	1.60	1.60
13	**(c) Value (a x b)** All kinds of bags Trolley (GTL-SB10)	US$/ML	0.4500	0.4800	0.5440	0.5760	0.6300	0.6300	0.6300	0.6300	0.6300	0.6300
14	Backpack (GTL-Y2KA)	US$/ML	0.3600	0.4000	0.4410	0.4515	0.4730	0.4730	0.4730	0.4730	0.4730	0.4730
15	Sports bag (GTL-808)	US$/ML	0.2080	0.2210	0.2700	0.2775	0.3330	0.3330	0.3330	0.3330	0.3330	0.3330
16	Ladies bag (GTL-5028)	US$/ML	0.3800	0.3900	0.4600	0.4715	0.5125	0.5125	0.5125	0.5125	0.5125	0.5125
17	Canvas long wallet (GTL-PS81)	US$/ML	0.1920	0.2040	0.2100	0.2160	0.2520	0.2520	0.2520	0.2520	0.2520	0.2520
18	Canvas backpack (GTL-CB151)	US$/ML	0.2400	0.2520	0.3080	0.3220	0.3680	0.3680	0.3680	0.3680	0.3680	0.3680

4.15.1 Sale System

Sale system is 100% Export CMP basis.

4.16 Project Facilities

4.16.1 Electricity

The factory uses electricity supply from Yangon Electricity Supply Corporation (YESC) by using 2000 KVA transformer, 1250 KVA generators are used for not only production but also the whole factory. In this factory, generators are put on separating. Annual fuel (diesel) requirement is about 30 gallons/day, and 901 gallons/month and 10812 gallons/year (generator). Electricity usage is 344 units/day, 10325 units/month and 123,990 units/year.

Company Limited practices energy saving methods by using LED tube and installs electrical switch boards for each department. Apart from specially designated equipment all staff switches off all electrical equipment when not in use or when not using for any prolongs periods.

Figure 4-16: Photo of Transformer

Figure 4-17: Photos of Generator and Fuel Storage Area

4.16.2 Water Supply

The production water sources are from on-site tube well. The factory gets water from one tube well located in the factory compound. After pumping the groundwater, the water is stored in the ground storage tank and then pumped into the overhead water tank. Factory has one overhead tank, one ground tank and one steel tank (300 L). Water for firefighting is stored in one ground tank of 30000 gallons. Pumps and distribution pipes are installed to supply water for factory use and for water ventilation cooling system. Figure 4-18 is described by water storage tank and drinking water supply for Golden Tri Light Co., Ltd.

Domestic wastewater generated by maximum amount of 466 persons with assumption rate 46.6 m^3/day (1398 m^3/month and 16776 m^3/year) was calculated based on domestic wastewater generated rate of 0.1m^3/person/day. This water will be released in operation hour discharge to septic tank or factory drainage.

Figure 4-18: Photos of Water Supply

4.16.3 Drainage

In the factory compound, there are drainage systems for storms water and domestic system. The existing drainage system includes internal and external drainage system. Both drainage systems are provided with proper concrete. The water from the project is discharged to industrial drainage system located in front of the factory.

Figure 4-19: Photo of Drainage

4.16.4 Garbage Tank

A storage room for factory normal waste is installed in front of the building, Fabric waste, domestic waste from office and canteen are collected first at the garbage room. The factory practices waste segregation system. Pieces of fabric waste are sold from the company. Domestic waste from office and canteen are disposed every other day to YCDC waste dumping site by third party collector once per month. As it is a garment factory, no hazardous waste is produced. The number of staff and workers required in the day shift for the factory is maximum 466 persons during operation. Solid waste generated from maximum amount of operations and office staffs with assumption of waste generation rate at 237 kg/day was calculated based on solid waste generation rate of 0.51 kg/person/day1.

Figure 4-20: Photos of Cutting Pieces and Recycle Area

4.16.5 Ventilation

All habitable inner spaces shall be provided with natural ventilation or mechanical ventilation. Natural ventilation of an occupied space shall be through windows, doors, louvers or other openings to the outdoors in the office room. The operating mechanism for openings shall be provided with ready access so that the openings are readily controlled by the building occupants. The factory has good ventilation due to the height of the ceiling.

Figure 4-21: Photo of Ventilation

5 BASELINE ENVIRONMENTAL QUALITY

The following section provides a description of the baseline environmental quality. Mitigation measures for the environmental impact are described in Section 8.0.

5.1 Physical Environment Around the Project

5.1.1 Topography

The surrounding terrain is mostly flat land, the elevation approximately ranges from +14 ft (4.26 m) to +26 ft (7.9m). The ground elevation around the factory approximately ranges from +20 ft (6.0 m) to +23 ft (7.0m). The counter map of the area shows most gentle relief. The soil type of Hlaing Thar Yar Township is Meadow and Meadow alluvial soil.

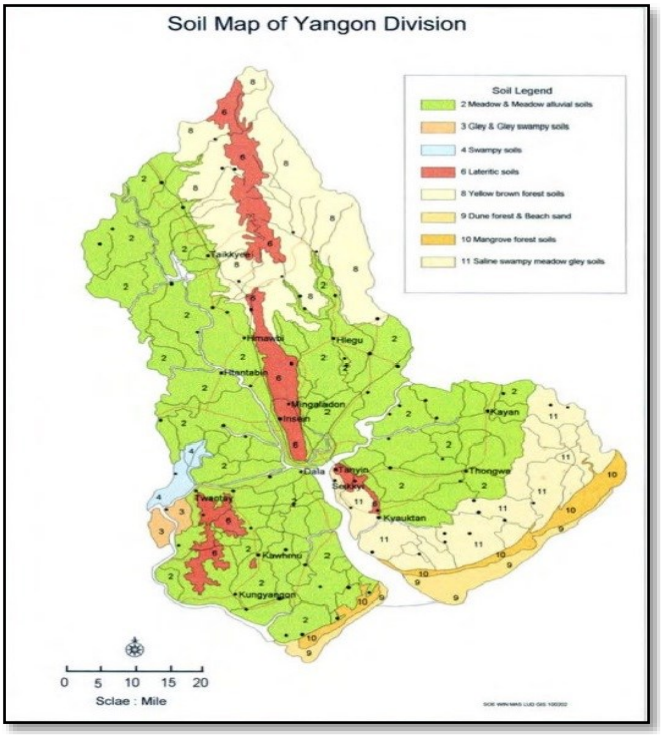


Figure 5-1: Soil Map of Yangon Region

5.1.2 Climate

Climate in Hlaing Thar Yar Township can be characterized by climate of Yangon. Yangon has a tropical monsoon climate under the Koppen climate classification system. The city features a lengthy rainy season from May through October where a substantial amount of rainfall is received and a dry season from November through April where little rainfall is seen. It's primarily due to the heavy precipitation received during the rainy season that Yangon falls

under the tropical monsoon climate category. During the course of the year, average temperatures show little variance with average maximum ranging from 29º to 36º C (84º to 97º F) and average lows ranging from 18º to 25º C (64º to 77º F). Average annual rainfall in Yangon is approximately 2,900 mm. Information about seasonality will be obtained from department of meteorology and hydrology (Myanmar).

5.1.3 Water Body

The nearest creek is the Hlaing River which is a little bit far from the project vicinity and Hlaing River is 367.39 meters North East direction of the project site. The nearest protected area is Hlaw Gar Park which is located 8.43 miles North East direction of the factory.

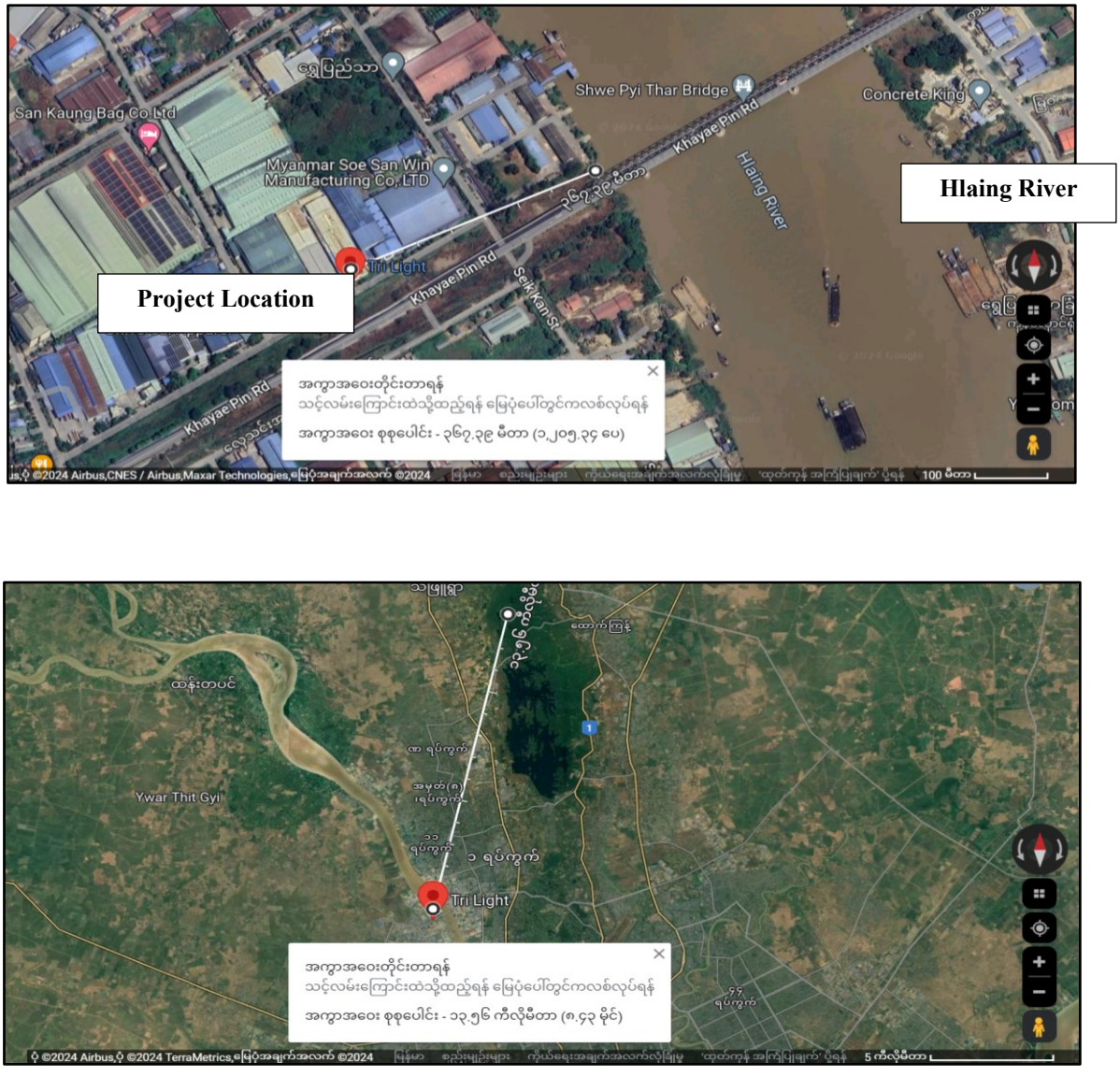


Figure 5-2: Project Location, the Nearest River and the Nearest Protec Area

5.1.4 Land Use

The total area is 2.773 acres. Golden Tri Light Co., Ltd is situated in Ngwe Pin Lal Industrial Zone and current land use is industrial land use. Being situated in industry zone the nearby land use is industrial land use and factories are situated in the area with moderate density. The existing land use around the project site is as follows:

Surrounding Factories – Myanmar Soe San Win Manufacturing Co., Ltd
- Jiu Sheng (Myanmar) Knitted Wear Co., Ltd
- Universal Apparel Co., Ltd

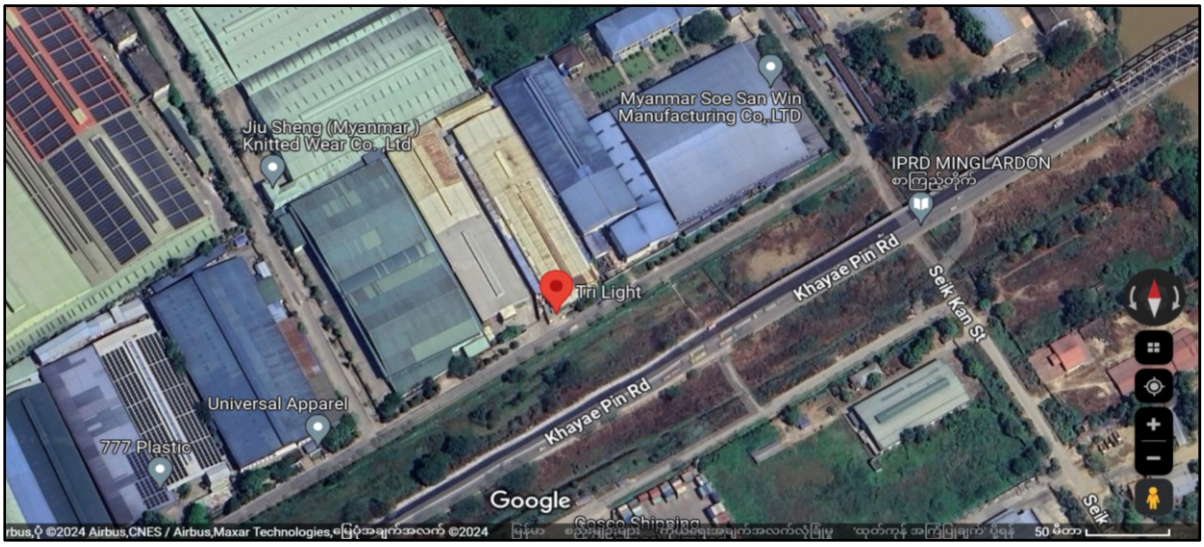


Figure 5-3: Project Location, the Surrounding Factories

5.1.5 Archaeological Land and Cultural Resources

There is no archaeological site or recreational area within the project vicinity. Consequently, non-impacts to cultural heritage are anticipated.

