MARINE ACARY PRODUCTION COMPANY LIMITED

Environmental Management Plan

Manufacturing of Fishmeal & Ice Factory

Prepared by:

MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED

17-Jan-25

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ENVIRONMENTAL SOLUTIONS

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Commitment

To our knowledge, all information contained in this report is accurate and truthful presentation of all findings as relating to the project.

This report has been prepared with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

Approved by:

Lin Htet Sein

Environmental Consultant

EIA-AC 053/2023

MARINE ACARY PRODUCTION CO.,LTD ပင်လယ်ကေရီထုတ်လုပ်မှုကုမ္ပဏီလီမိတက်

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ကတိကဝတ်

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်တွင် ပါရှိသည့် ပတ်ဝန်းကျင်ထိခိုက်မှု လျော့ပါးစေရေး လုပ်ငန်းများနှင့် စောင့်ကြပ်ကြည့်ရှုရေးလုပ်ငန်းများကို စီမံကိန်းပိုင်ရှင်မှ အကောင်အထည်ဖော်မည် ဖြစ်ကြောင်း Marine Acary Production Company Limited မှ ကတိပြု ဝန်ခံ လက်မှတ်ရေးထိုးပါသည်။

- EMP အစီရင်ခံစာသည် တိကျခိုင်မာကြောင်းနှင့် ပြည့်စုံကြောင်း၊
- ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း အပါအဝင် သက်ဆိုင်ရာ ဥပဒေများကို တိကျစွာလိုက်နာ၍ EMP အစီရင်ခံစာကို ရေးဆွဲထားကြောင်း၊
- စီမံကိန်းသည် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ပါ ကတိကဝတ်၊ ပတ်ဝန်းကျင်ထိခိုက်မှု လျော့ချရေး လုပ်ငန်းများနှင့် အစီအစဉ်များကို အပြည့်အဝ အစဉ်အမြဲ လိုက်နာဆောင်ရွက်မည် ဖြစ်ကြောင်း၊
- လုပ်ငန်းနှင့် ဆက်စပ်၍ လိုက်နာဆောင်ရွက်ရမည့် ဥပဒေ၊ နည်းဥပဒေများ၊ လုပ်ထုံးလုပ်နည်းများ၊ အမိန့်/ညွှန်ကြားချက်များ အပါအဝင် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ၊ နည်းဥပဒေများ၊ လုပ်ထုံးလုပ်နည်း၊ အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ၊ အခါအားလျော်စွာ ထုတ်ပြန်ကြေညာမည့် ညွှန်ကြားချက်များကို သိရှိလိုက်နာ ဆောင်ရွက်မည် ဖြစ်ပါကြောင်းနှင့် ပျက်ကွက်ပါက တည်ဆဲဥပဒေ၊ နည်းဥပဒေများနှင့်အညီ အရေးယူခံရမည်ကို သိရှိကြောင်း၊
- ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း (၂၀၁၅) ရှိ အပိုဒ် ၁၀၂ မှ ၁၁၀ ထိအား အလေးထား လိုက်နာဆောင်ရွက်သွားမည် ဖြစ်ကြောင်း၊
- စက်ရုံမှ ထွက်ရှိမည့် စွန့်ပစ်ပစ္စည်းများ၊ ကုန်ကြမ်းများနှင့် အရည်အသွေး မပြည့်မီသည့် ထွက်ကုန်များအား မီးရှို့ ဖျက်ဆီးမည် မဟုတ်ကြောင်းနှင့် 3Rs System အား အသုံးပြုသွားမည် ဖြစ်ပါကြောင်း၊
- Climate Change Policy (2019) ပါ ဖော်ပြချက်များအတိုင်း လိုက်နာဆောင်ရွက်သွားမည် ဖြစ်ပါကြောင်း၊
- Eco- Friendly Production သို့ ဦးစီးဆောင်ရွက်၍ လုပ်ငန်းလည်ပတ်ဆောင်ရွက်ခြင်းမှ မှန်လုံအိမ်ခေတ်ငွေ့ ထုတ်လွှတ်မှု လျော့နည်းအောင် အစဉ်ဂရုပြု ဆောင်ရွက်သွားမည် ဖြစ်ပါကြောင်း၊

လေးစားစွာဖြင့်

Managing Director
Marine Acary Production Co., Ltd.

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ABBREVIATION

1. CEMP = Construction Environmental Management Plan
2. CMP = Contract Manufacturing Process
3. CSR = Corporate Social Responsibility
4. ECC = Environmental Compliance Certificate
5. ECD = Environmental Conservation Department
6. EIA = Environmental Impact Assessment
7. EMoP = Environmental Monitoring Plan
8. EMP = Environmental Management Plan
9. EMS = Environmental Management System
10. M/C = Machine
11. HR = Human Resources
12. mm = Milli meter
13. ft = Feet
14. CPU = Central Processing Unit
15. kVA = Kilovolt-amps
16. hPA = hecto-Pascals
17. PM = Particulate Matter
18. SO_2 = Sulphur dioxide
19. NO_2 = Nitrogen dioxide
20. CO_2 = Carbon dioxide
21. CO = Carbon monoxide
22. VOC = Volatile Organic Compound
23. MSDS = Material Safety Data Sheet
24. OSHA = Occupational Safety and Health Administration
25. GIIP = Good International Industry Practices
26. HSE = Health, Safety and Environment
27. IEE = Initial Environmental Examination
28. IFC = International Finance Corporation
29. NEQG = National Environmental Quality (Emission) Guidelines
30. MIC = Myanmar Investment Commission
31. YRIC = Yangon Region Investment Committee
32. MOECAF = Ministry of Environmental Conservation and Forestry
33. MONREC = Ministry of Natural Resources and Environmental Conservation
34. NSDS = National Sustainable Development Strategy
35. OI = Odor Intensity
36. OU = Odorant Unit
37. OEMP = Operation Environmental Management Plan
38. OSHA = Occupational Safety and Health Administration
39. PPE = Personal Protective Equipment
40. WHO = World Health Organization

အစီရင်ခံစာအကျဉ်းချုပ်

၁။ နိဒါန်း

ဤအစီရင်ခံစာသည် ငါးအမှုန့်ကြိတ်စက်ရုံ (တိရစ္ဆာန်အစားစာ) နှင့် ရေခဲထုတ်လုပ်ခြင်းလုပ်ငန်းအား အကောင်အထည်ဖော် ဆောင်ရွက်လျက်ရှိသည့် Marine Acary Production Company Limited ၏ ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုအစီရင်ခံစာ ဖြစ်ပါသည်။ ဤအစီရင်ခံစာ၏ အဓိကရည်ရွယ်ချက်မှာ စီမံကိန်းလုပ်ငန်း လည်ပတ် ဆောင်ရွက်ခြင်းကြောင့် ဖြစ်ပေါ်နိုင်သော ဆိုးကျိုးများအား လျော့နည်းစေရန်အတွက် ထိရောက်သော ဆောင်ရွက်ချက် များနှင့်အတူ စီမံကိန်းအကောင်အထည်ဖော်ခြင်းကြောင့် ပတ်ဝန်းကျင်အပေါ် အဓိက အကျိုးသက်ရောက်နိုင်မှုများကို ဖော်ထုတ်ရန် အတွက် ဖြစ်ပါသည်။

အဆိုပြုစီမံကိန်းလုပ်ငန်းသည် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီရင်ခံစာ ရေးဆွဲတင်ပြရမည်ဖြစ်ကြောင်း ၂၀၂၃ ခုနှစ်၊ ဇန်နဝါရီလ၊ ၂၃ ရက် ရက်စွဲပါစာအမှတ်၊ NR (စက်မှု/စီးပွား)/၂/၁(၀၂၅)/၂၀၂၃) ဖြင့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန၊ ဖျာပုံခရိုင်လက်ထောက်ညွှန်ကြားရေးမှူးရုံးမှ သဘောထားမှတ်ချက်ရရှိပြီးဖြစ်ပါသည်။

ရင်းနှီးမြှုပ်နှံသူ၏ အချက်အလက်များ

ရင်းနှီးမြှုပ်နှံသူ၏ အမည်	ဒေါ်နန်းအောင်လူ
ID No:	၁၃/လရန(နိုင်)၁၁၆၄၀၉
နိုင်ငံသား	မြန်မာ
ကုမ္ပဏီအမည်	Marine Acary Production Company Limited
ကုမ္ပဏီမှတ်ပုံတင်အမှတ်	၁၀၄၀၉၄၀၉၀
အီးမေးလ်	marineacaryfishmealyangon@gmail.com
ဖုန်းနံပါတ်	၀၉ ၈၅၀ ၅၃၀ ၅၈၆
မှတ်ပုံတင်ထားသည့် ရုံးလိပ်စာ	အမှတ် (၁၀၂)၊ နဝဒေးဥယျာဉ်အိမ်ရာ၊ ကမ္ဘာအေးဘုရားလမ်း၊ (၅) ရပ်ကွက်၊ မရမ်းကုန်း မြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး

ဒါရိုက်တာစာရင်း

စဉ်	အမည်	တာဝန်ယူ ဆောင်ရွက်မှု
၁	ဦးလှဖေ	မန်နေဂျင်းဒါရိုက်တာ
၂	ဒေါ်နန်းအောင်လူ	ဒါရိုက်တာ
၃	ဦးစိုင်းယုဝေ	ဒါရိုက်တာ

စီမံကိန်း၏ လက္ခဏာများ

အဆိုပြုစီမံကိန်းအမျိုးအစား	ငါးအမှုန့်ကြိတ်စက်ရုံ (တိရစ္ဆာန်အစားစာ) နှင့် ရေခဲထုတ်လုပ်ခြင်းလုပ်ငန်း
ရင်းနှီးမြှုပ်နှံမှုအမျိုးအစား	၁၀၀ ရာခိုင်နှုန်း မြန်မာနိုင်ငံသား ရင်းနှီးမြှုပ်နှံမှု
ရင်းနှီးမြှုပ်နှံမှု ပမာဏ	၁၈၈၆.၀၅ သန်း (အမေရိကန်ဒေါ်လာ ၀.၄၇ သန်း အပါအဝင်)
ရှယ်ယာအမျိုးအစား	ပုံမှန်အစုရှယ်ယာ
စီမံကိန်း စတင်လည်ပတ်သည့်ရက်	၂၀၁၁ ခုနှစ်၊ ဧပြီလ၊ ၁ ရက်
မြေအမျိုးအစား	လယ်ယာမြေ
မြေဧရိယာစုစုပေါင်း	၃၂.၃၂ ဧက
စီမံကိန်း လိပ်စာ	ဧရာဝတီတိုင်းဒေသကြီး၊ ဖျာပုံခရိုင်၊ ဘိုကလေးမြို့နယ်၊ ကဒုံကနိကျေးရွာ၊ ကွင်း/အကွက် အမှတ် (၉၁၇/ရေကျော်ကြီးကွင်း)၊ ဦးပိုင်အမှတ် (၂/၈)
ရင်းနှီးမြှုပ်နှံမှု ပမာဏ စုစုပေါင်း	အမေရိကန်ဒေါ်လာ ၁.၉၂၀ သန်း
ဆက်သွယ်ရန် ပုဂ္ဂိုလ်	ဦးဇော်ထက်အောင် အထွေထွေမန်နေဂျာ ၀၉ ၂၆၂ ၆၉၄ ၄၄၈ marinefighter17@gmail.com ဧရာဝတီတိုင်းဒေသကြီး၊ ဖျာပုံခရိုင်၊ ဘိုကလေးမြို့နယ်၊ ကဒုံကနိကျေးရွာ၊ ကွင်း/အကွက် အမှတ် (၉၁၇/ရေကျော်ကြီးကွင်း)၊ ဦးပိုင်အမှတ် (၂/၈)

Marine Acary Production Company Limited ၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီရင်ခံစာအား MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED မှ ရေးဆွဲပြုစုဆောင်ရွက်ပေးပါသည်။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီရင်ခံစာရေးဆွဲမည့် MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED ၏ လိုင်စင်ရ ပုဂ္ဂိုလ်များနှင့် သက်ဆိုင်သော အချက်အလက်များအား အောက်ပါဇယားဖြင့် ဖော်ပြထားပါသည်။

အစီရင်ခံစာရေးဆွဲဆောင်ရွက်သည့် လိုင်စင်ရ ပုဂ္ဂိုလ်များ စာရင်း

စဉ်	အမည်	ECD လိုင်စင်နံပါတ်	လိုင်စင်အမျိုးအစား	ကျွမ်းကျင်မှုနယ်ပယ်	တာဝန်ယူဆောင်ရွက်မှု
၁.	ဦးထွန်းလင်းကျော်	EIA-AC 051/2023	တွဲဖက်အကြံပေး	လူမှုရေးဆိုင်ရာလေ့လာခြင်းနှင့် သရုပ်ခွဲ ဆန်းစစ်ခြင်း	**Team Leader** Chapter 4 (**Hydrology, Surface Water and Ground Water Conservation** - Check and Review Hydrological and Hydrogeological Data and Report Writing) Chapter 7 **(Public Consultation –** Check and Review Social Data, Data Entry and Report Writing) Chapter 6 (**Solid Waste and Hazardous Waste Management –** Analysis for Waste Disposal System, Management and Monitoring**)**
၂.	ဒေါက်တာဟိန်းလင်းအောင်	EIA-AC 052/2023	တွဲဖက်အကြံပေး	ကျန်းမာရေး	**Reviewer** **Occupational Health & Community Health Impacts Assessment**
၃.	ဦးလင်းထက်စိန်	EIA-AC 053/2023	တွဲဖက်အကြံပေး	အထွေထွေပတ်ဝန်းကျင်စီမံခန့်ခွဲခြင်း	**Co Leader** Chapter 6 **(General Environmental Management –** Project Leading: Communication, Discussion with Project Proponent for Environmental Management, Foundation and Consultancy for Environmental Management System) Chapter 5, Chapter 6 (**Risk Assessment and Hazard Management** for Activities of the Project: Finding and Identification the Hazards, Evaluation the Affected Risks and Management for the Project's Environmental Prevention)

စဉ်	အမည်	ECD လိုင်စင်နံပါတ်	လိုင်စင်အမျိုးအစား	ကျွမ်းကျင်မှုနယ်ပယ်	တာဝန်ယူဆောင်ရွက်မှု
					Executive for Environmental Policy and Objectives
၄.	ဦးစောရန်နောင်	EIA-AC 054/2023	တွဲဖက်အကြံပေး	လူမှုရေးဆိုင်ရာလေ့လာခြင်းနှင့် သရုပ်ခွဲ ဆန်းစစ်ခြင်း	**Member** Chapter 4 **(Noise and Vibration -** Baseline Survey and Monitoring, Data Analysis and Modelling, Data Entry and Report Writing) Chapter 5, Chapter 6 (**Solid Waste and Hazardous Waste Management –** Identify and Analysis of Wastes, Management and Monitoring**)** Chapter 7 **(Social Study and Analysis –** Participating in Public Consultation Meeting) Chapter 8 Conclusion & Recommendation
၅.	ဦးကောင်းဆက်လွင်	EIA-AC 055/2023	တွဲဖက်အကြံပေး	ဘူမိဆိုင်ရာဆန်းစစ်လေ့လာခြင်း	**Member** Chapter 2 (**Legal Studies and Analysis** - Check and Review legal requirements related to project, Data Entry and Report Writing) Chapter 4 (**Geological Assessment -** Check and Review Geological Data, Data Entry and Report Writing)
၆.	ဒေါ်ဆုမြတ်လှိုင်	EIA-AC 101/2024	တွဲဖက်အကြံပေး	လေထုညစ်ညမ်းမှု စောင့်ကြပ်ကြည့်ရှုခြင်း	**Member** Chapter 4 (**Air Pollution Monitoring, Meteorology, Air Quality Assessment and Prediction –** Baseline Survey and Monitoring, Data Analysis and Modelling, Check and Review Meteorological Data, Data Entry and Report Writing) Chapter 5, Chapter 6 (**Air Pollution Prevention and Control –** Evaluation of the Air Quality Impacts and Mitigation Measures,

စဉ်	အမည်	ECD လိုင်စင်နံပါတ်	လိုင်စင်အမျိုးအစား	ကျွမ်းကျင်မှုနယ်ပယ်	တာဝန်ယူဆောင်ရွက်မှု
					Adaptation for Air Pollution, Air Pollution Management, Control and Monitoring) Chapter 4, Chapter 5 (**Water Pollution, Prevention, Control, Monitoring and Impact Prediction –** Baseline Survey and Monitoring and Report Writing, Evaluation of the Water Quality Impacts and Mitigation Measures, Adaptation for Water Pollution, Water Pollution Management, Control and Monitoring)

အထောက်အကူပြု ပုဂ္ဂိုလ်

အမည်	ပညာအရည်အချင်း	အထောက်အကူပြု နယ်ပယ်	တာဝန်ယူဆောင်ရွက်မှု
ဒေါ်နုနုရှိုးရှိ	B.A (Myanmar)	လေထုညစ်ညမ်းမှု စောင့်ကြပ်ကြည့်ရှုခြင်း	Chapter 4 (**Air Pollution Monitoring, Meteorology, Air Quality Assessment and Prediction –** Baseline Survey and Monitoring, Data Analysis and Modelling) Chapter 4 **(Noise and Vibration -** Baseline Survey and Monitoring, Data Analysis and Modelling)