5.2 Baseline Environmental Monitoring of the Project

The baseline environmental quality at the Project Site and its immediate surroundings was established by groundwater, wastewater and ambient air quality samples; as well as noise measurements at immediate surrounding areas. The data is presented below.

5.2.1 Air Quality

To determine the existing baseline ambient air quality status within the project site on 9th, August 2019, 8-hour of working period air pollutants level, which include dust (PM_{10} and $PM_{2.5}$) and gases (CO, CO_2, SO_2, NO_2) were measured at the selected site during the HAZSCANNER air monitoring station. To reveal the existing status of baseline air quality, the average ambient air qualities measured were compared with National Environmental

Quality (Emission) Guideline and international ambient air quality standard (NAAQS, ACGIH) guidelines. The measurement location point is situated at latitude 16° 55' 24.672" N and longitude 96° 4' 11.172" E.

Figure 5-4: Photo Records of Air Monitoring at the Factory

Table 5-1: Observed Air Quality Results

Parameters	Observed value	Guideline value	Unit	Organization	Period
CO_2	303.86	5000	ppm	NAAQS	8 HRS
CO	0.704	35	ppm	ACGIH	8 HRS
NO_2	17.497	200	µg/m3	NEQEG	8 HRS
SO_2	8.7646	20	µg/m3	NEQEG	8 HRS
PM_{10}	63.4823	50	µg/m3	NEQEG	8 HRS
$PM_{2.5}$	7.5487	25	µg/m3	NEQEG	8 HRS

NAAQS = National Ambient Air Quality Standards were developed by the U.S EPA
NEQEG = National Environmental Quality (Emission) Guideline
ACGIH = the American Council of Governmental Industrial Hygienists Recommends

It was observed that the air quality of CO_2, CO, SO_2, NO_2 and $PM_{2.5}$ concentration level are within the limit of guideline but particulate matter PM_{10} is a little bit exceed the guideline because this is mainly due to the transportation of raw materials and products in the factory and release of trucks and emissions from leaking air conditioners.

The possible emission sources of PM_{10} and $PM_{2.5}$ are expected from natural origin such as dust from around the factory compound, combustion of fuel burning facilities of nearby factories (such as boiler, generators, industrial-use vehicles such as trucks., etc) sources which use coal or wood as fuel in their operation processes in Ngwe Pin Lal Industrial Zone and other transportation vehicles. It can be concluded that the air quality parameters within the factory are acceptable-level.

5.2.2 Noise

The Noise level was measured by using Digital Sound Level Meter (5T436355) for working hours on 5th, September 2023. The main sources of noise during the operation period are from maintenance of engineering department and from the production activities and functions. Therefore, the objectives of acoustic environment management during operation period are to decrease the noise level, adopt the measures such as sound insulation, sound absorption, and any buffer system etc. so as to reduce the impact on the surrounding environment. MONREC has issued National Environmental Quality (Emission) Guidelines to provide the basis for regulation and control of noise level. Noise impact should not exceed the levels presented in Table. When the generator is in use during the sound measurement, it exceeds the standard, the noise in the sewing line is caused by the sewing machines, QC area is located top of the sewing lines and boiler is operated in production time so that its sound level is exceed the guideline.

Table 5-2: Noise Level Standard

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

Table 5-3: Noise level Measurement Result

No	Location	Measured Value (dBA)	Industrial, Commercial Standard
1	Warehouse	60.3	70
2	Cutting Area	68	
3	Sewing Area	77.6	
4	QC Area	67	
5	Packing Area	65.1	
6	Generator	96	

5.2.3 Lightening and Temperature

Lighting is important for the work place. Activities of the workers in the factory are highly dependent on the quality of light and temperature. Golden Tri Light Co., Ltd uses natural day light during daytime. The factory arranges to have good quality of light at office and warehouse. Staffs adjust ambient air temperatures by using fans and air condition with appropriate ventilation fan speeds to maintain air freshness and comfort levels. Lighting and air conditioning are switched off whenever it is not required, with due to allowance for safety and hygiene considerations. According to the result of light measurement at operation area (inside the production sector) is in good condition and at the acceptable level of standard

Table 1-1: Recommended Illumination and Limiting Glare Index based on IES code (1968)

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

Table 1-2: Monitoring Measurement of Light (lux)

No.	Location	Measured Value (lux)	Standard
1	Warehouse	300	600
2	Cutting Area	568	
3	Sewing Area	521	
4	QC Area	570	
5	Packing Area	499	

5.2.4 Water Quality

5.2.4.1 Ground Water Quality

Water supply during operation is extracted from the tube well. Domestic wastewater from the office staff, bathrooms and toilets (male toilets 3 nos and female toilets 11 nos) are disposed through the factory compound to industrial zone drainage system. There is no wastewater generated from the factory activities.

Table 1-3: Drinking Water Quality Standard

Parameter	Existing Standard	Parameter	Standard for the Reprovisioned Sha Tin WTW South Works
pH at 25°C	8.2 – 8.8	pH at 25°C	8.2 – 8.8
Colour	Not exceeding 5 Hazen units	Colour	Not exceeding 5 Hazen units
Turbidity	Not exceeding 1.5 NTU	Turbidity	Not exceeding 1.0 NTU, and not exceeding 0.3 NTU in 95% of daily samples in any month
Iron as Fe	Not exceeding 0.1 mg/L	Iron as Fe	Not exceeding 0.1 mg/L
Manganese as Mn	Not exceeding 0.05 mg/L	Manganese as Mn	Not exceeding 0.05 mg/L
Aluminium as Al	Not exceeding 0.10 mg/L	Aluminium as Al	Not exceeding 0.10 mg/L
Free residual chlorine	0.5 - 1.5 mg/L	Free residual chlorine	0.5 - 1.5 mg/L
Fluoride as F	± 10% of norminal level (current 0.5 mg/L)	Fluoride as F	± 10% of norminal level (current 0.5 mg/L)
Taste and odour	Unobjectionable	Taste and odour	Unobjectionable
Total Coliforms & E.coli (no./100mL)	Absent	Total Coliforms & E.coli (no./100mL)	Absent
-	-	Cryptosporidium	4-log (99.99%) reduction or inactivation
-	-	Giardia	4-log (99.99%) reduction or inactivation
-	-	Viruses	4-log (99.99%) reduction or inactivation

5.3 Wastes

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

In the operation phase, major solid waste of the proposed manufacturing of various kinds of bags factory may be generated from production lines, cutting and packaging. Factory will used fabric, leather, thread and carton box as raw materials. The residual pieces of the fabric scarps form the production lines and cutting line used carton box, plastic sheet from the packaging is the main source of solid waste. In addition to factory solid waste, canteen, kitchen and dormitory will produce solid waste mainly personal remnants, household wastes and food residues.

If solid waste is not managed properly it can impose great danger to the environment & community, which are; poorly disposed waste system yarn, waste paper & especially plastic waste can block drainage, empty chemical drums & containers if not disposed properly can pollute soil & water of the receiving environment; odor emanating from degradable waste especially kitchen waste can pollute local ambient air; poorly managed and disposed kitchen waste can attract dieses vectors; decomposing kitchen waste can pollute local ambient condition; poorly managed electrical, mechanical and chemical wastes can pollute soil, water and air, etc.

Some of the components of waste have beneficial value and can be recycled once correctly recovered. Proper management of waste can be reduced the negative impacts on environment and society.

Golden Tri Light Co., Ltd develops a comprehensive waste control and management system for production process Golden Tri Light Co., Ltd provides a bin for each sewing machine and waste bins are kept at various locations in offices and plant.

Hazardous solid waste includes contaminated soils, which could potentially be encountered on-site due to previous land use activities, or small amount of machinery maintenance materials, such as oily rags, used oil filters, used oils. All hazardous wastes should be handling in a way that meets the requirements of the hazardous waste section of the Environmental Management Plan and hazardous waste should not be disposed of with general waste.

Other **non-hazardous solid** wastes include office, kitchen and dormitory wastes. Waste from canteen and dormitory and sanitary wastes from office are disposed of at bins. In order to prevent contamination to the underground water, frequent cleaning and pumping out of septic tank are done.

For disposing some domestic waste such as plastic bags, plastic water bottles, papers, packing paper and putrid foods and other wastes from factory, they are transported by the third-party

collector to the destined and disposing is made under guidance of YCDC. The final sludge wastes are disposed by Water and Sanitary Department of YCDC.

In general, environmental impacts from disposing of production and domestic wastes are considerably low as wastes are reused and recycled.

5.4 Biological Environment

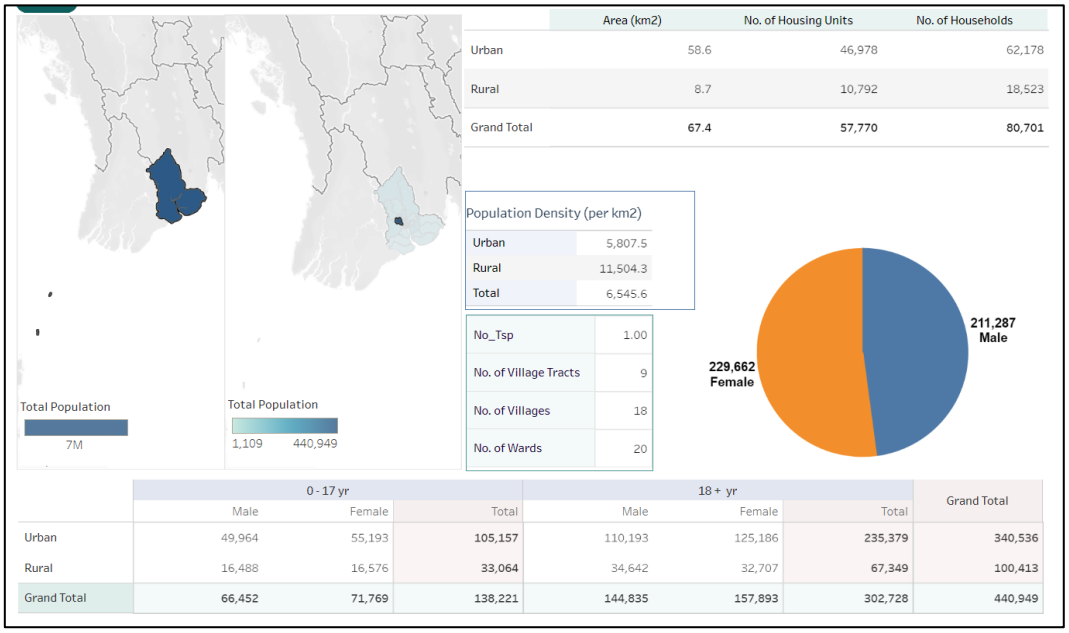
From the environmental impact point of view, biological resources are not relevant to the project as it is located in the Industrial Zone. In addition, within the factory area, there are no forests and protected.

Table 1-4: Existing Condition of Ecological Resources

Ecological Resources	Existing condition
Fisheries, aquatic biology	The nearest river is Hlaing river. Fresh water fish species are residing in the river.
Wildlife	Non existence
Forests	Non existence
Rare or endangered species	Non existence
Protect area	The nearest protected area is Hlaw Gar Park which is located about 8.43 miles north east direction of the factory.
Coastal resources	A few mangrove species observed at the river banks of Hlaing.

5.5 Socio-Economic Environment

Ngwe Pin Lal Industrial Zone is located is located within Hlaing Thar Yar Township. Hlaing Thar Yar Township has a total area of 67.4 km^2 and a total population of 440,949 comprising 211,287 male and 229,662 female. The township has 25 primary schools, 7 middle schools, 26 high schools and 2 universities. There are 1 government hospitals and 3 private hospitals.



	Area (km2)	No. of Housing Units	No. of Households
Urban	58.6	46,978	62,178
Rural	8.7	10,792	18,523
Grand Total	67.4	57,770	80,701

Population Density (per km2)	
Urban	5,807.5
Rural	11,504.3
Total	6,545.6

No_Tsp	1.00
No. of Village Tracts	9
No. of Villages	18
No. of Wards	20

	0 - 17 yr			18 + yr			Grand Total
	Male	Female	Total	Male	Female	Total	
Urban	49,964	55,193	105,157	110,193	125,186	235,379	340,536
Rural	16,488	16,576	33,064	34,642	32,707	67,349	100,413
Grand Total	66,452	71,769	138,221	144,835	157,893	302,728	440,949

Education Statistics

	Government (DBE - 2018-2019)			Monastic (DPPS - 2017-2018)			
	Schools	Students	Teachers	Schools	Students		Teachers
	-	Total	Total	-	Female	Male	Total
Primary	25	48,645	917	7	1,066	1,178	177
Middle	7	32,326	725	9	3,248	3,315	45
High	26	12,290	333	0	0	0	0
Grand Total	58	93,261	1,975	16	4,314	4,493	222

6 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

6.1 Overview of Impacts

The manufacturing of various kinds of bags is unlikely to cause any major negative environmental and social impacts. The project operation would create potential environmental issues and proper management is pertinent to minimize the environmental impacts. The impacts specific to the project operation phase will be (a) Air pollution, (b) Solid Waste, (c) Safety. With timely and proper implementation of this EMP and application of appropriate mitigation measures, most if not all the potential negative impacts can be prevented or minimized. The social outcomes of the factory are expected to be positive by creating employment opportunity.

6.2 Impact Prediction Methodologies

To identify impacts, the methods of description of the environment likely to be affected and description of the likely significant effects are used. In terms of impact analysis, the following considerations have been applied.

(A) Severity

- Magnitude (severity) of impact (will the impact be of high, moderate or low severity?); and
- Scale/extent of impact (will the impact affect the national, regional or local environment, or only that of the site?)

Table 6-1: Evaluation of Severity/Magnitude of Impacts

Environmental Aspects	Environmental Impact							
	Scale of Impact	Score	Scale of Impact	Score	Scale of Impact	Score	Scale of Impact	Score
	Low	1	Medium	2	Critical	3	High	4
Reversible/ Irreversible	Reversible		Reversible		Irreversible		Irreversible	
Extent	Site		Local		Regional		National	
Duration	Short Term		Medium Term		Long Term		Permanent	
Effluent	Non-toxic pollutant, easily biodegradable (ex; treated domestic waters, clean drainage effluents)		Low toxicity pollutant (e.g., treated production waters)		Toxic pollutant, production waters with chemical content and poor treatment.		High toxicity pollutant	
Gaseous emissions (abnormal situation)	Gas pollutant (PM, NO_X, SO_2, SO_3,CO_2)		Gas <1 kg of pollutant. Flaring rate increase of 100000 m^3per day)		Gas 1kg to 300kg of pollutant		Gas >300 kg of pollutant. Increase of	

			Flaring rate increase: 100000 m^3/d to 3M m^3/d	flaring rate >3M m^3/d
Waste Production	Easily recyclable wastes	Inert wastes	Industrial wastes low toxicity, available local treatment	Industrial toxic wastes are required specific treatment.
Hazardous wastes discharge	Low Quantity and Low effect on environment	Average quantity spilled and/or low effect on environment (pollution of soils and surface waters)	Important quantity and impact on environment	Very important quantity and impact on environment (soils and water table pollution)
Soil pollution	Low effect on environment, no remediation required.	Moderate effect on environment	Major damage on land requiring mitigation and remediation	Immediate planning and action required.
Land Use	Affective use of lands	Somewhat benefit to the locals	Only benefit to the project owner and no benefit to locals	Benefit to no party
Use of natural resources: Water, energy, raw materials	Use of renewable resources, use of recyclable resources.	Use of resources with sustainable practices Less significant effect of a critical asset	Significant effect of a high asset.	Significant loss of critical assets and resources
Impacts on biodiversity	Very small population of non-significant fauna and flora may be affected.	Significant loss of species and vegetation at local level	Major damage on High environmental sensitive areas such as primary forest, endangered flora and fauna species.	Loss of Ecosystem Extinction of endangered species regionally
Other impacts on ecosystems: noise, vibration, etc.	Insignificant short term disturbance with no environmental scarring or injuries.	Moderately environmental damages and injuries that can be readily absorbed but management effort is still required to minimize the Impact.	Severe damage resulting from a significant event that can be managed under normal procedures.	Catastrophic damage with potential long term consequences affecting the environmental integrity and livelihood of the area.
Public Health & Safety	No nuisance or health effect and safety hazards to human.	Acute or Chronic effect of some sensitive human.	Chronic effect of human health	Serious Health impacts or death of a person or people

(B) Probability of Occurrence (O)

- Probability of occurrence (how likely is it that the impact may occur?); and
- Duration of occurrence (how long may it last?)

This criterion is corresponding to the frequency of the impact occurrence.

Table 6-2: Evaluation of Probability of Occurrence

Probability of Occurrence	**1**	**Annual frequency or never occurred**
	2	**Monthly Frequency**
	3	**Weekly Frequency**
	4	**Daily frequency or chronicle**

(C) Control (C)

This criterion is used to evaluate the level of control of the aspect, depending on the detection available means, the operating procedures and the precautions taken.

Table 6-3: Evaluation of Level of Existing Controls

	1	**Highly Control**	Easy detection and control with operating procedures regularly checked and/or important precautions taken to lower impact.
Level of Control	**2**	**Medium Control**	Detection and control with operation procedures not regularly checked and/or average precautions taken to lower impact.
	3	**Low Control**	Detection without control (operation procedures not adapted) and/or few precautions taken to lower impact.
	4	**No Control**	No detection and/or no precaution taken to lower impact.

Table 6-4: Matrix of Significant Level of Environmental Risks

a. Severity (S)	b. Occurrence (O)	c. Control (C)	Significant level (S × O × C)	Addition Control
4	4	4	**64**	Provide alternative
	3	3	**36**	Must be implemented
	2	2		Should be implemented
	1	1		Regular Review
3	4	4	**48**	Must be implemented
	3	3	**27**	Should be implemented
	2	2		Regular Review
	1	1		Regular Review
2	4	4	**32**	Should be implemented
	3	3	**13**	Should be implemented
	2	2		Regular Review
	1	1		Regular Review
1	4	4	**16**	Should be implemented
	3	3		Regular Review
	2	2		Regular Review
	1	1		Regular Review

Table 6-5: Score Evaluation

Risk Score	Significance of Impact	Significance Description	Remark
1- 15	**Low**	**No significant**	No additional risk control, however, require frequent review.
16-32	**Moderate**	**Light impact,** try to improve	Require additional risk control measures and regular review.
33-48	**High**	**Significant impact,** real necessity to improve	Must provide appropriate risk control measures and continuous monitoring the effectiveness of improvement.
49-64	**Very High**	**Unsustainable situation**	Require alternative for the impact defined.

6.3 Summary of Potential Impact

The Environmental risk assessment has been developed through assessing Severity/ Magnitude of the impact(s), Occurrence/Probability of the impact(s) and existing control measures. Table 6-6 stated summary of environmental risks related to the plant operation and decommission phases (construction phase is completed).

Table 6-6: Environmental and Social Risk Assessment

Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
Construction Phase; It is not assessed in this phase because of construction is already completed during EMP preparation.							
Operation Phase							
Air Pollution	• Dust and GHGs emission from vehicles used for transporting raw materials and final products • Particulate matters emission from the activities of production process • Emission of smoke from kitchen • Emission from emergency diesel generator	3	4	2	4	36	Moderate
Water Pollution	• Sewage disposed of from the toilets • Oil spill and grease leaks from transporting vehicles and machinery equipment used in operation phase	2	4	2	3	24	Low
Soil contamination	• Accidental spillage of oil used by vehicles operating	1	4	1	2	12	Very low
Noise pollution	• Generating noise from the production machinery • Noise from the generating of the emergency generators	3	4	1	4	32	Moderate
Fire Hazard	• Poor electrical installations • Waste disposed area • Raw materials storage	3	4	2	3	27	Moderate
Solid waste	• Residual pieces of fabric scarps from the production lines • Waste from packaging materials • Waste from kitchen, dormitory and office	3	4	1	4	32	Moderate
Liquid waste	• Septic system and sewage • Domestic liquid waste disposal from office, kitchen and dormitory	2	4	2	4	32	Moderate
Hazardous waste	• Engine oil leaks, spill at diesel storage and during fuel refueling • Used oil and lubricant discharged from the maintenance of vehicles and machines	2	4	1	2	14	Very low

Occupational health and safety (accidents, injuries)	• Accidental cases cause by operating machines • Electricity and emergency diesel generators. • Unloading, mixing, cutting, pressing and packaging activities. • Accidental cases of thermic fluid heater	3	4	1	4	32	Moderate
Social-economic condition	• Job opportunities for local people	-	-	-	-	-	Positive impact
Decommissioning Phase							
Air pollution	• Decommissioning of buildings and related materials	3	1	1	4	20	Low
Water pollution	• Sewage from decommissioning workers • Demolition machinery equipment	3	1	1	3	15	Low
Soil contamination	• Decommissioning of buildings and related materials • Transportation of demolished materials	3	1	1	3	15	Low
Noise pollution	• Decommission activities • Transportation of demolished materials	3	1	1	3	15	Low
Waste disposal	• Sewage system • Demolished debris such as bricks concrete materials	3	1	1	3	12	Very Low
Hazardous waste	• Used lubricants from decommissioning vehicles and machines	3	1	1	3	12	Very Low
Occupational health and safety (accidents, injuries)	• Decommission activities • Transportation of demolished materials	3	1	2	3	18	Low
Social-economic condition	• Temporary job opportunities for local people	-	-	-	-	-	Positive impact

7 PUBLIC CONSULTATION PROCESS

Public consultation and information disclosure ensure that communities and stakeholders are part and parcel of the proposed developments and in so doing assure the sustainable use of resources. Public consultations form a useful component for gathering, understanding and establishing likely impacts of projects determining community and individual preferences and selecting alternatives.

Golden Tri Light Co., Ltd will make a consultation meeting to all the stakeholders and communities in the surrounding area to raise issues and concerns pertaining to the factory. The engagement activities using varied techniques are as follows:

a) Neighboring community/stakeholders can directly inform their township/ward to the Golden Tri Light Co., Ltd Office.

b) They can give their suggestions to the factory through the township/ward administration office or industrial zone office.

7.1 Engagement Techniques

Golden Tri Light Co., Ltd will be implemented a comprehensive range of engagement activities using varied techniques to ensure that the project effectively involves stakeholders. The using techniques for aforementioned discussions, meetings and survey are showed in following table.

Table 7-1: Engagement Techniques

Engagement Technique	Description
Company Address Factory Address	Golden Tri Light Co., Ltd provides company location and factory location in Yangon. This is relevant in easily way of accessibility for all kinds of stakeholders.
Hot Line Number	Golden Tri Light Co., Ltd operates a hot line number which is available during business hours. Phone +(95) 9 979 106 110, +(95) 9 430 401 98
Pamphlet	Golden Tri Light Co., Ltd will produce pamphlet available in community meetings for general information related with plant activities, environmental management, safety community development and public involvement.
Booklet	Golden Tri Light Co., Ltd will produce booklets to provide the community with project related activities including machine used, product value and their services. Booklets are available in community meetings for the provision of information with pictures and photographs.
Face to Face Meeting	Golden Tri Light Co., Ltd will engage directly with a range of stakeholders as required. In particular, Golden Tri Light Co., Ltd has an ongoing engagement with local authority persons, and community organizations.
Questionnaires and Surveys	Golden Tri Light Co., Ltd will conduct household survey in the vicinity of the plant location to evaluate the effectiveness of engagement mechanisms and gain an understanding of community perception interests and issues.
Public Meeting	Golden Tri Light Co., Ltd will conduct public meeting to generate more in-depth information around issues and concerns raised by stakeholders. These were giving stakeholders on opportunity to directly obtain information and ask questions concerned with the project

8 ENVIRONMENTAL MANAGEMENT PLANS

According to the outcomes from the Environmental and Social Impact Analysis, Environmental Management Plans are addressed to mitigate the potential impacts. The EMP generally takes account of the following crucial management plans.

1. Air Pollution/ Dust Management Plan
2. Noise Pollution Management Plan
3. Solid Waste Management Plan
4. Waste Water Management Plan
5. Occupational Health and Safety Management Plan
6. Hazardous Waste Management Plan
7. Water Consumption Management Plan
8. Emergency Response Management Plan
9. Environmental Monitoring and Reporting
10. Corporate Social Responsible (CSR) Plan
11. Budget Plan
12. Grievance Redress Mechanism

Table 8-1: Air Pollution/Dust Management Plan

The Purpose	♣ To minimize the adverse impact to air quality caused by stack gas emission from generator and also dust management generated from vehicular movement. ♣ To comply with relevant government	
Time Frame	Entire life of proposed project operation	
Management Plan	♣ Ensure and maintain good air quality within the factory. ♣ Conduct an initial assessment of the factory's air quality to determine existing pollutant levels and identify potential sources of contamination. ♣ Identify major stationary sources (industries, power plants), mobile sources (vehicles, transportation), area sources (residential, commercial), and natural sources (wildfires, dust storms) that contribute to air pollution. ♣ Install reliable air quality monitoring equipment at strategic locations within the factory such as cutting, sewing, and finishing sections. ♣ Establish a regular monitoring schedule based on the factory's operational hours and the potential for pollutant generation. Monitor during both peak and non-peak production periods. ♣ Conduct regular training sessions to educate employees about the importance of air quality. ♣ Maintain records of air quality monitoring data, corrective actions taken, and preventive measures implemented. Prepare periodic reports summarizing the air quality status, trends, and any notable observations for management review.	
Monitoring and Reporting Plan	Frequency	Biannually
	Point	Indoor and Outdoor Proposed Project
	Parameters	$PM_{2.5}$, PM_{10}, SO_2, NO_2, CO, CO_2
Estimated Cost	US$ 1000 per year	
Coordinate Point	16° 55' 24.672" N and 96° 4' 11.172" E	
Responsible Person	Responsible officer of Golden Tri Light Co., Ltd	
Concerned Law	♣ National Environmental Quality (Emission) Guideline 2015, ♣ Motor Vehicles Act (2015),	