၂။ မူဝါဒ၊ ဥပဒေနှင့် မူဘောင်များ

သယံဇာတနှင့်သဘာဝပတ်ဝန်းကျင် ထိန်းသိမ်းရေးဝန်ကြီးဌာနမှ ထုတ်ပြန်ထားသော အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ (၂၀၁၅) နှင့် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း (၂၀၁၅) အပါအဝင် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ၊ နည်းဥပဒေများနှင့် ဒေသတွင်းနှင့် နိုင်ငံတကာမှ ထုတ်ပြန်ထားသော အောက်ဖော်ပြပါ စီမံကိန်းနှင့် သက်ဆိုင်သည့် စီမံကိန်းအဆိုပြုသူမှ ကတိပြု လိုက်နာဆောင်ရွက်သွားမည့် ပတ်ဝန်းကျင်နှင့်လူမှုရေးရာ မူဝါဒများအား ဖော်ပြထားခြင်း ဖြစ်ပါသည်။

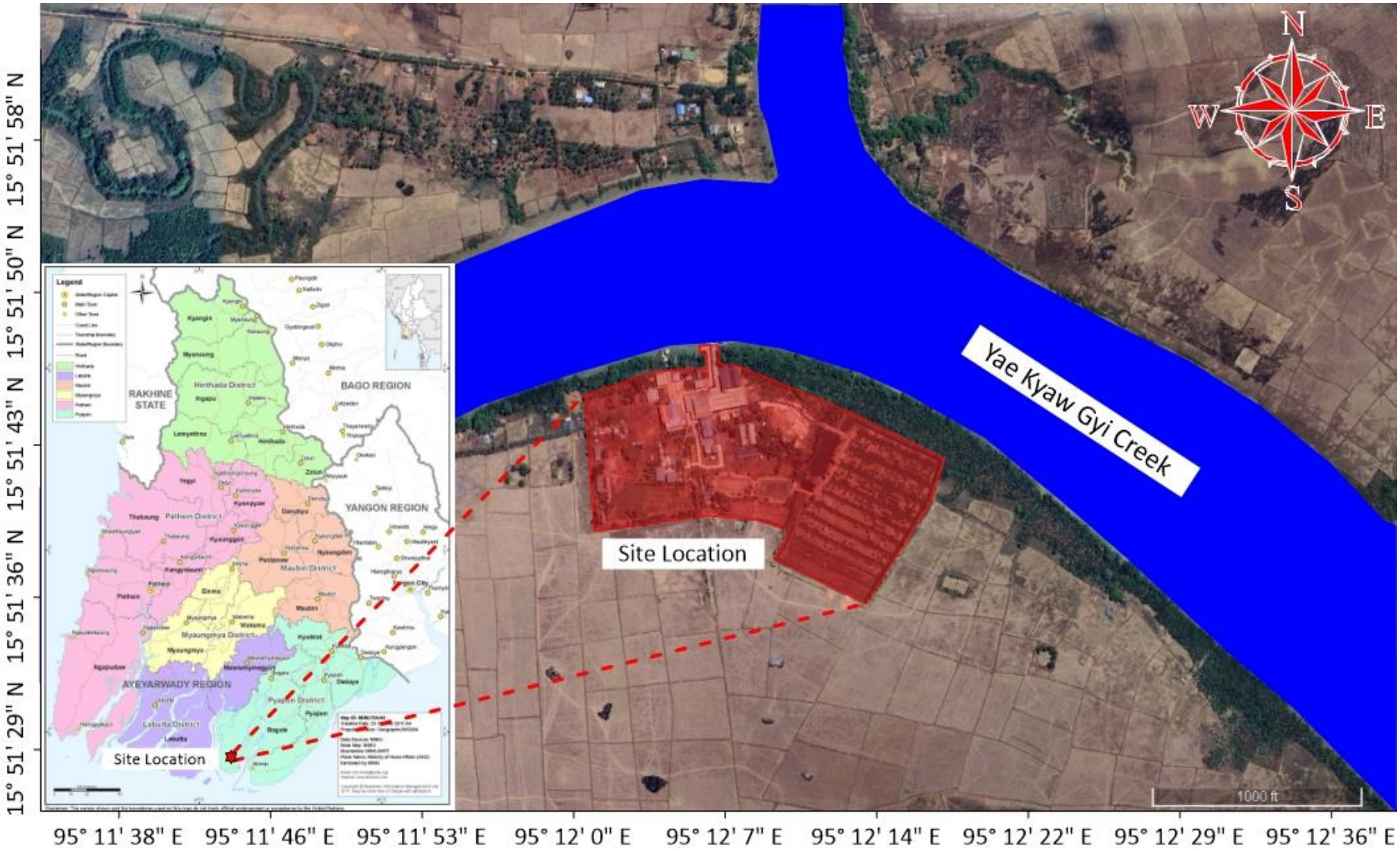
စဉ်	ဥပဒေနှင့် စည်းမျဉ်းစည်းကမ်းများ	ထုတ်ပြန်သည့် နှစ်	ကတိကဝတ်ပြုထားသော ပုဒ်မ/နည်းဥပဒေ
ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး			
၁	ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော် ဖွဲ့စည်းပုံ အခြေခံ ဥပဒေ	၂၀၀၈	၃၅၀, ၃၉၀
၂	ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ	၂၀၁၂	၁၄, ၁၅, ၁၆
၃	ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနည်းဥပဒေ	၂၀၁၄	၆၉ (က)(ခ)
၄	ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများ	၂၀၁၅	၁၃ (က)(ခ), ၃၄, ၃၅, ၃၆, ၃၇, ၃၈, ၄၀, ၁၀၂, ၁၀၄ မှ ၁၁၀, ၁၁၃, ၁၁၅, ၁၁၇
၅	အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ	၂၀၁၅	-
သစ်တော၊ ဇီဝမျိုးစုံမျိုးကွဲနှင့် သဘာဝသယံဇာတများ			
၆	မြန်မာနိုင်ငံသစ်တောဥပဒေ	၂၀၁၈	၁၂
၇	ဇီဝမျိုးစုံမျိုးကွဲနှင့် သဘာဝထိန်းသိမ်းရေးနယ်မြေများ ကာကွယ်စောင့်ရှောက်ခြင်းဆိုင်ရာ ဥပဒေ	၂၀၁၈	၄၀, ၄၁
၈	ရေအရင်းအမြစ်နှင့် မြစ်ချောင်းများ ထိန်းသိမ်းရေး ဥပဒေ	၂၀၁၆	၈, ၁၁, ၁၉, ၂၂
၉	ရှေ့ဟောင်းအဆောက်အအုံများ ကာကွယ် ထိန်းသိမ်းရေးဥပဒေ	၂၀၁၅	၁၂, ၁၅, ၂၀
၁၀	မြေအောက်ရေအက်ဥပဒေ	၁၉၃၀	၃, ၅
အများပြည်သူကျန်းမာရေး			
၁၁	ပြည်သူ့ကျန်းမာရေးဥပဒေ	၁၉၇၂	၃
၁၂	ကူးစက်ရောဂါကာကွယ်ထိန်းချုပ်ရေးဥပဒေ	၁၉၉၅ (၂၀၁၁ တွင် ပြန်ဆင်)	၃ (က)(ခ), ၄, ၁၁
၁၃	ဆေးလိပ်နှင့် ဆေးရွက်ကြီးထွက်ပစ္စည်း သောက်သုံးမှု ထိန်းချုပ်ရေးဥပဒေ	၂၀၀၆	၉

စဉ်	ဥပဒေနှင့် စည်းမျဉ်းစည်းကမ်းများ	ထုတ်ပြန်သည့် နှစ်	ကတိကဝတ်ပြုထားသော ပုဒ်မ/နည်းဥပဒေ
	မြေအသုံးချမှု		
၁၄	လယ်ယာမြေဥပဒေ	၂၀၁၂	၁၂, ၂၉
၁၅	မြေလွတ်၊ မြေလပ်နှင့် မြေရိုင်းများစီမံခန့်ခွဲမှုဥပဒေ	၂၀၁၂ (၂၀၁၈ တွင် ပြင်ဆင်)	၁၆
	မြို့ပြဖွံ့ဖြိုးတိုးတက်ရေး		
၁၆	စံချိန်စံညွှန်းသတ်မှတ်ခြင်းဆိုင်ရာဥပဒေ	၂၀၁၄	၁၇, ၁၉, ၂၆
၁၇	မြန်မာနိုင်ငံအင်ဂျင်နီယာကောင်စီဥပဒေ	၂၀၁၃	၃၇ မှ ၄၂
၁၈	ဓာတုပစ္စည်းနှင့် ဆက်စပ်ပစ္စည်းများ အန္တရာယ်မှ တားဆီးကာကွယ်ရေး ဥပဒေ	၂၀၁၃	၁၅, ၁၆, ၁၇, ၂၂, ၂၇
၁၉	ဓာတုပစ္စည်းနှင့် ဆက်စပ်ပစ္စည်းများ အန္တရာယ်မှ တားဆီးကာကွယ်ရေး နည်းဥပဒေ	၂၀၁၆ (၂၀၁၈ တွင် ပြင်ဆင်)	-
၂၀	လျှပ်စစ်ဥပဒေ	၂၀၁၄	၄၄ မှ ၄၇
၂၁	ရေနံနှင့် ရေနံထွက်ပစ္စည်းဆိုင်ရာ ဥပဒေ	၂၀၁၇	၃၀ မှ ၃၃
	စီးပွားရေးနှင့် ရင်းနှီးမြှုပ်နှံမှု		
၂၂	ဧရာဝတီတိုင်းဒေသကြီးဖွံ့ဖြိုးတိုးတက်မှုဥပဒေ	၂၀၁၂	၆၃
၂၃	မြန်မာနိုင်ငံကုမ္ပဏီများဥပဒေ	၂၀၁၇	၂, ၄
၂၄	မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုဥပဒေ	၂၀၁၆ (၂၀၁၉ တွင် ပြင်ဆင်)	၃၆, ၃၇, ၃၈, ၅၀, ၅၁, ၅၃, ၅၅ မှ ၆၀, ၆၂, ၆၃, ၆၄, ၆၇, ၆၉, ၈၀, ၈၂, ၈၃, ၈၄
၂၅	မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုနည်းဥပဒေ	၂၀၁၇	၂၀၂, ၂၀၃
၂၆	မြန်မာနိုင်ငံအာမခံဥပဒေ	၁၉၉၃	၁၅, ၁၆
၂၇	ကုန်သွယ်လုပ်ငန်းခွန်ဥပဒေ	၁၉၉၀ (၂၀၁၄ တွင် ပြင်ဆင်)	၄(က), ၅, ၁၁(က),(ခ), ၁၃(က), ၁၅(က)
	အလုပ်သမားများနှင့် လုပ်ငန်းခွင်		
၂၈	အလုပ်သမားအဖွဲ့အစည်းဥပဒေ	၂၀၁၁ (၂၀၁၂ တွင် ပြင်ဆင်)	၂၉, ၃၀, ၃၁, ၃၇, ၄၃, ၄၄, ၄၉
၂၉	အလုပ်သမားအဖွဲ့အစည်းနည်းဥပဒေ	၂၀၁၂	၂၉, ၃၀
၃၀	အလုပ်သမားလျော်ကြေးဥပဒေ	၁၉၂၃ (၁၉၅၅, ၁၉၅၇, ၂၀၀၅ တွင် ပြင်ဆင်)	၃, ၄, ၈

စဉ်	ဥပဒေနှင့် စည်းမျဉ်းစည်းကမ်းများ	ထုတ်ပြန်သည့် နှစ်	ကတိကဝတ်ပြုထားသော ပုဒ်မ/နည်းဥပဒေ
၃၁	အလုပ်အကိုင်နှင့် ကျွမ်းကျင်မှု ဖွံ့ဖြိုးတိုးတက်ရေး ဥပဒေ	၂၀၁၃	၃, ၅, ၁၄, ၃၀
၃၂	လုပ်ငန်းခွင်ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့် ကျန်းမာရေးဆိုင်ရာဥပဒေ	၂၀၁၉	၁၈, ၁၉, ၂၁, ၂၃, ၂၆, ၂၇, ၂၈, ၂၉, ၃၄, ၅၈, ၅၉
၃၃	အနည်းဆုံးအခကြေးငွေဥပဒေ	၂၀၁၃ (၂၀၂၃ တွင် ပြင်ဆင်)	၁၂, ၂၃, ၁၆, ၂၂, ၂၄
၃၄	အနည်းဆုံးအခကြေးငွေနည်းဥပဒေ	၂၀၁၃	၄၃
၃၅	လုပ်ခပေးချေမှုဥပဒေ	၂၀၁၆	၃, ၄, ၅, ၆, ၇, ၉, ၁၀, ၁၁
၃၆	ခွင့်နှင့် အလုပ်ပိတ်ရက်အက်ဥပဒေ	၁၉၅၁ (၂၀၁၄ တွင် ပြင်ဆင်)	၃ မှ ၁၁
၃၇	ခွင့်နှင့် အလုပ်ပိတ်ရက်နည်းဥပဒေ	၂၀၁၈	၁၅, ၂၀, ၂၁, ၂၉, ၃၃ ၄၁, ၅၀, ၅၁, ၅၂
၃၈	လူမှုဖူလုံရေးဥပဒေ	၂၀၁၂ (၂၀၁၄ တွင် ပြင်ဆင်)	၄၈, ၄၉, ၅၀, ၅၁, ၅၃, ၅၄, ၆၅, ၆၆, ၆၇, ၆၉, ၇၀, ၇၄, ၇၅, ၇၇
၃၉	အလုပ်သမားရေးရာအငြင်းပွားမှု ဖြေရှင်းရေး ဥပဒေ	၂၀၁၂ (၂၀၁၉ တွင် ပြင်ဆင်)	၂၃, ၂၈, ၃၄ မှ ၄၅, ၅၁
သယ်ယူပို့ဆောင်ရေး			
၄၀	ယာဉ်အန္တရာယ်ကင်းရှင်းရေးနှင့် မော်တော်ယာဉ် စီမံခန့်ခွဲမှုဥပဒေ	၂၀၂၀	၁၇, ၁၈, ၁၉, ၂၄, ၂၆, ၂၈, ၂၉, ၅၅, ၅၈ မှ ၈၄
၄၁	ယာဉ်အန္တရာယ်ကင်းရှင်းရေးနှင့် မော်တော်ယာဉ် စီမံခန့်ခွဲမှုနည်းဥပဒေ	၂၀၂၂	၅, ၈၃
အရေးပေါ်အခြေအနေ			
၄၂	မြန်မာနိုင်ငံမီးသတ်တပ်ဖွဲ့ဥပဒေ	၂၀၁၅	၁၇, ၂၄, ၂၅, ၃၀, ၃၂
၄၃	သဘာဝဘေးအန္တရာယ်ဆိုင်ရာစီမံခန့်ခွဲမှုဥပဒေ	၂၀၁၃	၁၃, ၂၅ မှ ၃၁

၃။ စီမံကိန်းအကြောင်းအရာဖော်ပြချက်

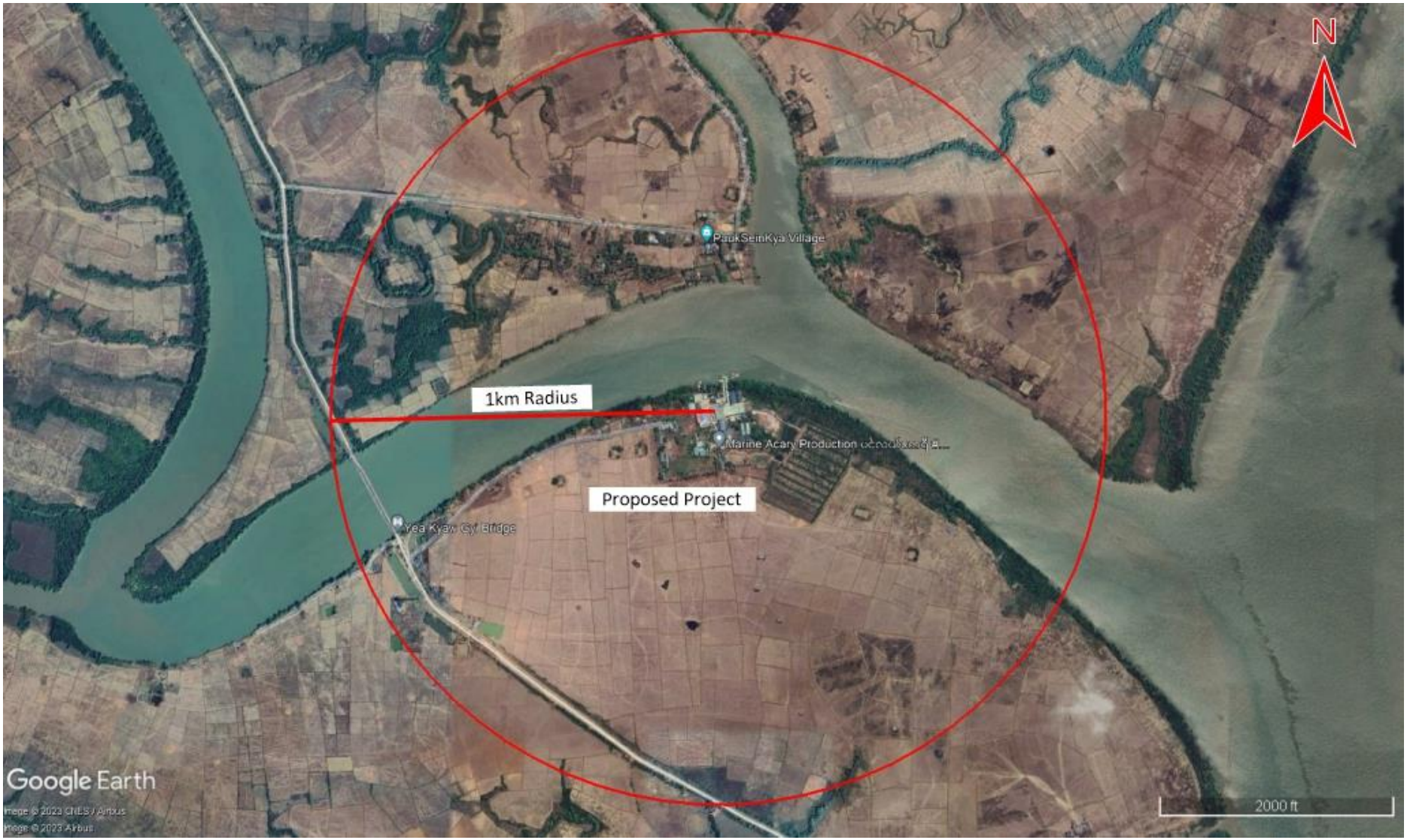
Marine Acary Production Co., Ltd. သည် မြောက်လတ္တီကျူ ၁၅°၅၁'၄၃.၃၂" နှင့် အရှေ့လောင်ဂျီကျူ ၉၅°၁၂'၆.၀၄"၊ ဧရာဝတီတိုင်းဒေသကြီး၊ ဖျာပုံခရိုင်၊ ဘိုကလေးမြို့နယ်၊ ကဒုံကနိကျေးရွာ၊ ကွင်း/အကွက် အမှတ် (၉၁၇/ရေကျော်ကြီးကွင်း)၊ ဦးပိုင်အမှတ် (၂/၈)တွင် တည်ရှိပြီး မြေဧရိယာ စုစုပေါင်း ၃၂.၃၂ ဧက ကျယ်ဝန်းပါသည်။ စီမံကိန်းသို့ ဘိုကလေးမြို့မှ စက်လှေဖြင့် အချိန် ၄ နာရီခန့် မောင်းနှင်၍ သွားရောက်နိုင်ပါသည်။


N
W
E
S
Yae Kyaw Gyi Creek
Site Location
RAKHINE STATE
BAGO REGION
YANGON REGION
AYEYARWADY REGION
Site Location
1000 ft
15° 51' 58" N
15° 51' 50" N
15° 51' 43" N
15° 51' 36" N
15° 51' 29" N
95° 11' 38" E
95° 11' 46" E
95° 11' 53" E
95° 12' 0" E
95° 12' 7" E
95° 12' 14" E
95° 12' 22" E
95° 12' 29" E
95° 12' 36" E

စက်ရုံ၏ တည်နေရာပြမြေပုံ


N
1
2
3
4
5
6
7
8
9
10
11
12
13
14
Production Process Waste Disposal Area
Wastewater Storage Area
Palm Farm
Workers House
500 ft
1. Jetty 2. Godown 3. Cooling Tank 4. Office 5. Dormitory 6. Ice Factory 7. Fishmeal Production Building 8. Pellet Godown & Boiler Room 9. Generator Room 10. Fuel Storage Area 11. Overhead Tank 12. Workers House 13. Residence 14. Fuel Storage Area

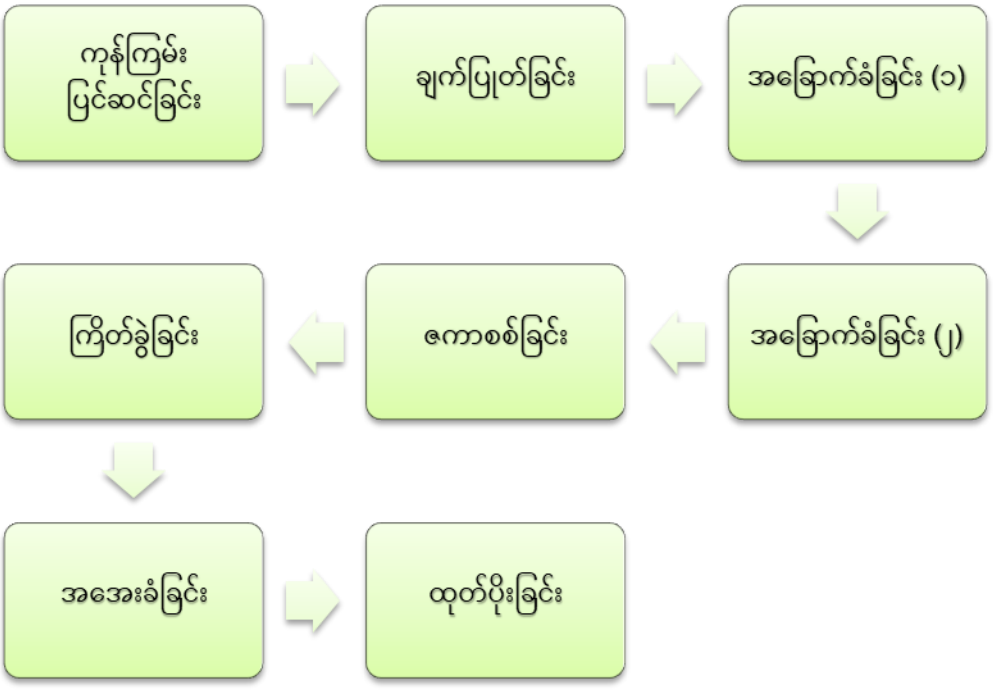
စက်ရုံ၏ ဖွဲ့စည်းပုံပြမြေပုံ



စက်ရုံ၏ အနီးပတ်ဝန်းကျင်ပြမြေပုံ

စီမံကိန်းဧရိယာအတွင်း ငါးအမှုန့်ကြိတ်စက်ရုံ အတွက် Hall Type တစ်ထပ်အဆောက်အဦ (၁) လုံး၊ သိုလှောင်ရုံ (၂) လုံး၊ ရေခဲထုတ်လုပ်ခြင်းလုပ်ငန်းအတွက် Hall Type တစ်ထပ် အဆောက်အဦ (၂) လုံး၊ ဘွိုင်လာအဆောက်အဦ (၁) လုံး၊ တစ်ထပ် ရုံးခန်း အဆောက်အဦ (၁) လုံး၊ လူနေအိမ်ယာ အဆောက်အဦ (၂) လုံး နှင့် ဝန်ထမ်းများအတွက် အခန်း (၈) ခန်းပါ အဆောက်အဦ (၅) လုံးအား တည်ဆောက်ထားရှိ၍ လုပ်ငန်း လည်ပတ်လျက်ရှိပါသည်။ ငါးအမှုန့်ကြိတ်စက်ရုံနှင့် ရေခဲထုတ်လုပ်ခြင်းလုပ်ငန်းအတွက် ဒေသခံ လုပ်သား ၁၂၀ ဦးဖြင့် ဆောင်ရွက်လျက်ရှိပါသည်။ တစ်နှစ်လျှင် ငါးအမှုန့် ၅၀ တန် နှင့် တစ်ရက်လျှင် ရေခဲ ၆၀ တန်အား ထုတ်လုပ်နိုင်သည့် စီမံကိန်း ဖြစ်ပါသည်။

စီမံကိန်း၏ ရေခဲထုတ်လုပ်ခြင်းလုပ်ငန်းသည် စီးပွားဖြစ် ရောင်းချရန် မဟုတ်ဘဲ စီမံကိန်းမှ ငါးကုန်ကြမ်းများ သွားရောက်ဝယ်ယူရာတွင် ရေခဲလိုအပ်ချက်အား ဖြည့်တင်းနိုင်ရန်အတွက် လည်ပတ်သည့် လုပ်ငန်း ဖြစ်ပြီး ငါးကုန်ကြမ်းများ ပင်လယ်အတွင်း သွားရောက်ဝယ်ယူသည့် အချိန်မှသာ လည်ပတ်ဆောင်ရွက်ခြင်း ဖြစ်ပါသည်။ ငါးအမှုန့်ကြိတ် လုပ်ငန်းလည်ပတ်ဆောင်ရွက်ရန်အတွက် လိုအပ်သည့် ငါးကုန်ကြမ်းများရရှိရန် ရောင်းတန်းမဝင်သည့် ငါးများအား ပင်လယ်ငါးဖမ်းစက်လှေများမှတစ်ဆင့် စီမံကိန်းပိုင် စက်လှေများဖြင့် သွားရောက်ဝယ်ယူပါသည်။ ရောက်ရှိ လာသော ငါးကုန်ကြမ်းများအား ဆေးကြောပြီး ဘက်တီးရီးယားနှင့် ပိုးမွှားများ သေဆုံးစေရန် ချက်ပြုတ်သည့်စက်သို့ ပို့ဆောင်ပါသည်။ ချက်ပြုတ်ပြီး ငါးများအား အခြောက်ခံစက် (၂) လုံးသို့ ပို့ဆောင်၍ အခြောက်ခံပြီးနောက် ငါးများနှင့် အတူပါဝင်လာသော ခရုခွံ၊ ဂဏန်းခွံ၊ ငါးအရိုး နှင့် အခြားအမှိုက်များအား ဖယ်ထုတ်ရန် ဧကာစစ်စက်သို့ ပို့ဆောင်ပါသည်။ အမှိုက်များ ရှင်းလင်းပြီး ငါးများအား ကြိတ်ခြေစက်သို့ ပို့ဆောင်ပါသည်။ ကြိတ်ခွဲပြီးနောက် ပြန်လည် အအေးခံ၍ ထုတ်ပိုးခြင်း အဆင့်သို့ ရောက်ရှိပြီး အသင့်ထုတ်ပိုးထားသော ငါးအမှုန့်အိတ်များအား ဂိုထောင်အတွင်း စီထပ်ထားရှိ၍ တင်ပို့ရောင်းချရန် ထားရှိပါသည်။



ထုတ်လုပ်မှု လုပ်ငန်းစဉ် အဆင့်ဆင့်

ငါးကုန်ကြမ်းများ

ချက်ပြုတ်သည့် စက်

အခြောက်ခံသည့် စက်များ

ဧကာစစ်စက်

ကြိတ်ခွဲစက်

အအေးခံစက်

ထုတ်ပိုးခြင်း

ထုတ်လုပ်မှု လုပ်ငန်းစဉ် အဆင့်ဆင့်

ကုန်ချောများနှင့် သိုလှောင်ထားရှိမှု

ငါးအမှုန့်ကြိတ်လုပ်ငန်းနှင့် ရေခဲထုတ်လုပ်ခြင်းလုပ်ငန်းအတွက် လိုအပ်သော စက်ပစ္စည်းများအား တရုတ်နိုင်ငံမှ မှာယူတင်သွင်းပါသည်။ တစ်နှစ်လျှင် ပျမ်းမျှ အလုပ်လုပ်ရက် ၃၀၀ ခန့်ရှိပြီး အလုပ်ချိန်အား မနက် ၇ နာရီ မှ ညနေ ၅ နာရီ ထိ သတ်မှတ်ထားပါသည်။ စီမံကိန်း၏ အဓိကရေအရင်းအမြစ်အား မြေအောက်ရေမှ ရယူပြီး အဝီစိတွင်း (၈) တွင်း တူးဖော် အသုံးပြုလျက်ရှိပါသည်။ စီမံကိန်းအသုံးပြုရန်နှင့် အထွေထွေသုံးရေအတွက် ဂါလန် (၇၅၀,၀၀၀) ဆန့် ရေလှောင်ကန် တစ်လုံး ထားရှိပါသည်။ ရေခဲထုတ်လုပ်ခြင်းလုပ်ငန်းမှ တစ်နှစ်လျှင် ပျမ်းမျှ ရေဂါလန် (၂,၇၀၀,၀၀၀) ခန့် အသုံးပြုပြီး ငါးကုန်ကြမ်း ဆေးကြောခြင်းနှင့် ချက်ပြုတ်ခြင်း အတွက် တစ်နှစ်လျှင် ပျမ်းမျှ ရေဂါလန် (၄,၆၈၀,၀၀၀) ခန့် အသုံးပြုပါသည်။ သောက်သုံးရေအတွက် တစ်နှစ်လျှင် ပျမ်းမျှ (၃၆,၀၀၀) လီတာခန့် အသုံးပြုပြီး အထွေထွေသုံးစွဲရန် တစ်နှစ်လျှင် (၁,၀၈၀,၀၀၀) လီတာခန့် အသုံးပြုပါသည်။ ဘွိုင်လာအတွက် တစ်နှစ်လျှင် ရေသန့် ပျမ်းမျှ (၃,၂၇၆,၀၀၀) ဂါလန်ခန့် သုံးစွဲပါသည်။

စီမံကိန်းလည်ပတ်ရန် လျှပ်စစ်မောတ်အား လိုအပ်ချက်အတွက် 800 kVA ဂျင်နရေတာ (၃) လုံး၊ 500 kVA ဂျင်နရေတာ (၁) လုံး၊ 250 kVA ဂျင်နရေတာ (၁)လုံး၊ 110 kVA ဂျင်နရေတာ (၁) လုံး နှင့် 1250 KW ဒိုင်နမို (၃) လုံးအား တပ်ဆင်၍ အသုံးပြုလျက်ရှိပါသည်။ တစ်ရက်လျှင် ဒီဇယ် ဂါလန် (၅၀) ဆန့် တိုင်ကီ (၁၂) လုံးခန့် ကုန်ကျလျက်ရှိပါသည်။

ဒီဇယ်များအား စတီးတိုင်ကီ ၁၅၀ လုံး၊ ၃,၀၀၀ ဂါလန်ဆန့် ဒီဇယ်သိုလှောင်ကန် (၄) လုံး နှင့် ၁,၀၀၀ ဂါလန်ဆန့် ဒီဇယ်သိုလှောင်ကန် (၃) လုံးဖြင့် သိုလှောင်ထားရှိပါသည်။ အလျား (၄၀) ပေ၊ အနံ (၁၅) ပေ ရှိ စပါးခွံလောင်စာသုံး ဘွိုင်လာ (၁) လုံးအား တပ်ဆင်အသုံးပြုလျက်ရှိပြီး အမြင့် ပေ ၁၀၀ ရှိ ခေါင်းတိုင် တပ်ဆင်ထားရှိပါသည်။ ၎င်းဘွိုင်လာအတွက် တစ်ရက်လျှင် စပါးခွံလောင်စာတောင့် (၂၀) တန်ခန့် အသုံးပြုရပြီး ပြာ (၂) တန်ခန့် စွန့်ပစ်ပစ္စည်းအဖြစ် ပြန်လည် ထွက်ရှိပါသည်။ ၎င်းပြာများအား လမ်းခင်းခြင်း နှင့် စိုက်ခင်းများတွင် မြေဩဇာအဖြစ် ပြန်လည် အသုံးပြုပါသည်။

ဝန်ထမ်းများအတွက် ဝန်ထမ်းအိမ်ယာ (၅) လုံး တည်ဆောက်ထားရှိပြီး ၎င်းတို့အတွက် ထမင်းစားဆောင်၊ ဆေးဝါးအထောက်အပံ့၊ သန့်ရှင်းသော သောက်သုံးရေ/သုံးစွဲရေ နှင့် သန့်စင်ခန်းများ ထားရှိပေးပါသည်။ အရေးပေါ် အခြေအနေများအတွက် မီးသတ်ဆေးဘူး (၃၀) ခန့်အား စီမံကိန်းဧရိယာအတွင်း ထားရှိပါသည်။ မီးသတ်ပိုက်ခေါင်း (၆) ခုအား တပ်ဆင်ထားရှိပြီး ၎င်းတို့နှင့် တွဲဖက်အသုံးပြုရန် မီးသတ်စက်များ နှင့် ပိုက်များအား မီးသတ်ဦးစီးဌာန၏ ညွှန်ကြားချက်အတိုင်း လုံလောက်စွာ ထားရှိပါသည်။ အရေးပေါ်ဆက်သွယ်ရမည့် ဖုန်းနံပါတ်များနှင့် ထွက်ပေါက်လမ်းကြောင်းများအား မြင်သာသော နေရာများတွင် ထားရှိပြီး ဝန်ထမ်းများအား မီးဘေးအန္တရာယ်ဆိုင်ရာ လေ့ကျင့်မှုများ သင်ကြားပေး ပါသည်။

စီမံကိန်းမှ စွန့်ပစ်ပစ္စည်းများအနေဖြင့် ပင်လယ်သတ္တဝါ အခွံများ၊ အရိုးများနှင့် အခြားအမှိုက်များ တစ်လလျှင် တန် ၂၀၀ ခန့်ထွက်ရှိပြီး ၎င်း အမှိုက်များအား မြေဖို့ခြင်းနှင့် လမ်းခင်းခြင်းလုပ်ငန်းများတွင် အသုံးပြုပါသည်။ ဝန်ထမ်းများမှ တစ်ရက်လျှင် အထွေထွေစွန့်ပစ်အမှိုက် ၁၅၀ ကီလိုဂရမ်ခန့် ထွက်ရှိပြီး ကျေးရွာမှ သတ်မှတ်ထားသည့် အမှိုက်ကွင်းသို့ သွားရောက်စွန့်ပစ်ပါသည်။ စီမံကိန်းဧရိယာအတွင်းရှိ ရေမြောင်းများအား ရေစီးရေလာကောင်းမွန်စေရန် ဖောက်လုပ်ထားပါသည်။ ငါးကုန်ကြမ်းဆေးကြောခြင်းမှ ထွက်ရှိလာသော ရေများအား မြစ်အတွင်းသို့ တိုက်ရိုက်စွန့်ပစ်ခြင်း မပြုဘဲ စီမံကိန်းပိုင် အုန်းမွှေးခြံအနီးရှိ ရေကန်များသို့ ပို့ဆောင်၍ ရေဖြန်းရာ၌ ပြန်လည် အသုံးပြုပါသည်။ ၎င်းရေကန်များသို့ မရောက်ရှိသော ရေများအား ရေဆိုးသန့်စင်ကန်မှတစ်ဆင့် အဆင့်ဆင့်အနည်ကျစေပြီးမှ မြစ်အတွင်းသို့ စွန့်ထုတ်ပါသည်။ စီမံကိန်းလုပ်ငန်းမှ ထွက်ရှိသော ပေါင်းခံရေပူများအား မြစ်အတွင်း တိုက်ရိုက်စွန့်ထုတ်ခြင်း မပြုဘဲ ရေအေးဖြင့် ရောနှောပြီးမှသာ ရေဆိုးသန့်စင်ကန်မှတစ်ဆင့် စွန့်ထုတ်ပါသည်။ စီမံကိန်းမှ အနှံ့ဆိုးများ ပတ်ဝန်းကျင်သို့ မပျံ့လွင့်နိုင်စေရန် အနှံ့စုပ်ဆလင်ဒါ (၄) လုံးပါ အနှံ့စုပ်စနစ်အား တပ်ဆင်ထားပြီး ထွက်ရှိလာသော အနှံ့အသက်များအား အအေးခံ၍ အငွေ့အဖြစ်မှ အရည်သို့ ပြောင်းလဲစေပြီး ရေစစ်ကန်မှတစ်ဆင့် မြစ်အတွင်းသို့ စွန့်ထုတ်ပါသည်။ စီမံကိန်းဧရိယာအတွင်း လေကောင်းလေသန့်ရရှိစေရန်အတွက် သစ်ပင်ပန်းမန်များ စိုက်ပျိုးထားရှိပြီး အဓိက အားဖြင့် အုန်းမွှေးပင် အများအပြား စိုက်ပျိုးထားရှိပါသည်။