Table 8-2: Noise Management Plan

The Purpose	♣ To maintain low noise exposures, such that human health and well-being are protected. The specific objectives of noise management are to develop criteria for the maximum safe noise exposure levels, and to promote noise assessment and control as part of environmental health programmed.	
Time Frame	Throughout proposed project operation	
Management Plan	♣ Building noise insulated generator room and ensure satisfactory maintenance of relevant equipment ♣ Impose speed limit to track and vehicles at the transportation route. ♣ Provide sufficient personal protective equipment (PPE) at the work place ♣ All the related personnel will be provided proper training about the relevant issues and ensure PPE wear during working in noisy area.	
Monitoring and Reporting Plan	Frequency	Biannually
	Point	Two points in operation area (especially cutting and sewing)
	Parameters	Sound Decibel
Estimated Cost	US$ 250 per year	
Responsible Person	Responsible officer of Golden Tri Light Co., Ltd	
Concerned Law	National Environmental Quality (Emission) Guideline 2015	

Table 8-3: Solid Waste Management Plan

The Purpose	♣ To minimize waste generation by developing strategies for the management and disposal of all waste in a manner that is sustainable and sensitive to the environment ♣ To comply government waste management policy
Time Frame	Entire life of proposed project operation
Management Plan	♣ Begin by evaluating the types and quantities of waste generated in the factory. Categorize the waste into different streams such as fabric scraps, packaging materials, plastic waste, paper waste, and others. ♣ Focus on reducing waste at its source. ♣ Explore options for optimizing material usage, such as implementing efficient cutting techniques and pattern layouts. Consider introducing lean manufacturing practices to eliminate unnecessary waste. ♣ Identify recyclable waste streams and establish recycling programs within the factory. Set up designated collection areas. ♣ Conduct training sessions to educate employees about the importance of waste reduction and proper waste management practices. ♣ Some waste materials may not be recyclable or reusable. Develop a waste disposal plan to ensure proper handling and disposal of non-recyclable waste. Partner with licensed waste management companies to responsibly dispose of such waste, following local regulations and guidelines. ♣ The daily domestic waste of workers hands over to YCDC waste collector to collect every day.
Monitoring and Reporting Plan	♣ Daily waste has to be collected and handover to YCDC waste collector. ♣ The inventory record of waste disposal will be maintained as proof for proper management as designed.
Estimated Cost	US$ 300 per year
Responsible Person	Responsible officer of Golden Tri Light Co., Ltd
Concerned Law	National Waste Management Strategy and Action Plan (Draft 2018)

Table 8-4: Wastewater Management Plan

The Purpose	♣ Prevent pollution underlying groundwater sources	
Time Frame	Entire life of proposed project operation	
Management Plan	♣ Measure the quantity and quality of wastewater generated by the factory. ♣ Identify the sources of wastewater, such as washing, dyeing, printing, and other processes. ♣ Analyze the composition of wastewater to determine the presence of contaminants. ♣ Implement water conservation measures throughout the factory, such as using low-flow faucets and toilets. ♣ Optimize production processes to minimize water usage and reduce wastewater generation. ♣ Encourage employee awareness and training programs to promote water-saving practices. ♣ Implement measures to reduce the usage of hazardous chemicals, dyes, and other substances that contribute to water pollution. ♣ Properly store, handle, and dispose of chemicals to prevent spills or leaks into the wastewater stream. ♣ Install appropriate wastewater treatment systems, such as primary, secondary, and tertiary treatment units, based on the characteristics of the wastewater. ♣ Establish a comprehensive monitoring program to track key parameters of wastewater generation, treatment, and discharge. ♣ Provide training programs to educate employees about proper wastewater management practices.	
Monitoring and Reporting Plan	Frequency	Once per year
	Parameters	pH, Turbidity, Conductivity, Iron, Sulphate, TSS, TDS, Manganese, COD, BOD, Cyanide, Copper, Zinc, Carbonate
Estimated Cost	US$ 250 per year	
Responsible Person	Responsible officer of Golden Tri Light Co., Ltd	
Concerned Law	National Environmental Quality (Emission) Guideline 2015	

Table 8-5: Occupational Health and Safety Management Plan

The Purpose	♣ To provide a broad framework for improving standards of workplace health and safety to reduce work-related injury and illness.
Time Frame	Entire life of proposed project operation
Management Plan	♣ Develop a written OHS policy that clearly communicates the factory's commitment to employee health and safety. ♣ Define the roles and responsibilities of management, supervisors, and workers in implementing the OHS policy. ♣ Conduct a comprehensive assessment to identify potential hazards in the factory, such as machinery, chemicals, ergonomic issues, and physical hazards. ♣ Implement engineering controls, such as machine guarding, ventilation systems, and ergonomic improvements, to eliminate or minimize hazards. ♣ Provide personal protective equipment (PPE) and ensure its proper use, maintenance, and replacement when necessary. ♣ Provide comprehensive OHS training for all employees, including new hires, contractors, and supervisors.

	♣ Establish a system for reporting and recording all incidents, accidents, near-misses, and occupational illnesses. ♣ Use incident data to identify trends, areas for improvement, and monitor the effectiveness of control measures.
Monitoring and Reporting Plan	♣ Daily inspect that all fire exist are open ♣ Weekly check fire extinguishers and water hydrant in position ♣ Servicing fire extinguisher and records accidents
Estimated Cost	US$ 200 per year
Responsible Person	Responsible officer of Golden Tri Light Co., Ltd
Concerned Law	Public Health Law (1972) Prevention and Control of Communicable Diseases Law 1995 (Amendment 2011) Occupational Safety and Health Law (2019)

Table 8-6: Hazardous Waste Management Plan

The Purpose	To ensure the safe and proper handling, storage, transportation, treatment, and disposal of hazardous waste materials generated by an organization.
Time Frame	Entire life of proposed project operation
Management Plan	♣ Identify and categorize the hazardous waste generated in the factory, such as chemical solvents, dyes, inks, and other toxic substances. ♣ Implement measures to minimize the generation of hazardous waste. ♣ Ensure proper labeling and segregation of different types of hazardous waste to prevent cross-contamination and accidental mixing. ♣ Designate a dedicated storage area for hazardous waste that is secure, well-ventilated, and equipped with appropriate containment measures. ♣ Ensure proper labeling and segregation of different types of hazardous waste to prevent cross-contamination and accidental mixing. ♣ Train employees on safe handling procedures for hazardous waste, including the use of personal protective equipment (PPE) and spill response protocols. ♣ Establish guidelines for the safe packaging, labeling, and transportation of hazardous waste to treatment or disposal facilities. ♣ Ensure that treatment and disposal methods comply with regulatory requirements and minimize environmental impact. ♣ Develop an emergency response plan that includes procedures for handling hazardous waste spills and incidents. ♣ Provide appropriate spill containment kits, absorbents, and spill response equipment in designated areas. ♣ Conduct regular training and drills to familiarize employees with emergency procedures and the proper response to hazardous waste incidents.
Monitoring and Reporting Plan	♣ Maintain accurate records of hazardous waste generation, storage, transportation, treatment, and disposal activities. ♣ Keep copies of waste manifests, disposal certificates, and other relevant documentation as required by regulations. ♣ Report hazardous waste generation and disposal data to regulatory agencies as per legal requirements.
Estimated Cost	US$ 100 per year
Responsible Person	Responsible officer of Golden Tri Light Co., Ltd
Concerned Law	Yangon City Development Committee Law (2018) Explosive Ordnance Disposal Law (2018)

Table 8-7: Water Consumption Management Plan

The Purpose	To efficiently manage and reduce water usage within an organization. The plan aims to achieve sustainable water management by promoting water conservation practices, optimizing water use efficiency, and minimizing water-related risks.
Time Frame	Entire life of proposed project operation
Management Plan	♣ Conduct a comprehensive assessment of water consumption patterns in the factory. ♣ Install water meters to monitor water usage in different areas and processes. ♣ Establish a system for regular monitoring and recording of water consumption data. ♣ Install water-saving devices, such as low-flow faucets, aerators, and water-efficient washing machines. ♣ Optimize water reuse and recycling systems, such as treating and reusing wastewater for non-potable purposes. ♣ Explore the feasibility of rainwater and store rainwater. ♣ Conduct training sessions to raise employee awareness about the importance of water conservation. ♣ Educate employees on water-saving practices, such as turning off taps, fixing leaks, and efficient machine operation. ♣ Encourage employees to actively participate in water conservation initiatives and provide suggestions for improvement.
Monitoring and Reporting Plan	♣ Install water meters at strategic points within the factory. ♣ Establish key performance indicators (KPIs) to measure and track water consumption efficiency. ♣ Maintain a record of water consumption data.
Estimated Cost	US$ 100 per year
Responsible Person	Responsible officer of Golden Tri Light Co., Ltd
Concerned Law	National Environmental Quality (Emission) Guideline 2015

Table 8-8: Emergency Response Management Plan

The Purpose	Reduce the risk of accidents within the factory area
Time Frame	Entire life of proposed project operation
Management Plan	♣ To prevent consequences of natural disasters such as fire, floods and earthquakes and man-made errors (e.g. electricity shock, fire hazards). ♣ Emergency response plan describes the requirements for planning and preparing to protect workers in the event of an emergency. ♣ Fully equipped first-aid station ♣ To check Fire-fighting equipment ♣ Access to emergency services of the nearby hospital ♣ Direct communication link with local fire brigades and other relevant government authorities such as Yangon Electricity Supply Board and the local police station. ♣ Regular fire drill operation is conducted. ♣ A detail evaluation plan (fire exist, emergency exit door, etc.) is established and communicated with workers. ♣ Need to prepare for primary treatment (first aid). ♣ To operate firefighting team, rescue team.
Monitoring and Reporting Plan	♣ Weekly check fire extinguishers and water hydrant in position ♣ Daily inspect that all fire exist are open and Servicing fire extinguisher and records accidents

Estimated Cost	US$ 100 per year
Responsible Person	Responsible officer of Golden Tri Light Co., Ltd
Concerned Law	The Employment and Skill Development Law (August 2013), ILO guide to Myanmar Labor Law (2017)

8.1 Objective of Environmental Management Plan

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

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

Commitment and Policy - Top management commits to environmental improvement and establishes the organization's environmental policy. The policy is the foundation of the EMS.

Planning - An organization first identifies environmental aspects of its operations. Environmental aspects are those items such as air pollutants or hazardous waste that can have negative impacts on people and the environmental. An organization then determines which aspects are significant by choosing criteria considered most important by the organization. For example, an organization may choose worker health and safety, environmental compliance and cost as its criteria. Once significant environmental aspects are determined an organization sets objectives and targets. An objective is an overall environmental goal (eg. minimize use of chemical X). A target is a detailed, quantified requirement that arises from the objectives (eg- reduce use of chemical X by 25% by September 1998). The final part of the planning stage is devising an action plan for meeting the targets. This includes designating responsibilities establishing a schedule and outlining clearly defined steps to meet the targets.

Implementation - An organization follows through with the action plan using the necessary resources (human, financial etc.). An important component is employee training and awareness for all employees. Other steps in the implementation stage include documentation, following operating procedures and setting up internal and external communication lines.

Evaluation - A company monitors its operations to evaluate whether targets are being met. Of not, the company takes corrective action.

Review - Top management reviews the results of the evaluation to see if the EMS is working. Management determines whether the original environmental policy is consistent with the organization's values. The plan is then revised to optimize the effectiveness of the EMS. The review stage creates a loop of continuous improvement for a company.

8.2 Environmental Policy

Golden Tri Light Co., Ltd describe its environmental policy as follows:

- Golden Tri Light Co., Ltd shall be responsible for the protection as well as perseveration of environment in and around the area of the project site.;
- Golden Tri Light Co., Ltd shall be able to control pollution of air, water and not to cause environment degradation and
- Golden Tri Light Co., Ltd will comply with any applicable environmental protection laws and regulations of the Republic of the Union of Myanmar.

8.3 Health Policy

Golden Tri Light Co., Ltd always comply with all health and safety legislation.

- Golden Tri Light Co., Ltd will establish and implement the Occupational, Health and Safety Management.
- Golden Tri Light Co., Ltd help the workers by providing them with a workplace health services and medical care and workplace safety.
- Golden Tri Light Co., Ltd aims for continual improvement of its health and safety management system.

The FIRST AID KITS and emergency medical boxes are supplied sufficiently in all work sites for minor cuts or ailment. Golden Tri Light Co., Ltd will send the injured employee to the nearest Private Clinic/ Hospital with factory transportation at no cost. Some employees who hold social security cards, on their request or consent are sent to SOCIAL SECURITY CLINIC nearby the factory's transport arrangement. The Factory arranges plenty of safety drinking water, at no cost, to all workers at all time.

8.4 Description of Responsibilities for Implementation

Golden Tri Light Co., Ltd is responsibility for implementation environmental monitoring plan for the operation phase of the project. Emergency Response Team (ERT), Environmental Management Team (EMT) and management plan and monitoring plan of the proposed project.

I. Emergency Response Team (ERT)

ERT shall comprise:

1. Daw May Thet Paing (HR Manager)
2. U Zaw Htike (Machine Manager)
3. Daw Thandar Oo (Store Super)
4. U Ye Thiha (Machine)
5. U Myo Zaw Myint (Hardware Super)
6. U Myo Min Khaing (Machine)
7. U Oakkar Aung (Cutting Super)
8. U Ko Ko Aung (Driver)

The ERT should be on call in case of safety problem that occurs during off-hours/ or Security shall contact the Township Fire Department immediately.

The team members shall have knowledge of or can be trained in responding to emergencies such as emergency plan, firefighting, precautions.

Responsibilities of ERT

Incident Controller	• Commands and control the ERT to response to an emergency. • Communicates with authorities eg. Police/ Township Fire Department in the event of an emergency. • Ensure emergency plan are reviewed regularly and ERT are appropriately trained and equipped to carry out their assigned task. • Crowd control and monitor overall headcount at the Assembly Area. • Initiate drill exercises and post exercise review with ERT on an annual basis.
Officer-in-charge at Assembly Area	• Conduct head count of all staff, consultants and workers • Consolidate the headcount list from wardens • Report evacuation status such as any missing person to the Incident Controller
Fire Fighters	• To be trained in firefighting and assist in firefighting at no personal risk.
Wardens	• Area combing, to ensure all staff and workers leave the workplace promptly during an evacuation • Direct staff and workers to the Assembly Area • Conduct headcount for their workers at the assembly Area.
First Aiders	• Successfully completed first aid training. To render first aid to any injured during any emergency. • Standby at the Assembly area with first aid kit during a mass evacuation.

II. Environmental Management Team (EMT)

EMT Shall comprise:

1. Daw May Thet Paing (HR Manager)
2. U Zaw Htike (Machine Manager)
3. Daw Thandar Oo (Store Super)
4. U Ye Thiha (Machine)
5. U Myo Zaw Myint (Hardware Super)
6. U Myo Min Khaing (Machine)
7. U Oakkar Aung (Cutting Super)
8. U Ko Ko Aung (Driver)

The responsibilities of EMT are to implement the pollution control (water quality, air quality and noise impact, etc) mitigation measure and monitoring program.

III. Report Supported Team (RST)

RST shall comprise:

1. Daw May Thet Paing (HR Manager)
2. U Zaw Htike (Machine Manager)
3. Daw Thandar Oo (Store Super)
4. U Ye Thiha (Machine)
5. U Myo Zaw Myint (Hardware Super)
6. U Myo Min Khaing (Machine)
7. U Oakkar Aung (Cutting Super)
8. U Ko Ko Aung (Driver)

The responsibilities of RST are to record of the monitoring results in files, to develop the monitoring report with related documents and to report submission to local Environmental Conservation Department (ECD), through the Golden Tri Light Co., Ltd.

8.5 Environmental Impact and Mitigation Measures

After evaluating the environment impacts of Golden Tri Light Co., Ltd, the consultant has identified environmental risks and prepared mitigation measures to protect the environmental and comply with Myanmar environmental legislation. Environmental impacts and mitigation measures are divided into two phases, operation phase and decommissioning phase. Construction phase of the plant is completed.

8.5.1 Air Emission Management

Potential environmental impact and mitigation measures for air emission management are shown in Table 8-9.

Table 8-9: Environmental Impact and Mitigation Measures (Air Pollution) during Operation Phase

Environmental Impact	Mitigation Measures
Dust	
• Dust from loading and unloading raw materials • Dust particles generated from fabrics and threads from cutting and sewing to packing operations. • Dust from floor cleaning and housekeeping in factory operation	• Installation of sufficient exhaust fan ventilation units. • Regular change the ventilation filters. • Heating, ventilation and air condition systems must be cleaned and maintained regularly. • More comprehensive cleaning should be carried out as often as necessary. This cleaning should also include walls, ceiling, storage racks and other areas where dust accumulates. • Scrap materials must clean up daily often enough to prevent them from collecting on floors, tabletops in aisle ways or other area. • Spraying water on the floor before sweeping will avoid dust remaining air bone. More effective protective methods of controlling dust include using a vacuum cleaner or a wet mop. • Provide personal protective equipment at the work place such as dust masks of respirators and caps if necessary.
Exhaust Emission (Greenhouse Gas)	
• Vehicle Movement	• Use of vehicles having efficient engines and exhaust system. • Implementing a regular vehicle maintenance and repair program.
• Air Emission generated from diesel generators • Air emission generated from diesel generators	• Installation of filters for generator and remove any PM • Proper ventilation of equipment and machines. • Use of masking agents and efficient ventilation system in factory.
• Using air conditioner in office building • Cooking activities from dormitory	• Putting indoor potted plants for air refreshment of office. • Increasing roadside plantations make localized air pollution reduced due to the blocking effect of foliage and through photosynthesis.
• Use of solvents	• Volatile liquids (solvents, thinner, flux and varnish) must be stored in a covered container and kept cool to prevent evaporation into the environment. • Maintain adequate ventilation and hygiene to reduce the generation of odor. • Prohibition of smoking in any working area.

Decommissioning Phase

Negative impacts on ambient air quality such as dust particles emissions could be expected due to demolition works during the decommission phase of the factory after the lifespan of the project. This nuisance will be temporary in nature and is hot expected to affect the surrounding environment since the factory is located within an industrial zone.

8.5.2 Noise Pollution Management

Permanent hearing loss may be caused by a number of things including disease, aging, sudden loud noise or long-term exposure to loud noise. Factory must identify workers who work increase with noise levels that are higher than 85 decibels. These workers must wear hearing protection and be trained on the proper use of hearing protection and the health and safety risks of not wearing hearing protection. Noise output on new equipment should be evaluated and engineered controls used to reduce noise. Factory should conduct noise hazard evaluations each year to identify any areas where noise levels exceed 85 decibels. Where noise levels are higher than 85 decibels, factories should use rubber padding to reduce machine vibration install sound barriers and sound insulation. Noise levels should not exceed a 140 db peak sound pressure at any time and factory should install noise curtains, sound absorbing and enclosures. Potential environmental impacts and mitigation measures for noise management are shown in Table 8-10.

Table 8-10: Environmental Impact and Mitigation Measures (Noise) during Operation

Environmental Impacts	Mitigation Measures
Noise	
• Noise generated from diesel generators	• Use of noise enclosure for diesel generator. • Proper maintenance of generator and engineered noise controls (sound absorption material) • Provide adequate ear protection (ear plus or muffs) to workers working in the excessive noise areas (exceed 85 decibels)
• Cutting machine, sewing machine	• Regular maintenance of the machines to reduce noise emission. • Proper maintenance of exhaust fan
• Running exhaust fan	• Use of international modernized machines which generate low noise levels.
• Noise generated from pumps, motors and compressor.	• All preventive measures such as regular operation and maintenance of pumps, motors and compressor should be carried out. • Provide adequate ear protection (ear plugs of muffs) to workers working in the excessive noise areas (exceed 85 decibels)

Decommissioning Phase

After the lifespan of the project, decommissioning the factory can also affect noise level. Temporary noise barriers and occupational preventive measure should be applied in this phase. Workers employing in high noise areas should be worked on shifts and hearing protective wear such as earplugs, earmuffs, etc. should be provided. Sensitization of truck drivers to switch off vehicle engines while loading materials avoid running of vehicle engines or hooting especially.

8.5.3 Water Management

There is no discharging of process wastewater. The drainage system is periodically cleared so as to ensure adequate storm water flow. The domestic sewage and storm water will be discharged to the municipal sewage channel existing in front of the factory and only sanitary wastewater to the ground tank in the factory compound.

Potential environmental impact and mitigation measures for ground water, and waste water management are shown in Table 8-11.

Table 8-11 Environmental Impact and Mitigation Measures (Water) during Operation Phase

Environmental Impacts	Mitigation Measures
Ground Water	
• Ground water depletion	• Water consumption could not affect to the ground water as a major ingredient.
• Water use of employees and staff	• All factory staff should turn on water taps only when heeded and should not allow water to run continuously. • Any leakage should be promptly reported to engineering department as soon as possible • The engineering department staff should maintain all water piped taps, storage tanks and water consumption equipment
Waste Water	
• Domestic waste water	• Regular cleaning and checking.
• Surface water contamination by oil/fuel leakage from vehicles and diesel generator	• Ensure the factory compound should be concrete floor. • Immediate clean for leakage and spillage. • Use oil spill clean-up materials.
• Sanitation Wastewater	• All sewers should be disposed of through septic tanks. • Discharge periodically by contacting Engineering Department (Water and Sanitary) from YCDC.

Decommissioning Phase

Surface water and ground water contamination may result from various activities during decommission phase. These activities can include wastewater generated from workers and staff and oil and grease leakage from machines and vehicles. Sedimentation/ siltation of drainage or waterway may also result from unconfined stockpiles of soil and other materials. These activities shall be reduced by avoiding earth work in rainy season and discharging wastewater into existing sewage line. Suitable facilities or portable toilets must be provided to prevent discharging sanitary waste to the ground.

8.5.4 Solid Waste Management

Systematic management of solid waste is of importance as mismanagement of the waste will lead critical occupational hazard including fire hazard. Project proponent should segregate the wastes into reusable wastes, hazardous wastes and domestic wastes.

Golden Tri Light Co., Ltd will establish and implement comprehensive waste management plan to ensure segregation, handling, storage and disposal of hazardous and nonhazardous waste in safe and environmentally friendly manner. Store wastes are separately and be sure they are properly labeled to make it easier to reuse or recycle them. The factory applies 3R management.

- **Reduce:** Reduce waste and increase yield with careful layout procedures. Increasing yield from raw materials and decreasing the number of rejected parts will reduce the amount of textile waste generated at the factory. Reduce waste by keeping raw materials protected from the elements. Golden Tri Light Co., Ltd will pay careful attention during planning, storing fabric raw materials, cutting, sewing and ironing to reduce rework and rejected parts. Keep tools sharp and in good operating order to reduce reject parts. Keep cutting machinery in good operating order. Fabric scarp is unavoidable but careful layout and good work practices will reduce the waste quantity.
- **Reuse:** The goal is to reduce disposal needs. Company has a plan to install the water reusing system for boiler to practicing the energy and water conservation. Some fabric cuts are reused as cleaning rags for floor cleaning, window glass cleaning and so on.
- **Recycle:** Keep textile wastes clean and segregated by type to enhance recycling opportunities. The garment factory procedures solid wastes mainly comprised of linen cuts. These wastes are valuable for recycle in places. Company installs the garbage area for recycle waste. The ash from burnt wood by boiler will be recycled as fertilizer for trees and vegetation inside the factory and in the public space. Some of them are sent to the gardener to use as ingredient for fertilizer.

Systematic management of solid waste is of importance as mismanagement of the waste will lead critical occupation hazard including fire hazard. Waste generation from the whole production process is as follows.

(a) Receiving Process	-	Packing Waste
(b) Marking	-	Paper Waste
(c) Cutting	-	Linen Cuts
(d) Sewing	-	Linen Cuts, Thread Cuts
(e) Button Stitching	-	Metal Waste, Thread Cuts
(f) Tag and Code	-	Paper Waste, Thread Cuts, Packing Material
(g) Needle check	-	Metal Waste
(h) Packing	-	Packing Waste

There is no hazardous waste caused by the production activities of the factory. While factory does not create large quantities of hazardous waste, it is important that any amount of hazardous waste be management properly to avoid contaminating the environment. Hazardous wastes that are disposed of improperly can pollute the air, land, groundwater and waterways, harming the environment and threatening community health. The purpose of solid waste management is to describe how factory may properly manage hazardous wastes and non-hazardous waste. Potential environmental impact and mitigation measures for solid waste management are shown in table 8-12.

Table 8-12: Environmental Impact and Mitigation Measures (Solid Waste) during Operation Phase

Environmental Impacts	Mitigation Measures
Non-Hazardous Waste	
• Textile waste • Pieces from cutting. • Packing materials.	• Cleaning continuous and regularly. • Provision of adequate containers to avoid loss to the floor. • Apply 3Rs management (Reduce, Reuse and Recycle) • Reduce waste by keeping raw materials protected from the elements. • Pay careful attention during planning, storing fabric raw material, cutting, sewing and ironing to reduce rework and rejected parts. • Keep tools sharp and in good operating order to reduce reject parts • Careful layout and good work practices to reduce the waste quantity. • Reuse the fabric cuts as cleaning rags for floor cleaning, widow glass cleaning and so on. • Reuse the packing material. • Fabric cuts should be packed in bags and stacking waste bags systemically. • Sold the fabric waste to recycler. • Properly collected at as dedicated storage area and suitable disposed of YCDC.
• Office wastes such as paper scraps, used copier cartridges, paper boxes and plastic bags. • Domestic wastes such as food waste, plastic bags, plastic water bottles, etc.	• Reuse waste if applicable. • Waste should be disposed in bins and segregated by types of waste. • Sufficient waste bins will be provided within the factory premises.
• Waste disposal	• Wastes are removed from on- site at regular intervals to prevent release to the environment. • Final disposal of Non-hazardous waste to YCDC or Ngwe Pin Lal industrial estate allocated dumping sites.
Hazardous-Waste	
• Small amount of machinery maintenance materials such as oily rags, used oil filters and used oils as well as spill cleanup materials • Electric tubes used cartridges	• Factory must determine the types and amounts of hazardous wastes resulting from production and business activities. • Hazardous waste must be contained to prevent it from blowing away and from leaching into surface or groundwater. • Keeping hazardous waste container with clearly marked Hazardous Waste.