၄။ အနှီးပတ်ဝန်းကျင်အခြေအနေ

ပတ်ဝန်းကျင်ဆိုင်ရာ အခြေခံအချက်အလက်များအတွက် အချက်အလက်များစုဆောင်းကောက်ယူခြင်းအား ၂၀၂၃ ခုနှစ်၊ ဇူလိုင်လ ၁၉ ရက်နေ့မှ ၂၁ ရက်နေ့ထိ အဆိုပြုစီမံကိန်းအတွင်း တိုင်းတာဆန်းစစ်ကောက်ယူခဲ့ပါသည်။ အဆိုပြုစီမံကိန်း၏ လေအရည်အသွေး၊ ဆူညံသံ၊ အနှံ့ထွက်ရှိမှု၊ ဘွိုင်လာအခိုးအငွေ့အရည်အသွေးနှင့် မြစ်ရေ၊ သန့်စင်ပြီး စွန့်ထုတ်ရည်တို့အား တိုင်းတာခြင်း၊ နမူနာ ကောက်ယူခြင်းများ ဆောင်ရွက်ခဲ့ပါသည်။ အဆိုပြုစီမံကိန်းဧရိယာအနီးရှိ

လူမှုစီးပွား အခြေအနေများ၊ ရုပ်ပိုင်းဆိုင်ရာ၊ ဇီဝပတ်ဝန်းကျင်ဆိုင်ရာ၊ ရာသီဥတုဆိုင်ရာ အချက်အလက်များအား ဘိုကလေးမြို့နယ်မှ ရယူထားရှိပါသည်။

ပတ်ဝန်းကျင်ဆိုင်ရာ အခြေခံအချက်အလက်များ ကောက်ယူခဲ့သည့် မြေပုံ

အကြောင်းအရာ	ပါရာမီတာ
လေအရည်အသွေး	Particulate Matter (PM_{10}, $PM_{2.5}$), Nitrogen Dioxide (NO_2), Sulfur Dioxide (SO_2), Ozone (O_3)
ဆူညံသံ	Indoor sound level (LAeq)
မြစ်ရေ	pH, Turbidity, Total Solids, Hardness, Chloride, Free Cyanide, Arsenic, Copper, Iron, Lead, Manganese, Zinc
သန့်စင်ပြီး စွန့်ထုတ်ရည်	pH, Turbidity, TSS, Total Solids, Hardness, Chloride, Free Cyanide, Arsenic, Copper, Iron, Lead, Manganese, Zinc, Oil & Grease
ဘွိုင်လာအခိုးအငွေ့ အရည်အသွေး	Carbon Dioxide (CO2), Sulfur Dioxide (SO2), Nitrogen Dioxide (NO2), Carbon Monoxide (CO)
အနံ့ထွက်ရှိမှု	Odor Gas

အဆိုပြုစီမံကိန်းအတွက် ကွင်းဆင်းကောက်ယူခဲ့မှု ရလဒ်များ

အမျိုးအစား	ရလဒ်	လမ်းညွှန်ချက်တန်ဖိုး
လေအရည်အသွေး		
$PM_{2.5}$	၁၂.၉၇ µg/m^3	၂၅ µg/m^3
PM_{10}	၁၉.၀၃ µg/m^3	၅၀ µg/m^3
SO_2	၀.၂၈ µg/m^3	၅၀၀ µg/m^3

အမျိုးအစား	ရလဒ်	လမ်းညွှန်ချက်တန်ဖိုး
NO_2	၂၂.၄ µg/m³	၂၀၀ µg/m³
O_3	၁၇.၃၂ µg/m³	၁၀၀ µg/m³
ဆူညံသံ		
Decibel	၆၂.၃၃ dBA	၇၀ dBA
ဘွိုင်လာအခိုးအငွေ့ အရည်အသွေး		
CO_2	၄၅၃၀.၂၅ ppm	၅၀၀၀ ppm
NO_2	၀.၃၅ ppm	၅ ppm
SO_2	၀.၅၃ ppm	၅ ppm
CO	၂၁.၈၅ ppm	၅၀ ppm
အနံ့ထွက်ရှိမှု		
Odor Intensity	7.47 OU	5 – 10 OU

စီမံကိန်းမှ သန့်စင်ပြီး စွန့်ထုတ်ရည် အရည်အသွေး၊ မြေအောက်ရေအရည်အသွေးနှင့် မြစ်ရေအရည်အသွေးအား **နောက်ဆက်တွဲ (Q)**တွင် ဖော်ပြထားပါသည်။

လေထုအရည်အသွေးတိုင်းတာခြင်းတွင် $PM_{2.5}$ ၊ PM_{10} ၊ O_3 ၊ NO_2 ၊ SO_2 တိုင်းတာမှုများမှာ အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များအတွင်း ရှိပါသည်။ လုပ်ငန်းခွင်အတွင်း ဆူညံသံ ထွက်ရှိမှုတိုင်းတာခြင်းမှာလည်း စံချိန်စံညွှန်းများအတွင်း ရှိပါသည်။ ဘွိုင်လာမှ ထွက်ရှိသည့် အခိုးအငွေ့ အရည်အသွေး အား တိုင်းတာရာတွင်လည်း Occupational Safety and Health Administration မှ လမ်းညွှန်ချက်များ အတွင်းရှိသည်ကို တွေ့ရှိရပါသည်။ စီမံကိန်း၏ အနံ့ထွက်ရှိမှု အခြေအနေမှာလည်း လုပ်ငန်းလုပ်ဆောင်နိုင်ရန်အတွက် သင့်လျော်သော အခြေအနေတွင် ရှိပြီး လုပ်သားများအား တစ်ကိုယ်ရေသုံးကာကွယ်ရေးပစ္စည်း (နှာခေါင်းစည်း) များ တပ်ဆင်ပြီးမှ လုပ်ငန်းလုပ်ဆောင်စေပါသည်။ သန့်စင်ပြီး စွန့်ထုတ်ရည်အရည်အသွေးသည် အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ အရည် အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များပါ စံသတ်မှတ်ချက်များနှင့် ကိုက်ညီ နေသည်ကို တွေ့ရှိရပါသည်။ မြစ်ရေ အရည်သွေးတွင် အချို့သော ပါရာမီတာများမှာ သတ်မှတ်စံနှုန်းထက် ကျော်လွန် နေသည်ကို တွေ့ရှိရသော်လည်း စီမံကိန်း မှ စွန့်ထုတ်သည့် ရေအရည်အသွေးရလဒ်များအရ စီမံကိန်းကြောင့် ကျော်လွန် နေရခြင်း မဟုတ်သည်ကို တွေ့ရှိရ ပါသည်။ မြေအောက်ရေအရည်အသွေး တိုင်းတာချက်များမှာ သတ်မှတ်စံချိန် စံညွှန်းများအတိုင်း ရှိသည်ကို တွေ့ရှိရပါ သည်။

အဆိုပြုစီမံကိန်း၏ ဖွံ့ဖြိုးတိုးတက်မှုသည် ရုပ်ပိုင်းဆိုင်ရာ၊ ဇီဝပိုင်းဆိုင်ရာနှင့် လူမှုစီးပွားရေး ရှုထောင့်များနှင့် ပတ်သက်၍ အပြုသဘောနှင့် အပျက်သဘောဆောင်သော အကျိုးသက်ရောက်မှု နှစ်ခုစလုံးအပေါ် အခြေခံ၍ ဒေသတွင်း ပတ်ဝန်းကျင်တွင် ပြောင်းလဲမှုများ ဖြစ်ပေါ်နိုင်ဖွယ်ရှိပါသည်။ အဆိုပြုစီမံကိန်း၏ လုပ်ဆောင်မှုများကြောင့် ဖြစ်ပေါ် လာနိုင်သော ပတ်ဝန်းကျင်ဆိုင်ရာ အကျိုးသက်ရောက်မှု အလားအလာများအား ကွင်းဆင်းစစ်ဆေးခြင်း၊ စီမံကိန်း

အဆိုပြုသူ၊ စီမံကိန်းမန်နေဂျာ၊ တာဝန်ရှိသူများနှင့်တွေ့ဆုံဆွေးနွေးခြင်းများပြုလုပ်၍ အမျိုးအစား ခွဲခြားပြီး ဆန်းစစ်ရမည် ဖြစ်ပါသည်။

၅။ အကျိုးသက်ရောက်မှုများအား အမျိုးအစားခွဲခြားခြင်းနှင့် လျှော့ချရေးနည်းလမ်းများ

အကျိုးသက်ရောက်မှုတစ်ခုချင်းစီအတွက် အမျိုးအစားခွဲခြားခြင်းအား လုပ်ငန်းလုပ်ဆောင်နေသည့် အချိန်ကာလအတွင်း သက်ရောက်မှုများ၏ ပမာဏ၊ ကြာချိန်၊ အတိုင်းအတာနှင့် ဖြစ်နိုင်ခြေများအပေါ် မူတည်၍ တွက်ချက်သွားမည်ဖြစ်ပါသည်။

အကဲဖြတ်ခြင်း	အတိုင်းအတာ				
	၁	၂	၃	၄	၅
ပမာဏ	မလုံလောက်သော	အနည်းငယ် နှင့် လုပ်ငန်းခွင် ပြောင်းလဲမှု ဖြစ်စေနိုင် သော	အသင့်အတင့်နှင့် အနည်းငယ် လုပ်ငန်းခွင် ပြောင်းလဲမှု ဖြစ်စေနိုင်သော	မြင့်မားနှင့် သိသာစွာ လုပ်ငန်းခွင် ပြောင်းလဲမှု ဖြစ်စေနိုင်သော	အလွန်မြင့်မားနှင့် အမြဲတမ်း လုပ်ငန်းခွင် ပြောင်းလဲမှု ဖြစ်စေနိုင်သော
အချိန်	၀-၁နှစ်	၂-၅နှစ်	၆-၁၅နှစ်	လုပ်ငန်းလည်ပတ်စဉ် ကာလ တစ်လျှောက်	လုပ်ငန်းပိတ်သိမ်း ခြင်းကာလအထိ
ကျယ်ပြန့်မှု	လုပ်ငန်းခွင်အတွင်း	ဒေသအတွင်း	မြို့နယ်အတွင်း	နိုင်ငံအတွင်း	နိုင်ငံတကာအတွင်း
ဖြစ်နိုင်ချေ	လုံးဝမဖြစ်နိုင်သော	မဖြစ်နိုင်သော	ဖြစ်နိုင်သော	ဖြစ်နိုင်ခြေ မြင့်သော	အတိအကျ

သတ်မှတ်ချက် = (ပမာဏ + အချိန် + ကျယ်ပြန့်မှု) x ဖြစ်နိုင်ချေ

ပတ်ဝန်းကျင်ထိခိုက်မှုကို အောက်ပါအတိုင်း ခွဲခြားနိုင်သည်။

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

စီမံကိန်းတည်ဆောက်စဉ်ကာလ: စီမံကိန်းသည် ပတ်ဝန်းကျင်ဆိုင်ရာ ကွင်းဆင်းလေ့လာမှုများ ဆောင်ရွက်ချိန်တွင် တည်ဆောက်ပြီးစီးနေပြီး ဖြစ်ပါသည်။ ထို့ကြောင့် စီမံကိန်း တည်ဆောက်စဉ်ကာလ ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများအား ထည့်သွင်းဖော်ပြခြင်း မပြုတော့ပါ။

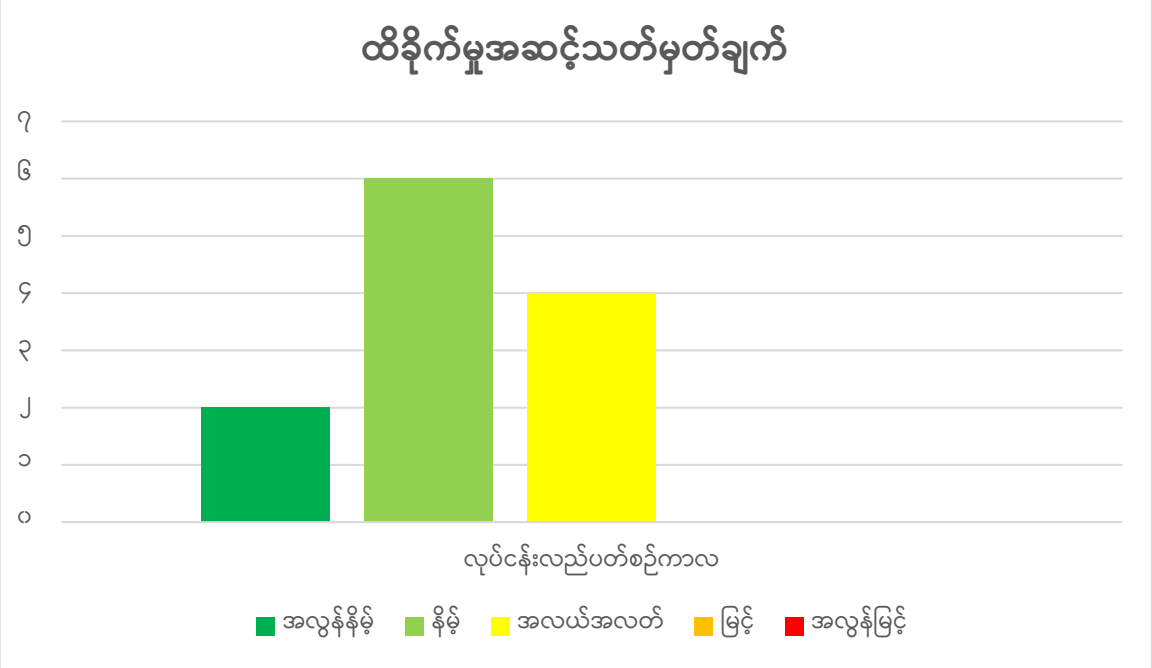
စီမံကိန်းလည်ပတ်ချိန်တွင် ပတ်ဝန်းကျင်အကျိုးသက်ရောက်မှုများ နှင့် ၎င်းတို့၏ လျော့ချရေး နည်းလမ်းများ