• Waste of electric and electronic equipment and etc.	• Hazardous waste should be stored in assigned areas with secondary containment (a container or physical structure that surrounds the primary container and serves to hold any liquids that may leak from the primary container). • Assigned hazardous waste storage areas should be located indoors, if possible (outdoor areas should be completely enclosed such as a shed). • A signboard is put outside the storage area marked (Hazardous Waste Storage Area or Danger) • Locked the storage area to prevent unauthorized individuals from entering. • Workers who handle hazardous waste should be trained to avoid personal injury, prevent spills and release and to make sure these wastes are disposed of safety. • Hazardous waste will be handed over to agencies authorized by YCDC monthly. • Spent oils and other hazardous things directly discharge into the water body of public drainage system is prohibited.
• Soil pollution by hazardous	• Factory make take steps to reduce hazardous waste (by using non-hazardous materials such as citrus based solvents and non-toxic cleaners). • Never use waste oil or other contaminants on dirt roads as dust suppressant or weed killer.

Decommissioning Phase

Contamination and degradation of soil can be caused during the decommissioning phase. All unused or surplus building materials can be sold to other who needs it. Solid waste can be also used in the land level adjustments in the landfill area. Organic waste and construction debris should be properly collected at a dedicated storage area and suitably disposed of at YCDC.

8.6 Natural Environmental Impact and Mitigation Measures

Small trees are planted in the factory compound and they will help keep the factory cool. They make the natural environ improved for fauna and flora. Trees, bushes, grass and flowers help to reduce the harmful effects of the sun's radiation and hot winds. They also form a natural "Filter" preventing dust from penetrating inside the factory. Golden Tri Light Co., Ltd will keep the enterprise premises green by planting trees and flowers. Potential environmental management is shown in Table 8-13.

Table 8-13: Environmental Impact and Mitigation Measures (Natural Environment) during Operation Phase

Environmental Impact	Mitigation Measures
Flora and Fauna	
• Loss of fauna and flora species	• Keep the enterprise premises green by planting trees and flowers • Maintenance of trees, vegetation, lawn inside the factory and in the public space such as road and other spaces.
• Fire	• Develop employee awareness • Avoid hot work at the site • Use explosion-proof electrical equipment • Have a good training program • Eliminate the usage of flammable material • Store flammable and combustible materials properly • Keep a minimum inventory of flammable and combustible materials as low as possible • Eliminate ignition sources • Have a perfect maintenance program. • Make sure the grounding system works well • Avoid electrical overload • Get a recommendation from fire safety specialists • Perform fire safety patrol daily • Prohibit smoking at the site • Dispose of waste properly • Keep fire hydrant and a fire extinguisher in good condition and in place
• Cyclone and Flood	• Build an emergency kit and make communications plan. • Avoid building in a floodplain • Elevate the furnace, water heater and electric panel • Consider installing "check valves" to prevent flood water from backing up into the drains of factory • If feasible, construct barriers to stop floodwater from entering the building and seal walls in basements with waterproofing compounds.
• Chemical Spill and Leakages	• One major component of prevention is simply knowing the safety information for every liquid on premises. This information is available on the material safety data sheet (MSDS) that comes with such products. • Store flammable liquids properly

	• Control all ignition sources • Provide personal protective equipment
• Equipment Mal-functioning	• Establish a maintenance schedule. When repairs and upkeep take place on machines at regular intervals, these efforts can significantly improve the equipment reliability of these systems • Eliminate potential defects • Utilize equipment monitoring
• Mechanical and Structural Failure	• Awareness • Cleaning and housekeeping • Maintenance

8.7 Social Environmental Impact and Mitigation Measures

Potential environmental impact and mitigation measures for social environmental management are shown in Table 8-14.

Table 8-14: Environmental Impact and Mitigation Measures (Social Environment) during Operation Phase

Environmental Impacts	Mitigation Measures
Population Influx	
• Increase pressure on existing social infrastructures and services including health, food, shelter, water and recreational facilities.	• Use of local labor force. • Providing own health care facilities such as a doctor/nurse and own clinic. • Provision of ferry service for workers from remote area.
Beneficial Impacts	
• Employment opportunity to local people	• Maximize the use of local labor • Maximize public participation about project related activities

Decommissioning Phase

Loss of jobs of the employees may occur during decommissioning phase and it may reduce by taking responsibility on gradual reducing or transferring of work force.

8.8 Occupational Health and Safety Management

Primary OHS issues related to Golden Tri Light Co., Ltd are: overweight lifting at receiving raw materials and transporting products; hazard for injury from cutting machines and sewing needles; injure by heat at ironing section; ergonomic injury from prolongs standing or sitting; and noise impact for workers at boiler section.

Golden Tri Light Co., Ltd has developed occupational health and safety plan to promote a safe working environment at the factory.

Table 8-15: Occupational Health and Safety Plan

Environmental Impacts	Mitigation Measures
Physical Injuries	
• Accidents	• Keep stairs, aisles and exits clear. • Safety signboards. • Provide adequate passageways for efficient and safe movement of materials. • The first aid kits and emergency medical boxes are supplied sufficiently. • Providing own clinic and a doctor/nurse. • Sent to private clinic or social security clinic near by the factory's transport arrangement if required. • Nearest hospital location maps and phone numbers in the factory.
• Overweight lifting	• Using necessary lifting and carrying aid and machinery.
• Cut fingers in the cutting room	• Using metal hand gloves for cutting machine operators
• Ergonomic injury from prolongs standing or sitting	• Providing necessary seats at appropriate places.
Light	
• Activities of the workers in the operation sector are dependent on the good quality light.	• Provide good quality light source in the workplace. • Lights are positioned in the correct place. • Switch of the light when not in use. • Adequate lighting near any potential hazards such as steps, ramps, etc. and outside the factory for security at night.
Temperature	
• Heat exposure	• Use of local exhaust ventilation systems in hot spots such as the ironing section to directly remove the heat.
• Dry room	• Reduce working period in the drying room. • Providing sufficient drinking water near to the drying room. • To educate workers to report to supervisor immediately when they feel heat exhaustion like dizziness, tiredness and sweating.
Health	
• Drinking • Sanitation • Risks infectious disease such as AIDS/HIV	• Providing purified drinking water for all workers. • The toilets are provided with enough water and deodorants. • Prevention of spreading out • Training of workers.
Working conditions	
• Traffic safety	• Improve the driving skills and requiring licensing of drivers.

• Safety measure	• Fire extinguisher signs and check list. • Clear evacuation escape route, signs. • Providing appropriate supervision to the workers. • Teach workers to troubleshoot common machine problems.

Decommissioning Phase

During decommissioning phase, health and safety impacts can result from working at height and electric shock hazards. Site fencing and safety signatures should be done in this phase. Personal protective equipment (PPE) such as safety harness for working at height, safety gloves, helmet, goggles, ear muffs, etc. should be provided.

Figure 8-1: Photos of Factory Clinic

8.9 Emergency Response Plan

Golden Tri Light Co., Ltd has planned, designed and constructed with fixed firefighting installations systematically. Golden Tri Light Co., Ltd has prepared an emergency response plan in order to prevent consequences of natural disasters such as fire, floods and earthquakes and man-made errors (e.g. electricity shock, fire hazards). Emergency response plan describes the requirements for planning and preparing to protect workers in the event of an emergency.

Golden Tri Light Co., Ltd installs the Firefighting System and Equipment as follows:

1) Water for firefighting is stored in ground tank of 30,000 gallons capacity in the compound.
2) Sand for firefighting is also stored in a concrete tank.
3) Installation 54 fire extinguishers.
4) Fire alarm system is installed in the building.
5) Installation of fire detectors and audio system in the factory.

6) Exit and evacuation indicating signs are fixed in whole area.

7) Musters in the factory compound with clear marking.

8) Display access to emergency services.

9) "NO SMOKING" signs shall be conspicuously displayed at strategic locations in the factory.

Figure 8-2: Photos of Facilities for Fire Prevention

Requirements

- Factory must have procedures to prepare for possible emergencies such as fire, extinguishers, hurricanes, and chemical spills.
- Factory must have an emergency evacuation plan and evacuation routes must be posted in each work area.
- Factory must hold emergency evacuation drills often enough that workers know the drill procedure and consider it routine.
- Factory must have a fire prevention plan.

8.9.1 Fire Prevention Plans

A small spark of fire may result into loss of properties and the damage by fire may produce high economic losses. This type if losses can be avoided by preventing and controlling the fire instantly for which Emergency Response Team is established.

ERT shall comprise:

1. Daw May Thet Paing (HR Manager)
2. U Zaw Htike (Machine Manager)
3. Daw Thandar Oo (Store Super)
4. U Ye Thiha (Machine)
5. U Myo Zaw Myint (Hardware Super)
6. U Myo Min Khaing (Machine)
7. U Oakkar Aung (Cutting Super)
8. U Ko Ko Aung (Driver)

The team members shall have knowledge of or can be trained in responding to emergencies such as emergency plan, firefighting, precautions.

The ERT should be on call in case of safety problem that occurs during off-hours/ or Security shall contact the Township Fire Department immediately.

Responsibilities of ERT

Incident Controller	• Commands and control the ERT to response to an emergency. • Communicates with authorities eg. Police/ Township Fire Department in the event of an emergency. • Ensure emergency plan are reviewed regularly and ERT are appropriately trained and equipped to carry out their assigned task. • Crowd control and monitor overall headcount at the Assembly Area. • Initiate drill exercises and post exercise review with ERT on an annual basis.
Officer-in-charge at Assembly Area	• Conduct head count of all staff, consultants and workers. • Consolidate and headcount list from wardens. • Report evacuation status such as any missing person to the Incident Controller
Fire Fighters	• To be trained in firefighting, and assist in firefighting at no personal risk.
Wardens	• Area combing, to ensure all staff and workers leave the workplace promptly during an evacuation. • Direct staff and workers to the Assembly Area. • Conduct headcount for their workers at the Assembly Area.
Fire Aiders	• Successfully completed first aid training, to render first aid to any injured during any emergency. • Standby at the Assembly Area with first aid kit during a mass evacuation.

Hazard Assessment

- Factory should consider all the types of emergencies that may occur at the locations (eg. Fire, chemical spill, earthquake, typhoon, etc) and include them in emergency preparedness procedures.
- Fire and explosion hazards can exist in almost any work area. Potential hazards include:
  a) Improper operation or maintenance of gas-fired equipment
  b) Improper storage or use of flammable liquids.
  c) Smoking in prohibited areas
  d) Accumulation of trash
  e) Hot work (welding, soldering, any use of open flame of torch) operations without proper controls.

Hazard Controls

- Factory should have rules and procedures to make sure that exits are kept clear, are properly and clearly marked, and allow workers to quickly and safety leave the factory in an emergency.
- Fire extinguishers should match the potential fire hazard and should be located within 15 m (50ft) of flammable liquids and 23 m (75ft) of every worker.
- Fire extinguishers should have maintenance tags attached to them to indicate the date they were last checked and serviced. Ensure that workers how to use fire extinguishers in the immediate area.

Rules to Follow

- Electrical lines must be checked not to leave without switching off when working hours is over or when there is blackout.
- All the fuel and diesel are to be kept and stored, away from fire prone facilities and equipped with specific fire extinguishers for emergency use.
- Flammable by-products or wastes are to be kept at a specific site.
- Smoking is strictly restricted except in a specific smoking area defined.
- Matches must not be used near the machines.
- Establish a firm rule that any repair or maintenance work on powered machines should only be down when the power is turned off and the switch is locked in the off position.
- Be certain that the electrical power can be shut off immediately in case of emergency.

Emergency Contact list

Emergency Contact list consisting contact nos. of authorities, hospital, clinic, ERT personnel shall be prepared and displayed at the factory. The list shall be reviewed at least once a year or as and when there is change in personnel or change in contact number.

The contact no. for local authorities below shall be included in the list:

- Township Fire Department – fires, explosions, ambulance
- Police – local emergencies, life threatening situation
- Nearest Hospital – medical emergencies
- Local clinic or on-site doctor/nurse – medical emergencies
- Ambulance Number – medical emergencies

Drills

Factories should have emergency evacuation procedures that require all workers and managers to participate in drills. During a drill, workers and managers should leave the building, go to an assigned location (assembly area) and remain there until a signal is given to return to the factory. The focus should be on orderly evacuation, rather than on speed. Awareness talk for protection will be held and workers will be sent to trainings administered by Fire Bridge. The following exercise shall be conducted at least once a year for the ERT or otherwise stated:

- Fire Fighting
- Evacuation Drill for all personnel at the factory
- Evacuation Maps
- Up-to-date evacuation maps will be prepared and posted in numerous site locations. These maps shall show the exists, fire extinguishers, first aid box and designated assembly area.

Fire Extinguisher

A portable fire extinguisher is a “first aid” device and is very effective when used while the fire is small. The use of a fire extinguisher that matches the class of fire, by a person who is well trained, can save both lives and property. Portable fire extinguishers should be installed in workplaces regardless of other firefighting measures. The successful performance of a fire extinguisher in a fire situation largely depends on its proper selection, inspection, maintenance and distribution.

Classification of Fires and Selection of Extinguishers

- Extinguishers should be selected according to the potential fire hazard, the construction and occupancy of facilities, the hazard to be protected and other factors pertinent to the situation.
- Use water from nearby tap water if the fire is caused by burning of wood, paper, plastics, textile and trash.
- Dry Powder extinguisher (blue) can be used for most types of fire such as those involving burning of wood, paper, plastics, textile, trash, chemical, flammable liquid and electrical fires.
- Carbon dioxide extinguisher (black) I sonly suitable for flammable liquids and electrical fires only. It is not suitable for use in indoor/enclosed environment.