သက်ရောက်မှု	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
လုပ်ငန်းလည်ပတ်ခြင်းကာလ			
လေထု	ဘွိုင်လာမှ ထွက်ရှိသော အခိုးအငွေ့များ ကြောင့် လေထုအရည်အသွေးအား လျော့ကျနိုင်စေပါသည်။ ငါးကုန်ကြမ်းများမှ အနံ့အသက်များ ထွက်ရှိပြီး ဝန်းကျင်လေထုအား သက်ရောက်စေပါသည်။ အခြောက်ခံခြင်းနှင့် ကြိတ်ခွဲခြင်းမှ အမှုန်အမွှားများ လေထုအတွင်း ပျံ့လွင့်နိုင်ပါသည်။	နိမ့်	ဘွိုင်လာနှင့် မီးခိုးခေါင်းတိုင်အား ထိန်းသိမ်းမှု ပုံမှန် ပြုလုပ်ဆောင်ရွက်ခြင်း၊ Recycled Fuel အား ဘွိုင်လာတွင် အသုံးပြုခြင်း၊ ခေါင်းတိုင်အား လုံလောက်သော အမြင့်ဖြင့် တည်ဆောက်ထားခြင်း၊ အမှုန်အမွှားထွက်ရှိသော စက်ပစ္စည်းများအား အလုံပိတ်၍ စက်လည်ပတ်ခြင်း၊ စက်ရုံအတွင်းအပြင် သန့်ရှင်းရေး ပုံမှန် ဆောင်ရွက်ခြင်း၊ လေသန့်စင်မှု ကောင်းသော သစ်ပင်ပန်းမန်များ စိုက်ပျိုးထားခြင်း၊ ဝန်ထမ်းအိမ်ယာများအား ထုတ်လုပ်မှု လုပ်ငန်းစဉ်နှင့် ဝေးသည့် နေရာတွင် တည်ဆောက် ထားရှိခြင်း။
ဆူညံသံ	အားကောင်းသော စက်ပစ္စည်းများ အသုံးပြုရသဖြင့် ဆူညံသံ ထွက်ပေါ်စေပါသည်။ ရေခဲထုတ်လုပ်ခြင်း လုပ်ငန်းစဉ်မှ ရေခဲခွဲခြင်း၊ အအေးခံ ကွန်ပရပ်ဆာများ ကြောင့် ဆူညံသံ ထွက်ရှိပါသည်။ ကုန်ကြမ်း/ကုန်ချောများ အတင်အချ ပြုလုပ်ခြင်းဖြင့် ရေယာဉ်များမှ ဆူညံသံများလည်း ထွက်ပေါ်ပါသည်။	နိမ့်	ဆူညံသံပျံ့လွင့်မှု မဖြစ်စေရန် စက်ရုံအား လုံခြုံစွာ တည်ဆောက်ထားခြင်း၊ စက်ပစ္စည်းများအား ပုံမှန် ထိန်းသိမ်းပြုပြင်ခြင်း၊ ရေခဲထုတ်လုပ်ခြင်းမှ ကွန်ပရပ်ဆာနှင့် အအေးခံပစ္စည်းများအား ဆူညံသံထွက်ရှိမှု လျော့နည်းအောင် တပ်ဆင်ထားရှိခြင်း၊ ဆူညံသံ ထွက်ရှိသော ဂျင်နရေတာနှင့် ဘွိုင်လာအား သီးသန့် အခန်းတစ်ခန်းစီဖြင့် ထားရှိခြင်း၊ စက်လှေများမှ ဆူညံသံထွက်ရှိမှု လျော့နည်းစေရန် ပုံမှန်ပြုပြင်ထိန်းသိမ်းခြင်း။
ရေထု	ငါးကုန်ကြမ်းဆေးကြောခြင်းမှ ထွက်ရှိသော စွန့်ပစ်ရေများအား ပြန်လည် အသုံးပြုခြင်း သို့ စနစ်တကျ စွန့်ထုတ်ခြင်း မရှိခြင်းကြောင့် ရေထု အရည်အသွေးအား ထိခိုက်နိုင်ပြီး အနီးရေထု အတွင်းရှိ ရေသတ္တဝါများအား ထိခိုက်စေနိုင်ပါသည်။ ရေခဲ ထုတ်လုပ်ခြင်း	အလယ်အလတ်	ငါးကုန်ကြမ်း ဆေးကြောခြင်းနှင့် ချက်ပြုတ်ခြင်းမှ ထွက်ရှိသည့် ရေများအား ရေဆိုးသန့်စင်ကန်တွင် အဆင့်ဆင့် စစ်ထုတ်ပြီးမှ စွန့်ပစ်ခြင်း၊ ရေဆိုးထွက်ရှိမှု လျော့နည်းစေရန် ရေခဲထုတ်လုပ်ခြင်းတွင် အသုံးပြုသည့် ဆားရည်များအား ထပ်ကာထပ်ကာ ပြန်လည် အသုံးပြုခြင်း၊ ငါးကုန်ကြမ်း ဆေးကြောခြင်း

သက်ရောက်မှု	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
	လုပ်ငန်းသည် ရေလိုအပ်ချက်များပြားသောကြောင့် ရေအရင်းအမြစ်အား ထိခိုက်စေနိုင်ပါသည်။ စက်ပစ္စည်းများ ဆေးကြောရာမှ ထွက်ရှိသော စွန့်ပစ်ရည်များကြောင့်လည်း ရေ အရည်အသွေး ထိခိုက်နိုင်ပါသည်။		မှ အချို့သော ရေများအား စီမံကိန်းပိုင် အုန်းမွေးခြံတွင် ရေဖြန်းခြင်းခံ ပြန်လည် အသုံးပြုခြင်း။
မြေဆီလွှာ	စွန့်ပစ်ပစ္စည်း စနစ်တကျ စီမံခန့်ခွဲမှု မရှိခြင်း၊ စွန့်ပစ်ရည်များအား စနစ်တကျ စွန့်ထုတ်မှု မရှိခြင်းတို့ကြောင့် မြေဆီလွှာအတွင်း စိမ့်ဝင်ရောက်ရှိပြီး ညစ်ညမ်းစေနိုင်ပါသည်။	နိမ့်	ငါးကုန်ကြမ်းများနှင့် ပါလာသည့် စွန့်ပစ်ပစ္စည်းများအား မြေသြဇာ သို့ လမ်းခင်းခြင်းတွင် ပြန်လည် အသုံးပြုခြင်း၊ ပလတ်စတစ် အမှိုက်များအား သတ်မှတ်နေရာတွင် စနစ်တကျ စွန့်ပစ်ခြင်း၊ မြေဆီလွှာအတွင်းသို့ စွန့်ပစ်ရည်များ စိမ့်ဝင်မှု မရှိစေရန် ရေမြောင်းများအား စနစ်တကျ တည်ဆောက်ထားရှိခြင်း၊ စက်သုံးဆီ သိုလှောင်သည့်နေရာအား ကွန်ကရစ်ခင်းကျင်းထားသဖြင့် မြေဆီလွှာအတွင်း စိမ့်ဝင်မှု မရှိခြင်း။
စွန့်ပစ်ပစ္စည်း ထွက်ရှိမှု	**အစိုင်အခဲစွန့်ပစ်ပစ္စည်း** - ငါးကုန်ကြမ်းနှင့်အတူ ပါလာသော ခရု/ဂဏန်းခွံ၊ ငါးအရိုးနှင့် အခြားအမှိုက်များ ထွက်ရှိပါသည်။ ထုတ်ပိုးခြင်းလုပ်ငန်းစဉ်မှ ထွက်ရှိသော အမှိုက်များအပြင် ဝန်ထမ်းများမှ ထွက်ရှိသည့် အထွေထွေ စွန့်ပစ်အမှိုက်များလည်း ရှိပါသည်။	အလွန်နိမ့်	ငါးကုန်ကြမ်းများနှင့် ပါလာသည့် စွန့်ပစ်ပစ္စည်းများအား မြေသြဇာ သို့ လမ်းခင်းခြင်းတွင် ပြန်လည် အသုံးပြုခြင်း၊ သတ္တုဖြတ်စနှင့် စက်ပစ္စည်းအဟောင်းများအား ပြန်လည် အသုံးပြု၍ ရသည့် နေရာများသို့ ရောင်းချခြင်း၊ ဝန်ထမ်းများ၏ အထွေထွေ စွန့်ပစ်အမှိုက်များအား သတ်မှတ်နေရာတွင် စနစ်တကျ စွန့်ပစ်၍ organic waste များအား မြေသြဇာ အဖြစ် ပြန်လည် အသုံးပြုခြင်း။
	အရည်စွန့်ပစ်ပစ္စည်း - ငါးကုန်ကြမ်းဆေးကြောခြင်းမှ ထွက်ရှိသော ရေများတွင် အာဟာရဓာတ်များ လွန်ကဲစွာပါဝင်နေပြီး ရေထုညစ်ညမ်းမှုအား ဖြစ်ပေါ်စေနိုင်ပါသည်။ ရေခဲခြင်းမှ အသုံးပြုသည့် ရေများကြောင့် အရည်စွန့်ပစ်ပစ္စည်းထွက်ရှိမှုနှုန်း တိုးပွားစေပါသည်။ စက်ပစ္စည်းများ သန့်စင်ရာမှ ထွက်ရှိသည့် ရေဆိုးများကြောင့် ရေ အရည်အသွေး ထိခိုက်နိုင်ပါသည်။	အသင့်အတင့်	ကောင်းမွန်သော ရေဆိုးသန့်စင်စနစ် တပ်ဆင်ထားရှိခြင်း၊ ပြန်လည်အသုံးပြုသော စနစ်ဖြင့် စွန့်ပစ်ရေများအား သစ်ပင်များ ရေဖြန်းရာတွင် ပြန်လည် အသုံးပြုခြင်း၊ ရေခဲထုတ်လုပ်ခြင်းလုပ်ငန်းမှ စွန့်ပစ်ရည် ထွက်ရှိမှု လျော့နည်းစေရန် ပြန်လည်အသုံးပြုသည့် စနစ်အား ဆောင်ရွက်ထားရှိခြင်း၊ စက်ပစ္စည်းများ သန့်ရှင်းထိန်းသိမ်းခြင်း ဆောင်ရွက်ရာတွင် ပတ်ဝန်းကျင်ထိခိုက်မှုနည်းသော သန့်ရှင်းရေး ပစ္စည်းများကိုသာ အသုံးပြုခြင်း၊ စက်ပစ္စည်းများမှ ယိုစိမ့်မှု/ယိုဖိတ်မှုများ မဖြစ်

သက်ရောက်မှု	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျှော့ချရေးနှင့် ထိန်းချုပ်မှု
			ပေါ်စေရန် ပုံမှန် ပြုပြင်ထိန်းသိမ်းခြင်းများ ဆောင်ရွက်ခြင်း။
	အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်း- စက်ပစ္စည်းများ ပြုပြင်ထိန်းသိမ်းခြင်း ဆောင်ရွက်ရာမှ ထွက်ရှိသည့် ရေဆိုးများ၊ အသုံးပြုပြီး ဆီပုံးအခွံများ၊ ဘွိုင်လာနှင့် အအေးပေးစနစ်မှ heavy metal များနှင့် အသုံးပြုပြီး ဘဏ္ဍာရီ/မီးသီး/ခြောင်းအပျက်များ ထွက်ရှိပါသည်။	အလွန်နိမ့်	အသုံးပြုပြီး စက်ဆီ/ခြောဆီများအား စနစ်တကျ သိမ်းဆည်း၍ သတ်မှတ်ထားသည့် နေရာများတွင် စွန့်ပစ်ခြင်း သို့ ပြန်လည်အသုံးပြုသည့် နေရာများသို့ ရောင်းချခြင်း၊ စက်ပစ္စည်းများမှ စက်ဆီများ ယိုစိမ့်မှု/ယိုဖိတ်မှုများ မဖြစ်ပေါ်စေရန် ပုံမှန် ပြုပြင်ထိန်းသိမ်းခြင်းအား ဆောင်ရွက်ခြင်း၊ အသုံးပြုပြီး ဘဏ္ဍာရီနှင့် လျှပ်စစ်ပစ္စည်းများအား မြို့နယ်မှ သတ်မှတ်ထားသည့် စွန့်ပစ်နေရာတွင် စွန့်ပစ်ခြင်း။
ဂေဟစနစ်အရင်းအမြစ်များ	ကုန်ကြမ်း လိုအပ်ချက်အရ အလွန်အကျွံ ငါးဖမ်းခြင်းများ ဖြစ်ပေါ် နိုင်ခြင်း၊ အာဟာရဓာတ်လွန်ကဲသည့် ရေများကြောင့် ရေနေသတ္တဝါများ ထိခိုက်နိုင်ခြင်း၊ ၎င်းတို့၏ စားကျက်နေရာများ ထိခိုက်ပျက်စီးနိုင်ခြင်း နှင့် ရေလျှို အရင်းအမြစ်များ ကုန်ခမ်းခြင်းတို့ ဖြစ်ပေါ်စေနိုင်ပါသည်။	အလယ်အလတ်	ရေဆိုးများအား အဆင့်ဆင့် သန့်စင်ပြီးမှသာ မြစ်အတွင်းသို့ စွန့်ထုတ်ခြင်း၊ ပြန်လည်သုံးစွဲခြင်းနှင့် ထိန်းချုပ်သုံးစွဲခြင်းတို့ဖြင့် ရေအရင်းအမြစ်များအား ထိခိုက်မှု လျော့နည်းစေခြင်း၊ မြစ်အတွင်းသို့ စွန့်ပစ်အမှိုက်များ ရောက်ရှိမှု မရှိစေရေး စနစ်တကျ အမှိုက်ပုံးများ၊ အမှိုက်ယာယီသိုလှောင်နေရာများဖြင့် ထိန်းသိမ်းထားရှိခြင်း။
လုပ်ငန်းခွင် ကျန်းမာရေးနှင့် ဘေးကင်းလုံခြုံရေး	စက်ရုံအတွင်း အမှုန်အမွှား ပျံ့လွင့်မှုများကြောင့် အသက်ရှူလမ်းကြောင်းဆိုင်ရာ ရောဂါများ ဖြစ်ပေါ်နိုင်ခြင်း၊ ကြီးမားလေးလံသော စက်ပစ္စည်းများဖြင့် ဆောင်ရွက်ရသောကြောင့် လုပ်ငန်းခွင် ထိခိုက်မှုများ ဖြစ်ပေါ်နိုင်ခြင်း၊ ဆူညံသံထွက်ရှိမှုကြောင့် ကျန်းမာရေး ထိခိုက်စေနိုင်ခြင်းနှင့် စီမံကိန်းအတွင်း ချောလဲခြင်း၊ ပြုတ်ချခြင်းများ ဖြစ်ပေါ်နိုင်ခြင်းတို့ကြောင့် လုပ်ငန်းခွင် ကျန်းမာရေးနှင့် ဘေးကင်းလုံခြုံရေးအား ထိခိုက်စေနိုင်ပါသည်။	နိမ့်	စက်ရုံအတွင်း အမှုန်အမွှား ပျံ့လွင့်မှု လျော့နည်းစေရန်နှင့် လေဝင်လေထွက်ကောင်းမွန်စေရန် လေဝင်လေထွက်စနစ်များ တပ်ဆင်ထားခြင်း၊ အမှုန်ပျံ့လွင့်မှုများသော နေရာများနှင့် ဆူညံသံထွက်ရှိမှုများသော လုပ်ငန်းခွင်များတွင် လုပ်ဆောင်ရသည့် လုပ်သားများအား နှာခေါင်းစည်း/နားကြပ် တပ်ဆင်ပြီးမှ လုပ်ငန်း ဆောင်ရွက်စေခြင်း၊ စက်ပစ္စည်းများ ကိုင်တွယ် အသုံးပြုခြင်းနှင့် စပ်လျဉ်း၍ ဝန်ထမ်းများအား စနစ်တကျ လေ့ကျင့် သင်ကြားပေး ထားခြင်း၊ စီမံကိန်းအတွင်း ချောလဲခြင်း၊ ပြုတ်ကျခြင်းများ မဖြစ်ပေါ်စေရန် anit slip flooring စနစ်ဖြင့် တည်ဆောက်ထားခြင်း။
မီးဘေးအန္တရာယ်	စက်ပစ္စည်းများ ချွတ်ယွင်းခြင်းမှ မီးဘေးအန္တရာယ် ဖြစ်ပေါ်နိုင်ခြေရှိခြင်း၊ အမှုန်ထွက်ရှိမှု များပြားလာပြီး အပူနှင့်	နိမ့်	လျှပ်စစ်ချွတ်ယွင်းမှု မဖြစ်ပေါ်စေရန် စက်ပစ္စည်းများအား ပုံမှန် ပြုပြင်ထိန်းသိမ်းခြင်း၊ လေဝင်လေထွက်ကောင်းအောင် ဆောင်ရွက်

သက်ရောက်မှု	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
	ထိတွေ့မိ၍ လေထု အတွင်း သဘာဝ အလျောက် ပေါက်ကွဲမှုများ ဖြစ်ပေါ် နိုင်ခြင်း၊ ဘွိုင်လာနှင့် လောင်စာ သိုလှောင် ထားရှိမှုများ စနစ်မကျပါက မီးဘေးအန္တရာယ်များ ဖြစ်ပေါ်နိုင်ပါ သည်။		ထားခြင်းဖြင့် မီးလောင်နိုင်ခြေအား လျော့ချ ထားခြင်း၊ ဘွိုင်လာနှင့် ဘွိုင်လာမီးဖိုအား ပုံမှန် ပြုပြင်ထိန်းသိမ်း စစ်ဆေးခြင်း၊ ဘွိုင်လာ လောင်စာများအား စနစ်တကျ သိုလှောင် ထားရှိခြင်း၊ လုံလောက်သော မီးသတ်ဆေး ဘူး၊ မီးသတ်ပိုက်၊ မီးသတ်စက်များ တပ်ဆင် ထားရှိခြင်း။
လူမှုစီးပွား အခြေအနေ	ဒေသခံ ဝန်ထမ်းများအား အလုပ်အ ကိုင် အခွင့်အလမ်းများ ဖန် တီးပေးနိုင် ခြင်း၊ စက်ပစ္စည်းများ ကိုင်တွယ် အသုံး ပြုတတ်စေခြင်း၊ လူနေမှုဘဝ မြှင့်တင် ပေးနိုင်ခြင်း၊ ဒေသတွင်း စိုက်ပျိုးရေး နှင့် ရေလုပ်ငန်းများအတွက် ကောင်း မွန်သော ကုန်ကြမ်းပစ္စည်းများ ဖန်တီး ပေးနိုင်ခြင်းဖြင့် ဒေသတွင်း လူမှုစီးပွား အခြေအနေအား အထောက်အပံ့ပေး နိုင်ပါသည်။	အလယ်အလတ် (ကောင်းမွန်သော သက်ရောက်မှု)	-