Location and Marking of Extinguishers

Extinguishers should be conspicuously located and readily accessible for immediate use in the event of fire. They should be located along normal paths of travel and egress. Extinguishers should be clearly visible. In locations where visual obstruction cannot be completely avoided, directional arrows will be provided to indicate the location of extinguishers and the arrows will be marked with the extinguisher classification.

If extinguishers intended for different classes of fire are located together, they should be conspicuously marked to ensure that the proper class extinguisher selection is made at the time of a fire. Extinguisher classification markings should be located on the front of the shell above or below the extinguisher's nameplate. Markings should be of a size and form to be legible from a distance of 1 meter (about 3 feet).

Condition

Portable extinguishers should be maintained in a fully charged and operable condition. They should be kept in their assigned locations at all times when not being use. When extinguishers are removed for maintenance or testing a fully changed and operable replacement unit should be provided.

Monitoring and Distribution of Extinguishers

Extinguishers should be on hangers, brackets and in cabinets or on shelves. Extinguishers mounted in cabinets or wall recesses or set on shelves should be placed so that the extinguisher operating instructions face outward. The location of such extinguishers will be made clear by marking the cabinet or wall recess in a contrasting color which will distinguish it from the normal décor.

Extinguishers should be distributed in such a way that the amount of time needed to travel to their location and back to the fire does not allow the fire to get out of control. The travel distance for Class A and Class D extinguishers should not exceed 23 meters (75 feet). The maximum

travel distance for Class B extinguishers is 15 meter (50 feet) because flammable liquid fires can get out of control faster that Class A fires. There is no maximum travel distance specified patterns for Class C extinguishers but they should be distributed on the basis of appropriate patterns for Class A and B hazards.

Fire Safety Inspections & Housekeeping

- Observe worksite safety and housekeeping issues and should specifically address proper storage of chemicals and supplies unobstructed access to fire extinguishers and emergency evacuation routes.
- Determine if an emergency evacuation plan is present in work areas and if personnel are familiar with the plan.
- Conduct monthly fire safety inspection of the facility. That includes valve inspections flow test of the riser's audible and visual alarm activation, emergency lighting, general order and housekeeping.
- Checking that combustible materials are removed daily, that flammable liquids are stored safety that spills kits are intact at specific locations and that electrical equipment is in good repair.

Outside Assembly Points

- Outside assembly points will be marked and all site personnel instructed where to assemble in the event of an emergency.
- An assembly area must be assigned outside the factory so that evacuated workers can be accounted for in an emergency.

First Aider and First Aid Facilities

Trained first aider(s) shall be appointed and for each shift.

<u>In the event of Fire & Explosion (Fire Emergency Procedures)</u>

a) If you discover a fire

- Activate the nearest fire alarm.
- Otherwise, he shall evacuate and alert all personnel in the area and notify the IC/Dy IC/Supervisor.
- The person who discovers can attempt to extinguish any incipient fire with the available firefighting equipment and without personnel risk.

b) Fight the fire ONLY if:

- The fire department has been notified of the fire and
- The fire is small and confined to its area of origin and
- You have a way put and can fight the fire with your back to the exit and
- You have the paper extinguisher, in good working order and have been trained and know how to use it.
- If you are not sure of your ability or the fire extinguishers' capacity to contain the fire leave the area.

c) If you hear a fire alarm:

- Evacuate the area and close doors as you leave.
- Leave the building and move away from exits and out of the way of emergency operations.
- Assemble in an assigned area outside the building.
- Supervisors and coordinators should account for all workers in their area to determine that all personnel have evacuated.
- All workers should remain outside until given the signal or announcement that it is safe to re-enter.

d) If you hear a fire alarm:

- Learn at least two escape routes and emergency exits from your area.
- Learn to activate a fire alarm.
- Learn to recognize alarm sounds.
- Take an active part in fire evacuation drills.

e) Evacuation

- When the alarms sound, all personnel not assigned to emergency duties will immediately proceed to the nearest SAFE exit. Leave the building and move directly to the nearest assembly area.
- Do not stop to pick up personnel items.
- All personnel should refrain from smoking during the evacuation.
- All personnel should be at least sixty meters (60mm) or two hundred feet (200 ft) away from the building.
- Be familiar with exit routes, assembly areas and evacuation maps.
- Report to assembly area coordinator if evacuation from other than your normally assigned location also reports to assembly area coordinator if co-worker is missing.
- Treat all alarms as if there is an emergency situation. Evacuate for all alarms.

f) Power Failure

- In the event of a power failure remain in your work area. Wait for instruction from your coordinator, supervisor or shift leader.
- Stop and park all moving equipment immediately for the duration of the power failure.

8.9.2 Management for Electrical Safety

Accidental contact with electric current may result in electric socks, contact burns and even death if proper protective measures are not taken. Wiring and electrical systems such as sockets, panels, motors, fuse boxes and transformers that are not section is to help reduce threats to workers, equipment and building from electrical shock or electrical fires.

Requirements

- Factory must contain wiring and electrical systems in safe condition.
- All workers who work with high-tension, live electricity must be trained on its hazards and the control measures that must be taken. Written records must be kept of this training.
- All electrical equipment must be properly grounded.
- Permanent and stationary equipment must have hard-wired electrical connections only.

Hazard Assessment

Perform regular inspections of equipment and electrical installations to make sure they are in good working condition and do not present electric shock or fire hazards.

- Identify each piece of equipment manufacture to obtain appropriate electrical or mechanical hazards to maintenance workers. Contact the equipment manufacture to obtain appropriate electrical safety information if necessary.
- Prepare a written procedure for de-energizing and locking and tagging each machine out before performing any maintenance on it.

Hazard Control

- Grounding is an electrical connection to earth. A ground wire carries electrical current to earth when there is a leak in a circuit. Use building ground for all 120V AC outlets, motor grounds, etc. Never use the neutral circuit wire as the electrical ground.
- A ground Fault Circuit Interrupter is an electrical breaker that protects against an accidental short or overload of an electrical circuit. This device trips, cutting off electrical current at the slightest indication of an electrical short. Ground Fault Circuit Interrupters should be

used in area where there is moisture or humidity is high (for example outlets close to water hose line, water faucets, etc)

- Regularly test and maintain electrical panels, tighten electrical connections and test electrical motors at full load (maximum electrical current or amperage) to identify loose connections that may create a fire hazard.
- Use adequate wire size and connectors according to current load for temporary electrical connections.
- Undersized wire or loose connectors are most common causes for wire overheating that may lead to fire hazards.
- Temporary installations should be kept only for a length of time specified by the work. Label and identify electrical panels as to the type of voltage (480V/220V; 240V/ 120V). Label each circuit breaker.
- Electrical panels should always be closed and locked. Key for electrical panels should be kept in a centralized area and made available only to authorized personnel.
- Make sure there is easy access (approximately 1 meter or 3 feet) to electrical panels and transformers. Do not allow electrical panels or transformers to be blocked by equipment or stored materials and keep flammable or combustible materials away.
- To reduce the risk of electrical shock, cap or otherwise close any openings left in electrical enclosures (electrical panels, boxes, etc.) from removed electric piping, circuit breakers, etc.)
- Before using portable cord and plug connected equipment and extension cords on any shift inspect them for defects such as loose parts, deformed and missing pins or damage to the outer jacket or insulation. Do not allow the use of damaged or defective equipment or cords. Such items should be repaired (if possible) or discarded.
- Avoid hanging electric extension cords from the ceiling if possible. If these are to be used, make sure to have a strain-relief mesh or similar device to prevent stain on the outlet or damage to the extension cord.

8.10 Summary of Environmental and Social Management Plan

Table 8-16: Environmental and Social Management Plan for Operation Phase

Environmental & Social Aspect	Impact	Actions on Prevention	Time Frame	Responsible Person
Natural Environment				
Global warming potential	Emission of gaseous substance	• Proper ventilation of equipment and machines. • Use of vehicles having efficient engines and exhaust system. • Implementing a regular vehicle maintenance and repair program. • Admixture must be stored in a covered container and kept cool to prevent evaporation into the environment.	The whole operation period	EMT
	Dust Nuisance	• The entire plant compound traversed by vehicles should be paved with a hard, impervious material. • More comprehensive cleaning should be carried out as often as necessary. • Use dust control (spraying water) on the road. • Silos should be equipped with a high-level sensor alarm and an automatic delivery shutdown switch to prevent overfilling. • Provide PPE against dust (i.e Mask)	The whole operation period	EMT
Acoustic Impact	Noise at territory and beyond the bounds of the enterprise	• Proper maintenance of generator and installation of engineered noise controls (sound absorption material if necessary). • Ensuring an adequate buffer is kept between the plant and neighbors (buffer distances > 100 meters) • All preventive measures such as regular operation and maintenance of pumps, motors and compressor should be carried out.	The whole operation period	EMT
Water Environment				
Water Pollution	Storm water Drainage System	• Develop proper drainage systems for storm water and domestic waste water.	The whole operation period	EMT
	Sanitation waste water	• Discharge periodically by contacting Engineering Department (Water and Sanitation) from YCDC	The whole operation period	EMT

Solid Waste				
Domestic Waste	Littering/polluting with solid waste	• Segregate the wastes into reusable wastes, hazardous wastes and domestic wastes. • Awareness campaign for workers education on the waste segregated system. • Improve notice sign and awareness display board (non-smoking, no dumping signs). • Reuse waste if applicable. • Wastes are removed from on-site at regular intervals to prevent release to the environment.	The whole operation period	EMT
Hazardous waste	Pollution of air, land, ground water and waterways	• Use good housekeeping practices to clean up spills of diesel fuel, oil, grease as soon as possible. • Hazardous waste must be contained to prevent it from blowing away and from leaching into surface or ground water. • Take adequate precautions to ensure that diesel fuel, oil, grease and other transportable materials do not enter surface and ground water courses. • Suitable spill response equipment (such as spill trays and spill kits) should be available to catch the fluid, contain and collect small spills. • Installation of fire extinguisher near storage of hazardous waste.	The whole operation period	EMT
Chemicals				
Handling storage and use of chemicals	Pollution of air, land, ground water and waterways	• Purchase the least toxic or hazardous product available • Keep containers tightly closed when not in use. • Marked prominently as “Chemical Storage Area” • Obtaining material safety data sheet (MSDS) • Display warning signage at storage area. • Installation of fire extinguisher at storage area.	The whole operation period	EMT
Ecological Resources				
Change in terrestrial	Impacts on biodiversity	• Keep the enterprise premises green by planting trees and flowers. • In order to avoid the loss of ecological valuable, plant species should be practiced conservation methods as long-term conservation.	The whole operation period	EMT

Social Environment				
Social Sector	Population pressure	• Use of Labor Force. • Provision of ferry service for workers from remote area.	The whole operation period	EMT
Socio-Economic	Employment opportunity to local people	• Informing of local population on existing vacancies. • Maximum possible involvement of local labor force in view of qualifying requirements.	The whole operation period	EMT
	Enhancement of technical skill	• Providing skill enhancement training. • Additional knowledge in waste management, material handling and general application of environmental, health and social precautionary measures. • Local people involved in the project will find easier to find jobs in similar nature of projects as a skilled labor.	The whole operation period	EMT
Health and Safety				
Awareness on HIV/AIDS and STD	Spread to the community	• All workers will be adequately trained in basic sanitation and health care issues (e.g how to avoid transmission of sexually transmitted diseases such as HIV/AIDS).	The whole operation period	EMT
Occupation Health and Safety	Dangerous and unhealthy working conditions	• Provision of personnel with primary healthcare. • Placing at the factory of information and warning signs and fences. • Conformity of working places to OT requirements • Application of personal protective equipment. • Ensure labor law and factory law is strictly followed.	The whole operation period	EMT
	Dust	• Rinse eyes with water if they come into contact with cement dust and consult a physician. • Implement PPE usage for eye protection. • Use soap and water to wash off dust to avoid skin damage. • Wear a dust mask to minimize inhalation of cement dust.	The whole operation period	EMT
	Poor Ergonomic	• Use hand trucks or forklifts when possible. • Truck drivers should be informed about ergonomic risk factors.	The whole operation period	EMT
	Slips, Trips and Falls	• Do not walk or work under overhead loads • Stack and store materials properly to limit the risks of falling objects. • Keep floor clear to avoid slipping and tripping hazards.	The whole operation period	EMT

	Vibration and Radiation	• Arrange implementation of frequent (hourly) rest breaks for drivers exposed to extensive their previous whole-body vibration. • Regulate the truck drivers' daily work schedule considering their previous shifts.	The whole operation period	EMT
	Confined Spaces	• Guard against heat stress when cleaning truck mixer drums. • Ventilation should be used during mixer drum cleaning. • Wear appropriate protective equipment to avoid silica exposure when removing concrete residues from inside truck mixer drums.	The whole operation period	EMT
	Vehicle Safety	• Be sure that trucks and other vehicles are in good working order, including audible backup warning signals, before operating them. • Avoid overloading hoists, cranes and forklifts. • Sufficient parking areas with traffic signage should be established.	The whole operation period	EMT
	Electricity	• Electrical installation and all equipment are inspected according to a planned schedule and staff report any concerns to shift manager who will take appropriate action.	The whole operation period	EMT