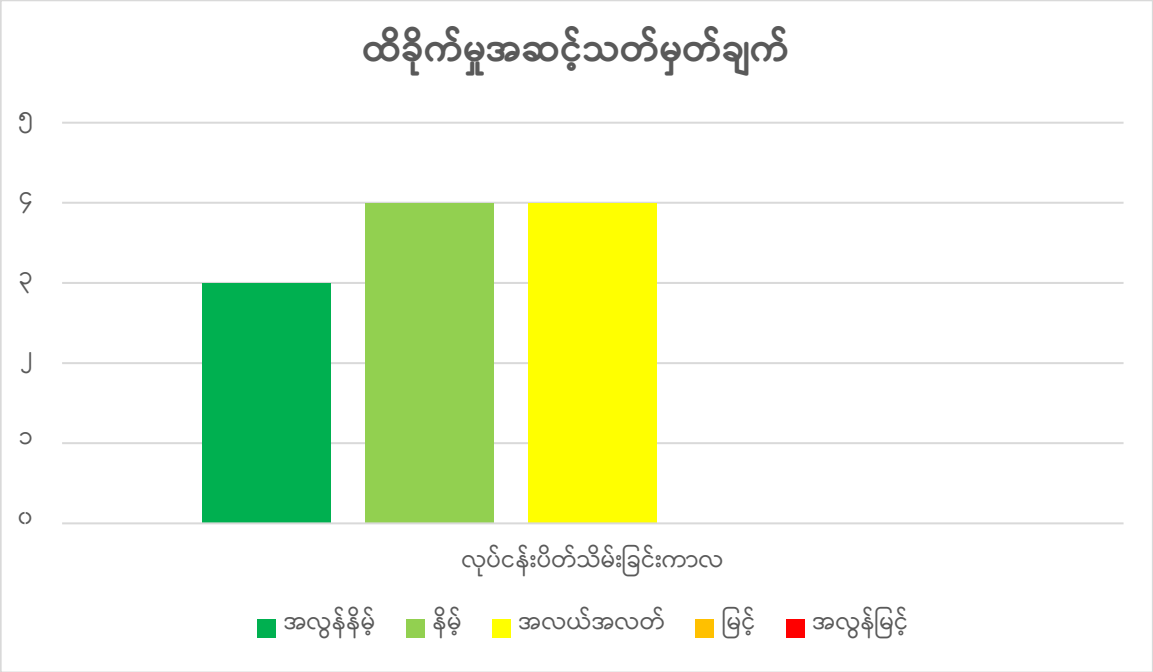
စီမံကိန်းလုပ်ငန်းလည်ပတ်စဉ်ကာလအတွင်း ထိခိုက်မှုအဆင့်သတ်မှတ်ချက်

စီမံကိန်းပိတ်သိမ်းချိန်တွင် ဖြစ်ပေါ်လာနိုင်သော ပတ်ဝန်းကျင်အကျိုးသက်ရောက်မှုများ နှင့် ၎င်းတို့၏ လျော့ချရေး နည်းလမ်းများ

သက်ရောက်မှု	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
လုပ်ငန်းပိတ်သိမ်းခြင်းကာလ			
လေထု	အဆောက်အဦများ ဖျက်သိမ်းခြင်း၊ စက်ပစ္စည်းများ သယ်ယူခြင်း နှင့် စွန့်ပစ်ပစ္စည်းများ သယ်ယူခြင်းတို့မှ ဖုန်နှင့် အမှုန်များ ပျံ့လွင့်နိုင်ခြင်း၊ စက်ပစ္စည်း အဟောင်းများနှင့် ဓာတုပစ္စည်းများကြောင့် လေထုအတွင်း အန္တရာယ်ရှိပစ္စည်းများ ပျံ့လွင့်နိုင်ခြင်း၊ စက်ပစ္စည်းများနှင့် သယ်ယူ ပို့ဆောင်ရေးယာဉ်များမှ လောင်စာလောင်ကျွမ်းခြင်းကြောင့် လေထု အရည်အသွေးအား ထိခိုက်စေနိုင်ခြင်း၊	နိမ့်	လုပ်ငန်းခွင်အတွင်း အမှုန် ပျံ့လွင့်မှုများ မဖြစ်ပေါ်စေရန် တစ်နေ့လျှင် နှစ်ကြိမ်ခန့် ရေဖြန်းခြင်း၊ အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်းများ လေထုအတွင်း မရောက်ရှိစေရန် ၎င်းပစ္စည်းများအား မစွန့်ပစ်မီ လုံခြုံစွာ ထားရှိခြင်း၊ လေထုအရည်အသွေး စောင့်ကြည့်ခြင်းအား လုပ်ဆောင်ပြီး လေဝင်လေထွက်စနစ်များ တပ်ဆင်ထားရှိခြင်း။
ဆူညံသံ	အဆောက်အဦများ ဖျက်သိမ်းခြင်းနှင့် စက်ပစ္စည်းများ အသုံးပြုခြင်းမှ ဆူညံသံများ ထွက်ရှိနိုင်ခြင်း၊ လေးလံကြီးမားသော စက်ပစ္စည်းများဖြင့် လုပ်ငန်းဆောင်ရွက်ရသောကြောင့် ဆူညံသံများ ထွက်ပေါ်နိုင်ခြင်း၊ စက်ပစ္စည်းများနှင့် စွန့်ပစ်ပစ္စည်းများ သယ်ယူပို့ဆောင်ရာမှ အနီးနားရှိ ကျေးရွာများသို့ ဆူညံသံများ ရောက်ရှိနိုင်ခြင်း၊	နိမ့်	ဆူညံသံထွက်ရှိမှု များသော လုပ်ငန်းခွင်များအား အချိန်ဇယားဖြင့် လုပ်ဆောင်စေခြင်း၊ ဆူညံသံ ထွက်ရှိမှု နည်းသော စက်ပစ္စည်းများအား အသုံးပြုခြင်း၊ ဆူညံသံ အကာအရံများ လုပ်ငန်းခွင် တစ်ဝိုက် ထားရှိခြင်း၊ မီးစက်နှင့် ဖြို့ချသည့် စက်ပစ္စည်းများအား ပုံမှန် စစ်ဆေးပြုပြင်ထိန်းသိမ်းခြင်း။
ရေထု	စက်ပစ္စည်းများ သန့်ရှင်းရေး ဆောင်ရွက်ရာမှ စက်ဆီ၊ ဓာတုပစ္စည်း နှင့် စွန့်ပစ် ပစ္စည်းများအား စနစ်တကျ ထိန်းသိမ်းခြင်း မဆောင်ရွက်ပါက အနီးနားရှိ ရေထုတွင် ညစ်ညမ်းမှုများ ဖြစ်ပေါ်နိုင်ခြင်း၊ စွန့်ပစ်အမှိုက်များ ရေမြောင်းမှ တစ်ဆင့် မြစ်အတွင်း ရောက်ရှိပြီး ရေညစ်ညမ်းမှုများ ဖြစ်ပေါ်နိုင်ခြင်း၊ အအေးခံ ပစ္စည်းများ ဖြစ်သည့် အမိုးနီး ယားအား စနစ်တကျ စွန့်ပစ်ခြင်း မဆောင်ရွက်ပါက ဝန်းကျင်ရေထုသို့ ထိခိုက်စေနိုင်ခြင်း၊	အလယ်အလတ်	စွန့်ပစ်ရေများအား မြစ်အတွင်းသို့ တိုက်ရိုက် စွန့်ထုတ်ခြင်း မပြုဘဲ ရေဆိုးသန့်စင်ကန်တွင် သန့်စင်ပြီးမှသာ စွန့်ထုတ်စေခြင်း၊ ရေမြောင်းများအား ရေစီးရေလာ ကောင်းမွန်အောင် ဆောင်ရွက်ထားရှိခြင်း။

သက်ရောက်မှု	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျှော့ချရေးနှင့် ထိန်းချုပ်မှု
မြေဆီလွှာ	စက်ဆီ၊ ဓာတုပစ္စည်း၊ စွန့်ပစ်ပစ္စည်းများ ကြောင့် မြေအရည်အသွေး ထိခိုက်နိုင်ခြင်း၊ စွန့်ပစ်ပစ္စည်းနှင့် ဓာတုပစ္စည်းများ (သန့်ရှင်းရေးပစ္စည်းများနှင့် အအေးပေးပစ္စည်းများ) အား စနစ်တကျ စွန့်ပစ်ခြင်း မရှိပါက မြေဆီလွှာညစ်ညမ်းနိုင်ခြင်း၊ ကြီးမားလေးလံသော စက်ပစ္စည်းများ အသုံးပြုရခြင်းကြောင့် မြေဆီလွှာ ကောင်းမွန်မှုနှင့် စိမ့်ဝင်ရောက်ရှိမှုအား အနှောင့်အယှက် ဖြစ်စေနိုင်ခြင်း၊	အလွန်နိမ့်	အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများအား စနစ်တကျ သိမ်းဆည်းထား၍ စည်ပင်သာယာ သတ်မှတ်နေရာများတွင် စွန့်ပစ်ခြင်း၊ မတော်တဆ ယိုဖိတ်မှုများ ရှိပါက ချက်ချင်း သန့်ရှင်းရေးပြုလုပ်စေခြင်း၊ ယိုဖိတ်ထားသော မြေဆီလွှာအား ဖယ်ရှား၍ သတ်မှတ်နေရာတွင် စွန့်ပစ်ခြင်း။
စွန့်ပစ်ပစ္စည်း ထွက်ရှိမှု	**အိုင်အခဲစွန့်ပစ်ပစ္စည်း** - ကွန်ကရစ်အပိုင်းအစ၊ သံစ၊ သစ်သားစ နှင့် အအေးခံ ပစ္စည်းများ စွန့်ပစ်ပစ္စည်းအနေဖြင့် ထွက်ရှိခြင်း၊ စက်ပစ္စည်းအဟောင်း၊ အသုံးအဆောင်အဟောင်း၊ ထုတ်ပိုးမှုပစ္စည်း အဟောင်းများ ထွက်ရှိခြင်း၊ အအေးပေးပစ္စည်းများနှင့် အအေးပေးဓာတ်ငွေ့ သိုလှောင်သည့် ပစ္စည်းများအား စနစ်တကျ မစွန့်ပစ်ပါက ပတ်ဝန်းကျင်နှင့် ကျန်းမာရေးအား ထိခိုက်စေနိုင်ခြင်း	နိမ့်	အိုင်အခဲစွန့်ပစ်ပစ္စည်းများအား အမျိုးအစားအလိုက် ခွဲခြားသိမ်းဆည်း၍ စွန့်ပစ်ခြင်း၊ ပြန်လည်အသုံးပြု၍ မရသော စွန့်ပစ်ပစ္စည်းများအား စည်ပင်သာယာ သတ်မှတ် နေရာများတွင် စွန့်ပစ်၍ ပြန်လည်အသုံးပြု၍ ရသော စွန့်ပစ်ပစ္စည်းများအား ပြန်လည်ရောင်းချခြင်း။
	အရည်စွန့်ပစ်ပစ္စည်း - စက်ပစ္စည်းအသုံးအဆောင်များ သန့်ရှင်းရေး ပြုလုပ်ခြင်း နှင့် ဓာတုပစ္စည်း များ ကိုင်တွယ် စွန့်ပစ်ခြင်းမှ စွန့်ပစ် ရေဆိုးများ ထွက်ရှိနိုင်ခြင်း၊ စက်ဆီ၊ ချောဆီ နှင့် အအေးပေးစက်ပစ္စည်း များမှ ယိုစိမ့်မှု/ယိုဖိတ်မှုများ ဖြစ်ပေါ်နိုင်ပြီး ရေအရင်းအမြစ်နှင့် မြေဆီလွှာအား ထိခိုက်နိုင်ခြင်း၊ စွန့်ပစ်ရည်များ အား စနစ်တကျ စွန့်ပစ်ခြင်း မရှိပါက ပတ်ဝန်းကျင်ညစ်ညမ်းမှုနှင့် ကျန်းမာရေး ပြဿနာများ ဖြစ်ပေါ်နိုင်ခြင်း၊	အသင့်အတင့်	စွန့်ပစ်ရေများအား မြစ်အတွင်းသို့ တိုက်ရိုက် စွန့်ထုတ်ခြင်း မပြုဘဲ ရေဆိုးသန့်စင်ကန်တွင် သန့်စင်ပြီးမှသာ စွန့်ထုတ်စေခြင်း၊ ယိုစိမ့်မှု/ယိုဖိတ်မှုများ မဖြစ်ပေါ်စေရန် စက်ဆီ၊ ချောဆီနှင့် အအေးပေးစက်ပစ္စည်းများအား စနစ်တကျ ထိန်းသိမ်း ကိုင်တွယ်စေခြင်း၊ စက်သုံးဆီ သိုလှောင်သည့်နေရာများအား ယိုစိမ့်မှု မရှိစေရန် ကွန်ကရစ် ပေါ်တွင် သိုလှောင်ထားရှိခြင်း။
	အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်း - ဓာတုပစ္စည်းများ၊ အအေးပေးပစ္စည်းများ နှင့်	အလွန်နိမ့်	ပတ်ဝန်းကျင်ဆိုင်ရာ စံချိန်စံနှုန်းများနှင့် အညီ စည်ပင်သာယာ၏ သတ်မှတ်နေရာ

သက်ရောက်မှု	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျှော့ချရေးနှင့် ထိန်းချုပ်မှု
	စက်သုံးဆီများ ယိုစိမ့်နိုင်ခြင်း၊ ၎င်းပစ္စည်းများအား စနစ်တကျ ကိုင်တွယ်ခြင်းမရှိပါက မြေဆီလွှာနှင့် ရေထုအား ထိခိုက်စေနိုင်ခြင်း။		များတွင် စနစ်တကျ စွန့်ပစ်စေခြင်း၊ လုပ်သားများအား အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်း ကိုင်တွယ် ပုံနှင့် စပ်လျဉ်း၍ အသိပညာပေးခြင်း၊
ဂေဟစနစ် အရင်းအမြစ်များ	စီမံကိန်းဖျက်သိမ်းခြင်း၊ စွန့်ပစ်ပစ္စည်းများ ထွက်ရှိခြင်း နှင့် ဆူညံသံ များပြားလာခြင်းကြောင့် ဒေသခံတောရိုင်း တိရစ္ဆာန်များအား ထိခိုက်စေနိုင်ခြင်း၊ စွန့်ပစ်ပစ္စည်းများ စနစ်တကျ စွန့်ပစ်ခြင်း မရှိပါက ၎င်းတို့ ကျက်စားရာ နေရာများအား ညစ်ညမ်းစေနိုင်ခြင်း။	အလယ်အလတ်	တောရိုင်းတိရစ္ဆာန်များနှင့် ၎င်းတို့နေထိုင်ကျက်စားရာနေရာများ ထိခိုက်မှု မရှိစေရန် စွန့်ပစ်ပစ္စည်း စီမံခန့်ခွဲမှုအား စနစ်တကျ ဆောင်ရွက်စေခြင်း၊ မြေပြိုခြင်းများ၊ စွန့်ပစ်ပစ္စည်း ယိုဖိတ်ခြင်းများ မဖြစ်ပေါ်စေရန် ထိန်းချုပ်ရေး စီမံချက်များ ဆောင်ရွက်စေခြင်း၊
လုပ်ငန်းခွင် ကျန်းမာရေးနှင့် ဘေးကင်းလုံခြုံရေး	လုပ်သားများ အနေဖြင့် ဖုန်မှုန့်များ၊ ဓာတုပစ္စည်းများနှင့် ထိတွေ့နိုင်ခြင်း၊ လေးလံသော စက်ပစ္စည်းများ၊ ကွန်ကရစ် အကျိုးအပဲ့များ ပြုတ်ကျခြင်း နှင့် လုပ်ငန်းခွင်သုံး စက်ပစ္စည်းများ သေချာ ကိုင်တွယ်ခြင်း မရှိပါက မတော်တဆမှုများ ဖြစ်ပွားနိုင်ခြင်း၊	အလွန်နိမ့်	ထိခိုက်နိုင်မှုများအား ဆန်းစစ်၍ လုပ်သားများအား သင်တန်းများပေးခြင်း၊ တစ်ကိုယ်ရေသုံးကာကွယ်ရေးပစ္စည်းများ ဝတ်ဆင်ပြီးမှ လုပ်ငန်းဆောင်ရွက်စေခြင်း၊ လုပ်သား များအား အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်း ကိုင်တွယ် ပုံနှင့် စပ်လျဉ်း၍ အသိပညာပေးခြင်း၊
မီးဘေးအန္တရာယ်	မီးအသုံးပြုရသော စက်ပစ္စည်းများ စနစ်တကျ ကိုင်တွယ် အသုံးပြုခြင်းနှင့် စက်သုံးဆီများ၊ ဓာတုပစ္စည်း များကိုင် တွယ်ရာမှ မီးလောင်မှု ဖြစ်ပွားနိုင်ခြင်း၊	နိမ့်	လုပ်ငန်းခွင်အတွင်း မီးလောင်လွယ်သော စွန့်ပစ်ပစ္စည်းများအား ဖယ်ရှားထားခြင်း၊ မီးသတ်ဆေးဘူးနှင့် မီးသတ်ပစ္စည်းများအား အဆင်သင့် ထားရှိခြင်း၊ လုပ်သားများအား မီးဘေးအန္တရာယ်နှင့် စပ်လျဉ်း၍ ကိုင်တွယ်ဖြေရှင်းနိုင်ရန် လေ့ကျင့်သင်ကြားပေးခြင်း၊
လူမှုစီးပွားအခြေအနေ	စီမံကိန်း ပိတ်သိမ်းခြင်းကြောင့် ဒေသခံ ပြည်သူများ အလုပ်အကိုင် အခွင့်အလမ်း ဆုံးရှုံးနိုင်ခြင်း၊ ဒေသတွင်း စီးပွားရေးအား ထိခိုက်နိုင်ခြင်း၊	အလယ်အလတ်	ဒေသခံပြည်သူများနှင့် ဆွေးနွေး၍ သင့်လျော်သော အခြား အလုပ်အကိုင် အခွင့်အလမ်းများ ချိတ်ဆက်ပေးခြင်း၊



စီမံကိန်းပိတ်သိမ်းခြင်းကာလအတွင်း ထိခိုက်မှုအဆင့်သတ်မှတ်ချက်

၆။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ကို သတ်မှတ်ထားသော အကျိုးသက်ရောက်မှုများ၊ လျှော့ချမှု၊ တိုင်းတာမှုများ၊ စီမံခန့်ခွဲမှုများနှင့် စောင့်ကြပ်ကြည့်ရှုရေးအစီအစဉ်များပေါ် မူတည်၍ အကောင်အထည်ဖော်ခဲ့ပါသည်။ အဆိုပြုစီမံကိန်း၏ ပတ်ဝန်းကျင်ဆိုင်ရာတိုးတက်မှုများနှင့် ပြုပြင်ပြောင်းလဲမှုများအတွက် အောက်ဖော်ပြပါ အစီအစဉ်များ ပြီးမြောက်ရန်၊ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အား သုံးသပ်ရန်အတွက် Marine Acary Production Company Limited မှ စက်ရုံ၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအဖွဲ့အား ဖွဲ့စည်းထားရှိပါသည်။ ၎င်းတွင် လျော့ပါးသက်သာစေရေး အစီအမံများ ရေးဆွဲခြင်း၊ အကောင်အထည်ဖော်ခြင်း၊ ရလဒ်များကို စောင့်ကြည့်ခြင်း နှင့် ပတ်ဝန်းကျင်ဆိုင်ရာ သက်ရောက်မှုများ မြင့်တင်ရန် လိုအပ်ပါက မှန်ကန်သော အရေးယူမှုများ ပြုလုပ်ခြင်း တို့ ပါဝင်ပါသည်။ Marine Acary Production Company Limited ၏ ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှု အစီအစဉ်ခွဲများနှင့် စောင့်ကြပ်ကြည့်ရှုခြင်း အစီအစဉ်များအား စီမံကိန်း၏ ပတ်ဝန်းကျင်ဆိုင်ရာ အဖွဲ့မှ တာဝန်ယူဆောင်ရွက်သွားမည် ဖြစ်ပါသည်။

၁. လေထုညစ်ညမ်းမှုနှင့် ဖုန်မှုန့်ဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်

- လေထုအရည်အသွေးအား ပုံမှန် စောင့်ကြပ်ကြည့်ရှုခြင်း၊
- ဖုန်နှင့် အမှုန်ပျံ့လွင့်မှု လျော့နည်းစေရန် ကောင်းမွန်သော လေဝင်လေထွက်စနစ်များ တပ်ဆင်ထားရှိခြင်း၊
- စက်ပစ္စည်းများအား ပုံမှန်စစ်ဆေးပြုပြင်ခြင်းနှင့် ဝန်ထမ်းများအား စွန့်ပစ်ပစ္စည်းများ စနစ်တကျ ကိုင်တွယ်တတ်စေရန် လေ့ကျင့်သင်ကြားပေးခြင်း၊
- အနှံထွက်ရှိမှုအား ထိန်းချုပ်ရေးစနစ်များ တပ်ဆင်ထားရှိ၍ ပုံမှန်ပြုပြင်ထိန်းသိမ်းခြင်း၊

၂. ဆူညံသံဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်

- ဆူညံသံထွက်ရှိမှုများသော စက်ပစ္စည်းများအား သီးသန့်အခန်းဖြင့် ထားရှိခြင်း၊
- စက်ပစ္စည်းများ ချွတ်ယွင်းပါက ဆူညံသံများ ထွက်ရှိနိုင်သည့်အတွက် ပုံမှန်ပြုပြင်ထိန်းသိမ်းခြင်း၊
- ဆူညံသံထွက်ရှိမှုများသော ဝန်ထမ်းများအား တစ်ကိုယ်ရေသုံးကာကွယ်ရေးပစ္စည်း (နားကြပ်) များ ဝတ်ဆင်ပြီးမှ လုပ်ငန်း ဆောင်ရွက်စေခြင်း၊

၃. ရေသုံးစွဲမှုဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်

- ရေခဲထုတ်လုပ်ခြင်းလုပ်ငန်းတွင် ရေသုံးစွဲမှုအား စနစ်တကျ ဖြစ်စေရန် ထိန်းချုပ်ရေးကိရိယာ ရေမီတာ တပ်ဆင်ထားရှိခြင်း၊
- ဝန်ထမ်းများအား စနစ်တကျ ရေသုံးစွဲတတ်စေရန် အသိပညာပေးခြင်း၊

၄. အစိုင်အခဲစွန့်ပစ်ပစ္စည်းဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်

- စွန့်ပစ်ပစ္စည်းများအား အမျိုးအစားခွဲခြား သိမ်းဆည်း၍ စနစ်တကျ စွန့်ပစ်ခြင်း၊
- စွန့်ပစ်ပစ္စည်းများအား မီးရှို့ဖျက်ဆီးခြင်းကို တားမြစ်ထားပြီး ငါးအမှုန့်စက်မှ စွန့်ပစ်ပစ္စည်းများအား မြေဩဇာ အဖြစ် ပြန်လည် အသုံးပြုခြင်း၊
- ဝန်ထမ်းများအား အမှိုက်ခွဲခြား စွန့်ပစ်တတ်စေရန် အသိပညာပေးခြင်း၊

၅. အရည်စွန့်ပစ်ပစ္စည်းဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်

- စီမံကိန်းမှ ထွက်ရှိသည့် စွန့်ပစ်ရေအား သန့်စင်နိုင်ရန် ရေဆိုးသန့်စင်ကန် တည်ဆောက်ထားရှိပြီး စွန့်ပစ်ရေများအား သန့်စင်ပြီးမှ စွန့်ထုတ်ခြင်း၊
- သန့်စင်ပြီး စွန့်ထုတ်ရည် အရည်အသွေးအား ပုံမှန် တိုင်းတာသွားပြီး အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ ပါ စံချိန်စံနှုန်းများနှင့် ကိုက်ညီမှုရှိ/မရှိ နှိုင်းယှဉ်ခြင်း၊
- ဝန်ထမ်းများအား စွန့်ပစ်ရေများ ကိုင်တွယ်ပုံနှင့် စပ်လျဉ်း၍ လေ့ကျင့်သင်ကြားပေးခြင်း၊
- မိလ္လာစနစ်နှင့် ရေမြောင်းများအား ပုံမှန် စစ်ဆေးပြီး ယိုစိမ့်မှုများ မဖြစ်ပေါ်စေရေး အလေးထားဆောင်ရွက်ခြင်း၊

၆. အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်

- အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများအား တံဆိပ်များတပ်၍ စနစ်တကျ သိမ်းဆည်း စွန့်ပစ်ခြင်း၊
- ဝန်ထမ်းများအား အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်းများ ကိုင်တွယ်ပုံနှင့် စပ်လျဉ်း၍ လေ့ကျင့်သင်ကြားပေးပြီး တစ်ကိုယ်ရေသုံးကာကွယ်ရေးပစ္စည်းများ ဝတ်ဆင်ပြီးမှသာ ကိုင်တွယ်စေခြင်း၊

၇. မီးဘေးအန္တရာယ်ဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်

- လုပ်ငန်းခွင်နှင့် သိုလှောင်ရေးနေရာများတွင် မီးဘေးအန္တရာယ် ဖြစ်ပေါ်နိုင်မှုအား ပုံမှန် စိစစ် ထိန်းသိမ်းခြင်း၊
- မီးခိုးငွေ့အာရုံခံ ကိရိယာ၊ မီးသတ်အချက်ပေး၊ ရေဖြန်းစနစ်များ တပ်ဆင်ထားရှိခြင်း၊
- မီးလောင်မှု အမျိုးအစား အမျိုးမျိုးအတွက် သင့်လျော်သော မီးသတ်ဆေးဘူးများ၊ မီးသတ်ပိုက်၊ မီးသတ်စက်များ ထားရှိခြင်း၊
- မီးလောင်လွယ်သော ပစ္စည်းများအား စနစ်တကျ သိုလှောင်ထားရှိခြင်းနှင့် ထိန်းသိမ်း ကိုင်တွယ် အသုံးပြုခြင်း၊

၈. လုပ်ငန်းခွင် ကျန်းမာရေးနှင့် လုံခြုံရေးဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်

- လုပ်ငန်းခွင်အတွင်း ဖြစ်ပေါ်နိုင်သော အန္တရာယ်များအား ခွဲခြားသတ်မှတ်ထားခြင်း၊
- ဝန်ထမ်းများအား လုပ်ငန်းခွင်အလိုက် သင့်လျော်သော တစ်ကိုယ်ရေသုံးကာကွယ်ရေးပစ္စည်း များနှင့် ရှေးဦးသူနာပြုသေတ္တာများ ထောက်ပံ့ပေးထားခြင်း၊
- စက်ပစ္စည်းများ နှင့် ဓာတုပစ္စည်း (အအေးပေးပစ္စည်း) များ ကိုင်တွယ် အသုံးပြုခြင်းအတွက် လမ်းညွှန်ချက်များ ထားရှိပေးခြင်း၊
- ဝန်ထမ်းများအား လုပ်ငန်းခွင် ဘေးကင်းလုံခြုံရေး၊ စက်ပစ္စည်းများ ကိုင်တွယ် အသုံးပြုခြင်းနှင့် အရေးပေါ်တုံ့ပြန်ရေးဆိုင်ရာ သင်တန်းများ ပေးခြင်း၊
- လုပ်ငန်းခွင်အတွင်း လေအရည်အသွေး၊ ဆူညံသံစသည့် ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး များအား ပုံမှန် တိုင်းတာ ဆောင်ရွက်ခြင်း၊

၉. စွမ်းအင်ဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်

- စက်ပစ္စည်းအဟောင်းများအား အစား စွမ်းအင်ချွေတာမှု ရှိသော စက်ပစ္စည်းများ၊ မီးသီး/ မီးချောင်းများ အစားထိုးအသုံးပြုခြင်း၊
- စက်ပစ္စည်းများနှင့် လျှပ်စစ်အသုံးပြုသော ပစ္စည်းများအား အသုံးမလိုပါက ပိတ်ထားစေသည့် အလေ့အကျင့်ကောင်းများ ဝန်ထမ်းများအား အသိပညာပေးခြင်း၊

၁၀. အရေးပေါ်တုံ့ပြန်ရေးဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်

- စီမံကိန်းလုပ်ငန်းဆောင်ရွက်ခြင်းကြောင့် ဖြစ်ပေါ်လာနိုင်သော အရေးပေါ်အခြေအနေများအား ဆန်းစစ်၍ ပြင်ဆင်မှုများ ဆောင်ရွက်ထားရှိခြင်း၊
- အရေးပေါ်ဆက်သွယ်ရေးစနစ်၊ မီးဘေးကာကွယ်ရေးပစ္စည်းများ၊ သဘာဝဘေးကာကွယ်ရေး ပစ္စည်းများ အရံသင့်ထားရှိခြင်း၊ ပုံမှန်စစ်ဆေးခြင်း၊
- ဝန်ထမ်းများအား အရေးပေါ်အခြေအနေတုံ့ပြန်ရေးဆိုင်ရာ သင်တန်းများ ပေးခြင်း၊

- ဒေသတွင်း မီးသတ်ဌာန၊ ဆေးရုံ နှင့် ပတ်ဝန်းကျင်ဆိုင်ရာ အဖွဲ့အစည်းများနှင့် လွယ်ကူစွာ ချိတ်ဆက်နိုင်ရေး စီမံထားရှိခြင်း၊

၁၁. သဘာဝဘေးအန္တရာယ်ဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်

- ဖြစ်ပေါ်လာနိုင်သော သဘာဝဘေးအန္တရာယ်များအား ခွဲခြား၍ ပြင်ဆင်မှုများ ဆောင်ရွက်ထားခြင်း၊
- စက်ရုံအဆောက်အဦ အပါအဝင် စီမံကိန်းအတွင်း တည်ဆောက်ထားသော အဆောက်အဦများအား သဘာဝဘေးအန္တရာယ်ဒဏ်ခံနိုင်မှု ရှိစေရန် စနစ်တကျ တည်ဆောက်ထားခြင်း၊
- သဘာဝဘေးအန္တရာယ် ဖြစ်ပွားနေချိန်နှင့် ဖြစ်ပွားပြီးချိန်တွင် အရံမီးပေးစနစ်၊ ရေ နှင့် ဆက်သွယ်ရေးစနစ်များ ကောင်းမွန်မှုရှိစေရန် ပုံမှန်စစ်ဆေး ပြုပြင်ခြင်း၊
- အရေးပေါ်ဆေးပုံး၊ အရေးပေါ်ဆက်သွယ်ရမည့် ဖုန်းနံပါတ်များ အား အဆင်သင့် ထားရှိခြင်း၊
- ဝန်ထမ်းများအား သဘာဝဘေးအန္တရာယ် ဖြစ်ပေါ်လာပါက ကိုင်တွယ် ဖြေရှင်းရမည့် နည်းလမ်းများအား လေ့ကျင့်သင်ကြားပေးခြင်း၊

ပတ်ဝန်းကျင်ဆိုင်ရာ စောင့်ကြပ်ကြည့်ရှုမှု အစီအစဉ်

အမျိုးအမည်	ပါရာမီတာ	အကြိမ်ရေ	စောင့်ကြပ်ကြည့်ရှုမည့် နေရာ
စီမံကိန်းလည်ပတ်စဉ်ကာလ			
လေအရည်အသွေး	PM 2.5, PM 10, SO_2, NO_2, O_3	ခြောက်လတစ်ကြိမ်	စီမံကိန်းဧရိယာအတွင်း မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၃.၃၂" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၆.၀၄"
ဆူညံသံ	ဆူညံသံထွက်ရှိမှု အဆင့်	ခြောက်လတစ်ကြိမ်	စီမံကိန်းဧရိယာအတွင်း မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၅.၀၉" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၇.၃၈"

အမျိုးအမည်	ပါရာမီတာ	အကြိမ်ရေ	စောင့်ကြပ်ကြည့်ရှုမည့် နေရာ
ရေအရည်အသွေး (သန့်စင်ပြီး စွန့်ပစ်ရေ)	pH, Turbidity, TSS, Total solids, Hardness, Chloride, Free Cyanide, Arsenic, Copper, Iron, Lead, Manganese, Zinc, Oil & Grease	ခြောက်လတစ်ကြိမ်	ရေဆိုးသန့်စင်ကန် မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၆.၂၉" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၆.၂၄"
ရေအရည်အသွေး (မြေအောက်ရေ)	pH, Turbidity, Total Dissolved solids, Chloride, Total Hardness, Iron, Calcium, Magnesium, Electrical Conductivity	ခြောက်လတစ်ကြိမ်	စီမံကိန်း၏ ရေတွင်း မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၂.၆၁" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၆.၇၁"
ဘွိုင်လာခေါင်းတိုင်အမိုးအငွေ့	CO_2, SO_2, NO_2, CO	ခြောက်လတစ်ကြိမ်	စီမံကိန်း၏ ရေတွင်း မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၃.၄၉" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၆.၂၉"
အနှံထွက်ရှိမှု	OI	ခြောက်လတစ်ကြိမ်	လုပ်ငန်းခွင်အတွင်း မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၅.၀၉" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၇.၃၈"
လုပ်ငန်းခွင် ကျန်းမာရေးနှင့် ဘေးကင်းလုံခြုံရေး	လုံခြုံရေးသတိပေးချက်များ ထားရှိခြင်း၊ အရေးပေါ်ဆေးပုံး၊ တစ်ကိုယ်ရေသုံး ကာကွယ်ရေး ပစ္စည်းများ	လစဉ် ပုံမှန် စစ်ဆေးခြင်းနှင့် ပြုပြင်ထိန်းသိမ်းခြင်း	စီမံကိန်းဧရိယာအတွင်း မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၄.၉၉" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၇.၄၀"

အမျိုးအမည်	ပါရာမီတာ	အကြိမ်ရေ	စောင့်ကြပ်ကြည့်ရှုမည့် နေရာ
စွန့်ပစ်ပစ္စည်း ထွက်ရှိမှု	စွန့်ပစ်အစိုင်အခဲ	လစဉ် (မှတ်တမ်းထားရှိခြင်း နှင့် စောင့်ကြပ်ကြည့်ရှုမှု အစီရင်ခံစာတွင် ဖော်ပြခြင်း)	ယာယီအမှိုက်သိုလှောင်သည့် နေရာ မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၄.၁၅" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၁၀.၈၆"
	စွန့်ပစ်အရည်	အပတ်စဉ် ပုံမှန် စစ်ဆေးခြင်း နှင့် ပြုပြင်ထိန်းသိမ်းခြင်း	ရေမြောင်းများနှင့် ရေဆိုးသန့်စင်ကန် မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၆.၂၀" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၆.၅၂"
	အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်း	ခြောက်လတစ်ကြိမ် (မှတ်တမ်းထားရှိခြင်း နှင့် စောင့်ကြပ်ကြည့်ရှုမှု အစီရင်ခံစာတွင် ဖော်ပြခြင်း)	ယာယီ ဘေးအန္တရာယ်ရှိ အမှိုက်သိုလှောင်သည့် နေရာ မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၄.၂၂" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၇.၄၃"
မီးဘေးအန္တရာယ်	မီးသတ်ပစ္စည်းများ စစ်ဆေး ကြည့်ရှု လဲလှယ်ခြင်း	လစဉ် ပုံမှန်စစ်ဆေးခြင်း နှင့် ပြုပြင်ထိန်းသိမ်းခြင်း	စီမံကိန်းဧရိယာအတွင်း မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၄.၉၉" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၇.၄၀"
စွမ်းအင်	စစ်ဆေးကြည့်ရှုခြင်း နှင့် မှတ်တမ်းထားရှိခြင်း	လစဉ်	စီမံကိန်းဧရိယာအတွင်း မြောက်လတ္တီတွဒ်