Table 8-17: Environmental and Social Management Plan for Decommissioning Phase

Environmental & Social Aspect	Impact	Actions on Prevention	Time Frame	Responsible Person
Natural Environment				
Air/Dust	Chronic respiratory disease and eye complication	• All vehicle used are inspected and done regular maintenance. • Restriction of transport speed on roads. • Installation of temporary cover. • Set up dust barriers at strategic locations: Dust nets will be provided around the demolition area. • Practice dust management techniques, including watering down dust. • Provide PPE against dust (i.e Mask)	Through-out decommissioning phase	Contractor Site Engineer Technician
Noise	Long/short term noise nuisance and hearing loss	• Schedule noisy activities during day time period. • Ensure machinery is well maintained to reduce noise generating. • Switching off installation and equipment when they are not used. • Minimization of work during evening/night time. • Provide PPE such as noise defenders, ear plugs and war muffs to the workers in high noise area.	Through-out decommissioning phase	Contractor Site Engineer Technician
Water Environment				
Water Pollution	Contamination of surface and underground water resources	• Ensure sewage system is functional during demolition to prevent pollution of nearby underground and surface water sources. • Proper demolition of the sewage system to prevent pollution by contents into the environment and ground water.	Through-out decommissioning phase	Contractor Site Engineer Technician

Waste				
Solid Waste	Pollution of water, air and soil	• Enforce segregation of waste at the source to encourage reuse and recycling. • To store waste temporary in containers in case of large dimension it is possible to store wastes with water proof cover. • Disposal of solid waste in compliance with local government policy. • Usable infrastructures will be hand over to the township authorities for future community use.	Through-out decommissioning phase	Contractor Site Engineer Technician
Social Environment				
Interaction with public	Safety	• Informing of public on demolition process	Through-out decommissioning phase	Contractor Site Engineer Technician
Health and Safety				
Occupational Health and Safety	Incidents and accidents leading to serious injury or fatalities	• Placing at the site of information and warning signs and fences. • Ensure provision of appropriate PPE for staff such as o Ear muffs for ear protection, o Helmets for head protection, o Dust masks for dust protection for all project works, o Goggles with good visibility for eye protection, o Overalls and dust coats to protect the skin, o Safety shoes for protection of the feet, o Gloves of different types according to specific works in relation to puncture resistance; sharps resistance: cut resistance; flexibility; abrasion resistance; grip.	Through-out decommissioning phase	Contractor Site Engineer Technician
Emergency	Fires and explosions at the site	• Storage of inflammable and explosive substance and materials at closed warehouses or fenced sites. • Regular territory clearing. • Availability of necessary means for five prevention and provision of operative access to them.		

8.11 Environmental Monitoring Plan

In general, the factory produces solid, liquid and gaseous wastes which are discharged to the environment. The wastes may contain pollutants which may harm environment. It is the responsibility of the factory to prevent or minimize the discharges of waste products by adopting suitable control measures in the factory. The effectiveness of such measures is ascertained by systematic monitoring of discharges at factory level and at receiving level.

Environmental monitoring is a very important aspect of environmental management during construction, operation and decommissioning stages of the project to safeguard the environment.

The scope of the Environmental Monitoring Plan shall include;

- To identify and resolve environmental issues and other functions that may arise during the construction and operational phases;
- To implement water quality, air quality and noise impact monitoring plan during the operational phase;
- To check and quantity the environmental performance and recommend and implement remedial actions;
- To conduct regular reviews of monitored data as the basis for assessing compliance with defined criteria and to ensure that necessary mitigation measures are identified, designed and implemented; and
- To asses and interpret all environmental monitoring data to ascertain whether environmental control measures and practices are functioning in accordance to specifications.

The objective of environmental monitoring is to systematically collect environmental data and support information needed for evaluation of the environmental performance. The frequency and methods of data collection must ensure that the data obtained are reliable and meaningful, i.e. they will adequately reflect the project environmental performance. A proposed environmental monitoring program must be practical, relevant and cost effective.

The project proponent will also be responsible for the implementation of monitoring, summarization monitoring results, and submission of monitoring report to the Ministry of Natural Resources and Environmental Conservation (NONREC) periodically through the local Environmental Conservation Department (ECD).

8.11.1 Environmental Monitoring Plan for Operation Phase and Decommission Phase

The EMP cell members responsible may conduct daily, weekly or monthly general inspections of the project area and facilities. The objectives are to identify non-compliances to EMP. Table 7.18 is provided the environmental monitoring schedule for Golden Tri Light Co., Ltd. The factory submits monitoring report to the Ministry not less frequently than every six months as provided in a schedule in the EMP.

Table 8-18: Environmental Monitoring Schedule for Golden Tri Light Co., Ltd

Environmental issues	Parameter	Recommended monitoring frequency	Area to be monitored	Responsible Section
Operation Phase				
Air quality	Ambient air emission (CO_2, CO, SO_2, NO_2, $PM_{2.5}$, PM_{10})	Biannually	Within the factory area 16° 55' 24.672" N and 96° 4' 11.172" E	Responsible officer of Golden Tri Light Co., Ltd
Water quality	Effluent wastewater Wastewater quality (pH, DO, BOD, COD, TDS, Temp)	Daily in-house check Biannually	Final discharge point of factory drainage	Responsible officer of Golden Tri Light Co., Ltd
Noise	Noise level in decibel	Biannually	Operation area	Responsible officer of Golden Tri Light Co., Ltd
Waste management	Garbage collection cleaning Maintenance	Daily	Temporary storage sites of proposed factory Record disposed frequency	Responsible officer of Golden Tri Light Co., Ltd
Energy consumption	Liters of Diesel/fossil fuel for the generator	Monthly Daily monitoring of fuel use	Generator house and fuel storage area	Responsible officer of Golden Tri Light Co., Ltd
Water consumption	-All water taps shut off when not use -Power to unused equipment shut off at the distribution panel	Daily	Water distribution area	Responsible officer of Golden Tri Light Co., Ltd

Emergency response equipment	-Extinguisher's position -Water hydrants -Firemen switch testing -Servicing fire extinguishers -Review records of accident -OHS training	Daily Daily Monthly Quarterly Quarterly Biannually		Responsible officer of Golden Tri Light Co., Ltd
Decommissioning Phase				
Air quality	PM2.5, PM10	One time during this phase	One point in the production area	Golden Tri Light Co., Ltd
Water quality	pH, DO, BOD, COD, TDS, Temp, Oil and Grease, Chlorine, Arsenic	One time during this phase	Final discharge point of factory drainage	Golden Tri Light Co., Ltd
Noise	Noise level in decibel (dBA)	One time during this phase	One point in the demolishing area	Golden Tri Light Co., Ltd
Rehabilitation	Recovering and revegetation		All decommissioning area	Golden Tri Light Co., Ltd

8.12 Corporate Social Responsibility (CSR) Plan

The CSR activities have the objective to uplift quality of life and gain favorable relations from all communities in the operation area. The CSR program of Golden Tri Light Co., Ltd consists of three main sectors. Health, Education and Community Development Sector. CSR activities are conducted in compliance with MIC's guideline for implementation of CSR program.

Golden Tri Light Co., Ltd will contribute 2% of our Net Profit to social welfare activities what will help society and country of Myanmar. The social welfare activities shall include training of employees such as providing necessary healthcare such as medical checkup and giving proper medical knowledge about deceases and its prevention. Part of CSR activity such as donations will also contribute to public school around the factory Table 8-18.

Table 8-19: CSR Plan of Golden Tri Light Co., Ltd

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

8.12.1 Public School

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

8.12.2 Non-Profit Training

Golden Tri Light Co., Ltd will contribute 1% of net profit for the trainings of employees. The trainings include job-related trainings, Language trainings and safety trainings. The main objectives of the trainings are that Golden Tri Light Co., Ltd wants not only their work but also occupational health of employees. The employees become more productive and more qualified.

8.12.3 Healthcare

One of main concerns is the well-being of employees. Golden Tri Light Co., Ltd will contribute 0.5% of net profit for the healthcare which includes medical checkup for the employees and providing health education to the workers.

8.13 Budget Plan for Environmental Management and Monitoring

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

The following table shows the expenditures for the implementation of environmental management plan for operation phase annually. Estimation cost for EMP implementation is presented in Table 8-19.

Table 8-20: Cost Estimation for EMP Implementation

No	Item	Frequency/Times	Cost (USD)
Monitoring Plan			
1	Air Pollution/Dust Management Plan	Twice per year	1000 per year
2	Noise Management Plan	Once per year	250 per year
3	Solid Waste Management Plan	Twice per year	300 per year
4	Wastewater Management Plan	Once per year	250 per year
5	Occupational Health and Safety Management Plan	Once per year	200 per year
6	Hazardous Waste Management Plan	Once per year	100 per year
7	Water Consumption Management Plan	Once per year	100 per year
8	Emergency Response Management Plan	Once per year	100 per year
Decommissioning Phase			
1	Air quality	One time during this phase	200 per year
2	Water quality	One time during this phase	150 per year
3	Noise	One time during this phase	150 per year
4	Rehabilitation	One time during this phase	100 per year
5	Occupational Health and Safety Management	One time during this phase	100 per year

8.14 Grievance Redress Mechanism (GRM)

People who live near the project area or stakeholders can complain about the problems and impacts that they suffer, they can complain through Grievance Committee which includes the responsible persons of Golden Tri Light Co., Ltd representative from Ngwe Pin Lal Industrial Zone and representative from general administration department (Hlaing Thar Yar Township). Small issues will be solved at the Grievance Committee stage and other unsolved problems will be submitted to higher responsible authorities and finally the responsible person decided by the court in legal terms.

8.15 Reporting Monitoring Results

Results of air quality and noise level monitoring, and analysis of water quality will be recorded in files to check and audit. Monitoring will be carried out strictly as required by the related national regulations and the monitoring results of required parameters should be reported to local authorities and local ECD.

Report Supported Team is responsible for recording of the monitoring results in files, developing the monitoring report with related documents and to report submission to local Environmental Conservation Department **(ECD)**, through the Golden Tri Light Co., Ltd.

8.16 Employee Welfare Plan

Golden Tri Light Co., Ltd is always proactive to provide a peace and harmony workplace for all of its employees. Employee Welfare Plan of Golden Tri Light Co., Ltd is as follows.

Staff Transportation

Golden Tri Light Co., Ltd has a plan of staff transportation. It provides ferry for coming to factory and going to home. It is free cost to whom they take the ferry of factory.

Rest Breaks

Golden Tri Light Co., Ltd Factory provides a longer break for lunch for 30 minutes.

Dining Area

A large eating place with sufficient tables and chairs is arranged for all employees to rest and relax in time of need. The workers can eat their own packed lunch. It is situated away from the workstation to avoid any contact with dirt, dust or dangerous substances used during the work process.

Drinking Water

Drinking water is essential for all workers. A water purifier is installed and the factory arranges plenty of safe drinking water, at no cost, to all workers at all time.

Health Facilities

Golden Tri Light Co., Ltd helps the workers by providing them with a workplace medical facility, such as a small clinic where treatment can be given for occupational injuries. A qualified nurse is hired by the company so that in emergency cases employees could be promptly free of change.

The FIRST AID KITS and emergency medical boxes are supplied sufficiently in all work sites for minor cuts or ailment. The names and location of responsible person for first aid are put on a notice board and everyone knows the procedures for obtaining medical assistance.

Golden Tri Light Co., Ltd will send the injured employee to the nearest Private Clinic/ Hospital with factory transportation at no cost. Some employees who hold social security cards, on their request or consent, are sent to SOCIAL SECURITY CLINIC nearby the factory's transport arrangement.

In addition, Golden Tri Light Co., Ltd arranges for the employees to have a chance of medical check-ups by medical officers from government worker hospital.

Ready for Emergency

Golden Tri Light Co., Ltd Factory establish the Emergency Response Team and proper preventive measures are installed for all employees

Sanitary Facilities

Appropriate sanitation facilities are installed in the factory and regular disinfection work carried out. Toilets are provided separately; 6 for men and 34 for women. The toilets are provided with enough water and deodorants. If necessary, some kind of antiseptic liquid will be sprayed.

Social Activities

The factory usually organizes Water Festival celebration triennially.

Other Supported Facilities

The factory provides parking place for bicycle and motorcycle for all workers.

Overtime Fees

It is given on hourly basis at the rate following the existing Labor law of the country.

Bonus

Annual leave bonus is paid. Besides annual leave bonus, efficiency bonuses are paid based on their performance.

9 CONCLUSION

Environmental Management Plan (EMP) has been prepared for Golden Tri Light Co., Ltd is located at Plot No.4, Myay Taing Quarter (24), 4th Road, Ngwe Pin Lal Industrial Zone, Hlaing Thar Yar Township, Yangon Region, Myanmar. The main objective of the study is focused specially on the required environmental management measures or creating environmentally friendly workplace. An EMP has been carried out for the factory according to the according to the requirement of the proponent as it has been made for garment manufacturing factory.

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

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

The effective implementation of the mitigation measures proposed will ensure towards good environmental management within the proposed garment factory is going to generate local employment opportunities and enhance capabilities and working skills of employees. Consequently, their socio-economic standard is expected to be improved and undertaking corporate social responsibilities (CSR) as recommended. The study further concluded that positive impacts will be of immense benefit to the local community and national development as well.

10 References

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9) MONREC. (2015) *Environmental Impact Assessment Procedure* (Issue 616/2015).
10) MONREC. (2015) *National Environmental Quality (Emission) Guideline* (Issue 615/2015)

Appendix (A) Photos of Factory

Appendix (B) Photo Records of First Aid Training

Appendix (C) Photo Records of Fire Training

Appendix (D) Photo Records of Occupational Health and Safety Management