အမျိုးအမည်	ပါရာမီတာ	အကြိမ်ရေ	စောင့်ကြပ်ကြည့်ရှုမည့် နေရာ
			၁၅° ၅၁' ၄၄.၉၉" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၇.၄၀"
အရေးပေါ်တုံပြန်မှု	အရေးပေါ်အခြေအနေ အတွက် ပြင်ဆင်ထားမှုများ၊ အစီအစဉ်ရေးဆွဲထားမှုများ	နှစ်စဉ်	စီမံကိန်းဧရိယာအတွင်း မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၄.၉၉" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၇.၄၀"
စီမံကိန်းဖျက်သိမ်းစဉ်ကာလ			
လေအရည်အသွေး	PM 2.5, PM 10, SO_2, NO_2, O_3	တစ်ကြိမ်	စီမံကိန်းဖျက်သိမ်းသည့် ဧရိယာအတွင်း မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၃.၃၂" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၆.၀၄"
ဆူညံသံ	ဆူညံသံထွက်ရှိမှု အဆင့်	တစ်ကြိမ်	စီမံကိန်းဖျက်သိမ်းသည့် ဧရိယာအတွင်း မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၅.၀၉" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၇.၃၈"

အမျိုးအမည်	ပါရာမီတာ	အကြိမ်ရေ	စောင့်ကြပ်ကြည့်ရှုမည့် နေရာ
ရေအရည်အသွေး	မြေအောက်ရေ pH, Turbidity, Total Dissolved solids, Chloride, Total Hardness, Iron, Calcium, Magnesium, Electrical Conductivity	တစ်ကြိမ်	စီမံကိန်းဖျက်သိမ်းသည့် ဧရိယာအတွင်း မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၂.၆၁" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၆.၇၁”
စွန့်ပစ်ပစ္စည်း ထွက်ရှိမှု	စွန့်ပစ်အစိုင်အခဲ (ဖျက်ဆီးပြီး စွန့်ပစ်ပစ္စည်းများ)	တစ်ကြိမ်	ယာယီအမှိုက်သိုလှောင်သည့် နေရာ မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၄.၁၅" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၁၀.၈၆”
	စွန့်ပစ်အရည် သန့်စင်ပြီး စွန့်ပစ်ရေ (pH, Turbidity, TSS, Total solids, Hardness, Chloride, Free Cyanide, Arsenic, Copper, Iron, Lead, Manganese, Zinc, Oil & Grease)		ရေမြောင်းများနှင့် ရေဆိုးသန့်စင်ကန် မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၆.၂၀" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၆.၅၂”
	အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်း (စက်သုံးဆီပုံးအခွံများ၊ ဘတ္ထရီ အဟောင်းများ၊ မီးသီး/မီးချောင်း အပျက်များ)		ယာယီ ဘေးအန္တရာယ်ရှိ အမှိုက်သိုလှောင်သည့် နေရာ မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၄.၂၂" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၇.၄၃”

အမျိုးအမည်	ပါရာမီတာ	အကြိမ်ရေ	စောင့်ကြပ်ကြည့်ရှုမည့် နေရာ
လုပ်ငန်းခွင် ကျန်းမာရေးနှင့် ဘေးကင်းလုံခြုံရေး	PPE, First Aid Kit, warning signs	တစ်ကြိမ်	စီမံကိန်းဖျက်သိမ်းသည့် ဧရိယာအတွင်း မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၄.၉၉" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၇.၄၀
မီးဘေး	မီးသတ်ပစ္စည်းများ စစ်ဆေး ကြည့်ရှု လဲလှယ်ခြင်း	တစ်ကြိမ်	စီမံကိန်းဖျက်သိမ်းသည့် ဧရိယာအတွင်း မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၄.၉၉" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၇.၄၀
အရေးပေါ်တုံပြန်မှု	အရေးပေါ်အခြေအနေ အတွက် ပြင်ဆင်ထားမှုများ	တစ်ကြိမ်	စီမံကိန်းဧရိယာအတွင်း မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၄.၉၉" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၇.၄၀”
ပြန်လည်ထူထောင်ရေး လုပ်ငန်းများ	ပြန်လည်ထူထောင်ရေးနှင့် ပြန်လည်ပျိုးထောင်ရေး လုပ်ငန်းများ	ဖျက်သိမ်းခြင်း လုပ်ငန်းများ ပြီးစီးပါက တစ်ကြိမ်	စီမံကိန်းဧရိယာအတွင်း မြောက်လတ္တီတွဒ် ၁၅° ၅၁' ၄၄.၉၉" အရှေ့လောင်ဂျီတွဒ် ၉၅° ၁၂' ၇.၄၀"

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့် စောင့်ကြပ်ကြည့်ရှုခြင်းအစီအစဉ်များအတွက် လျာထားခန့်မှန်းအသုံးစရိတ်

စဉ်	အမျိုးအစား	အကြိမ်	ခန့်မှန်းကုန်ကျစရိတ် (ကျပ်)
စောင့်ကြပ်ကြည့်ရှုခြင်း အစီအစဉ်			
၁	လေအရည်အသွေး	ခြောက်လ တစ်ကြိမ်	တစ်နှစ်လျှင် ၁,၆၀၀,၀၀၀
၂	ဆူညံသံ ထွက်ရှိမှု	ခြောက်လ တစ်ကြိမ်	တစ်နှစ်လျှင် ၁,၀၀၀,၀၀၀
၃	သန့်စင်ပြီးစွန့်ပစ်ရေ အရည်အသွေး	ခြောက်လ တစ်ကြိမ်	တစ်နှစ်လျှင် ၁,၀၀၀,၀၀၀
၄	မြေအောက်ရေ အရည်အသွေး	ခြောက်လ တစ်ကြိမ်	တစ်နှစ်လျှင် ၁,၀၀၀,၀၀၀
၅	ဘွိုင်လာအခိုးအငွေ့ အရည်အသွေး	ခြောက်လ တစ်ကြိမ်	တစ်နှစ်လျှင် ၈၀၀,၀၀၀
၆	အန္တံထွက်ရှိမှု	ခြောက်လ တစ်ကြိမ်	တစ်နှစ်လျှင် ၆၀၀,၀၀၀
အရေးပေါ်အခြေအနေ			
၁	မီးဘေးအန္တရာယ်ကာကွယ်ရေးပစ္စည်းများ	တစ်လလျှင် တစ်ကြိမ်	တစ်နှစ်လျှင် ၈၀၀,၀၀၀
၂	သဘာဝဘေးအန္တရာယ်အတွက် ပြင်ဆင်ထားရှိမှု	တစ်နှစ်လျှင် တစ်ကြိမ်	တစ်နှစ်လျှင် ၁,၀၀၀,၀၀၀
၃	လေ့ကျင့်မှုများနှင့် သင်ကြားမှုများ	တစ်နှစ်လျှင် တစ်ကြိမ်	တစ်နှစ်လျှင် ၁,၀၀၀,၀၀၀
၄	လုပ်ငန်းခွင်ဘေးကင်းလုံခြုံရေးနှင့် ကျန်းမာရေး (PPE, First Aid Kit, Medical Supply, Warning Signs., etc.)	လစဉ်	တစ်နှစ်လျှင် ၁,၀၀၀,၀၀၀
စွန့်ပစ်ပစ္စည်း စွန့်ပစ်မှု			
၁	အစိုင်အခဲ စွန့်ပစ်ပစ္စည်း	လစဉ်	တစ်နှစ်လျှင် ၈၀၀,၀၀၀
၂	အရည် စွန့်ပစ်ပစ္စည်း	အပတ်စဉ်	တစ်လလျှင် ၅၀,၀၀၀
၃	အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်း	ခြောက်လတစ်ကြိမ်	တစ်နှစ်လျှင် ၅၀၀,၀၀၀
၄	ရေဆိုးသန့်စင်ကန် ပြုပြင်ထိန်းသိမ်းခြင်း	နှစ်စဉ်	တစ်နှစ်လျှင် ၈၀၀,၀၀၀
ပတ်ဝန်းကျင်ဆိုင်ရာ စာရင်းစစ်ခြင်း			
၁	ပတ်ဝန်းကျင်ဆိုင်ရာ လိုက်နာဆောင်ရွက်မှု စစ်ဆေးခြင်း	တစ်ကြိမ်	၆၀၀,၀၀၀

လူထုအကျိုးပြုလုပ်ငန်းများဆောင်ရွက်မည့် အစီအစဉ်

လူထုအကျိုးပြုလုပ်ငန်းလှုပ်ရှားဆောင်ရွက်မှုများသည် ဒေသခံပြည်သူများ၏ လူနေမှုဘဝ မြှင့်တင်ရန်နှင့် စီမံကိန်းဧရိယာအနီးရှိ ရပ်ရွာဒေသခံများနှင့် ကောင်းမွန်သော ဆက်ဆံရေးများ ရရှိရန် ရည်ရွယ်ပါသည်။ စီမံကိန်း၏ လူထုအကျိုးပြုလုပ်ငန်းအစီအစဉ်တွင် အဓိကအားဖြင့် ကဏ္ဍ (၃) ရပ် ပါဝင်ပါသည် - ကျန်းမာရေး၊ ပညာရေး နှင့် ဒေသတွင်း

ဖွံ့ဖြိုးတိုးတက်မှု တို့ ဖြစ်ကြပါသည်။ လူထုအကျိုးပြုလုပ်ငန်းများကို မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ လမ်းညွှန်ချက်များနှင့်အညီ ဆောင်ရွက်သွားမည် ဖြစ်ပါသည်။ စီမံကိန်းသည် ဝန်ထမ်းများနှင့် ဒေသခံလူထုအား အထောက်အကူ ပေးနိုင်မည့် လူမှုဖူလုံရေးလုပ်ငန်းများတွင် အသားတင်အမြတ်၏ ၂ ရာခိုင်နှုန်းအား ပံ့ပိုးပေးမည် ဖြစ်ပါသည်။

အကြောင်းအရာ	ထည့်ဝင်နှုန်း (%)	ခန့်မှန်းပမာဏ
ကျန်းမာရေး	၀.၅ %	၂,၀၀၀,၀၀၀ ကျပ်
ပညာရေး	၀.၅ %	၂,၀၀၀,၀၀၀ ကျပ်
ဒေသတွင်း ဖွံ့ဖြိုးတိုးတက်မှု	၁ %	၃,၀၀၀,၀၀၀ ကျပ်

၇။ အများပြည်သူနှင့်တွေ့ဆုံဆွေးနွေးခြင်း

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အစီရင်ခံစာအတွက် အများပြည်သူနှင့်တွေ့ဆုံဆွေးနွေးခြင်းအား ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်းနှင့်အညီ ၂၀ ရက်၊ ဩဂုတ်လ၊ ၂၀၂၄ ခုနှစ်တွင် ပြုလုပ်ခဲ့ပါသည်။

အချိန်နှင့်နေရက်	၂၀ ရက်၊ ဩဂုတ်လ၊ ၂၀၂၄ ခုနှစ် မနက် ၁၀:၀၀ မှ ၁၁:၃၀ အထိ	
ကျင်းပသည့်နေရာ	Marine Acary Production Co., Ltd. ၏ အစည်းအဝေးခန်းမ	
အစည်းအဝေး အကြောင်းအရာ	➢ Marine Acary Production Co., Ltd. အား မိတ်ဆက်ခြင်း။ ➢ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အစီရင်ခံစာအား မိတ်ဆက်ခြင်း။ ➢ သက်ရောက်မှုဆန်းစစ်ခြင်းရလဒ်များနှင့် ထိခိုက်မှုအဆင့်သတ်မှတ်ချက်များနှင့် ဖြေလျော့ရေးနည်းလမ်းများ ➢ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့် ➢ စက်ရုံ၏ဆောက်ရွက်ချက်များ။	

ဆွေးနွေးတင်ပြသည့် အဖွဲ့အစည်း	Myanwei Environmental Solutions Company Limited	

၈။ နိဂုံးနှင့်အကြံပြုချက်

နိဂုံးချုပ်အားဖြင့် အများပြည်သူနှင့် တွေ့ဆုံဆွေးနွေးပွဲတွင် မှတ်တမ်းတင်ထားသော ဒေသခံပြည်သူများ၏ အကြံပြုချက်များ၊ လိုလားမှုများနှင့် လိုအပ်ချက်များအားလုံးကို ကောင်းစွာ ကိုင်တွယ်ဖြေရှင်းနိုင်ခဲ့ပြီး ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီရင်ခံစာ ရေးဆွဲရာတွင် ထည့်သွင်းအသုံးပြုထားပါသည်။ Marine Acary Producion Company Limited မှ ဒေသခံပြည်သူများအား အလုပ်အကိုင်အခွင့်အလမ်းများ ဖန်တီးပေးနိုင်ပြီး ဝန်ထမ်းများ၏ လုပ်နိုင်စွမ်းရည်နှင့် အလုပ်ကျွမ်းကျင်မှုများအား မြင့်တင်ပေးနိုင်ကြောင်း တွေ့ရှိရပါသည်။ ထို့ကြောင့် ဒေသခံပြည်သူများ၏ လူမှုစီးပွားရေး စံနှုန်းများ တိုးတက်ကောင်းမွန်စေရန်အတွက် တင်ပြထားသည့် လူမှုရေးဆိုင်ရာ တာဝန်ယူဆောင်ရွက်မှုအစီအစဉ်အတိုင်း ဆောင်ရွက်သွားမည် ဖြစ်ပါသည်။ ဒေသခံပြည်သူများနှင့် နိုင်ငံဖွံ့ဖြိုးတိုးတက်ရေးအတွက် ဤစီမံကိန်းမှ အပြုသဘော ဆောင်သော အကျိုးသက်ရောက်မှုများ ရရှိနိုင်ပါသည်ဟု ကောက်ချက်ချနိုင်ပါသည်။

အကြံပြုချက်များအရ

- အစီရင်ခံစာတွင် ဖော်ပြထားသည့်ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့် ကတိကဝတ်များကို စီမံကိန်း၏ သက်တမ်းတလျှောက်တွင် အကောင်အထည်ဖော် ဆောင်ရွက်ရမည်။
- အစိုင်အခဲနှင့်အရည်စွန့်ပစ်ပစ္စည်းများကို မြို့နယ်စည်ပင်သာယာရေးကော်မတီ၏ စည်းကမ်းများ အတိုင်းစွန့်ပစ်ရမည်။
- အလုပ်သမားများအား သင့်တော်သော သင်တန်းများပေးခြင်း၊ လုပ်ငန်းခွင်အတွင်း တစ်ကိုယ်ရည် ကာကွယ်ရေး ပစ္စည်းများ အသုံးပြုစေခြင်းများ ဆောင်ရွက်ရမည်။
- ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုအစီအစဉ်များကို နေ့စဉ်၊ လစဉ်နှင့် နှစ်စဉ် လုပ်ငန်းခွင်အတွင်း လုပ်ဆောင်ရမည်။
- ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုအစီအစဉ် မှတ်တမ်းများကို သေချာသိမ်းဆည်း၍ တတိယအဖွဲ့အစည်း သို့ တင်ပြရမည်။

- ပြည်ထောင်စုသမ္မတ မြန်မာနိုင်ငံတော်၏ လမ်းညွှန်ချက်များ၊ ပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေ၊ နည်းဥပဒေ၊ စည်းမျဉ်းစည်းကမ်းများနှင့် ချမှတ်ထားသောမူဝါဒ လမ်းညွှန်ချက်များအတိုင်း ပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲမှု အလေ့အကျင့်များ၊ လုပ်ငန်းစဉ်များနှင့် လိုက်နာဆောင်ရွက်ရမည်။
- အချုပ်အားဖြင့်ဆိုသော် အဆိုပြုသူသည် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဦးစီးဌာနမှ ညွှန်ကြားလာသော အဆိုပြုချက်များ၊ အကြံပြုချက်များကို လိုက်နာဆောင်ရွက်ရမည်။ ထိရောက်သော ပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲမှုကို အဆိုပြုသူမှ ဆောင်ရွက်ရမည်။ အဆိုပြုသူသည် ပြည်ထောင်စုသမ္မတ မြန်မာနိုင်ငံတော်၏ လမ်းညွှန်ချက်များ၊ ပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေ၊ နည်းဥပဒေ၊ စည်းမျဉ်းစည်းကမ်းများနှင့် ချမှတ်ထားသော မူဝါဒ လမ်းညွှန်ချက်များ အတိုင်းလိုက်နာ ဆောင်ရွက်ရ မည်။

စီမံကိန်းဖော်ဆောင်မှုကြောင့် စက်မှုကဏ္ဍဖွံ့ဖြိုးတိုးတက်မှုများ၊ လူမှုစီးပွားတိုးတက်မှုများ၊ အလုပ်အကိုင် အခွင့်အလမ်းများ ရရှိစေနိုင်ပါသည်။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် ရေးဆွဲခြင်းဖြင့် စီမံကိန်းအပေါ် သက်ရောက်မှုများကို လျော့ချနိုင်ခြင်း နှင့် စောင့်ကြပ်ကြည့်ရှုမှုများကို Marine Acary Production Co., Ltd. ၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်အစီရင်ခံစာအား အတည်ပြုပြီးပါက ခြောက်လတစ်ကြိမ် တင်ပြအစီရင်ခံရမည် ဖြစ်ပါသည်။

EXECUTIVE SUMMARY

1. Introduction

This report describes the findings of the Environmental Management Plan (EMP) for the Manufacturing of Fishmeal & Ice Factory by Marine Acary Production Company Limited. The main objective of this report is to identify the major environmental impacts due to implementation of the project along with the effective measures to mitigate the potential adverse impacts.

The proposed project is required to prepare and submit an Environmental Management Plan Report based on the comments provided by the Environmental Conservation Department, Deputy Director's Office, Pyapon District, under the letter dated January 23, 2023, with reference number NR(Industry/Economic)/2/1(025/2023).

Information of Investor

Investor Name:	Daw Nang Aung Lu
National Registration Card No.	13/ La Ya Na (N) 116409
Citizenship:	Myanmar
Company ID No.	104094090
Name of principle Organization	Marine Acary Production Company Limited
Address	No. 102, Nawaday Garden Housing, Kabar Aye Pagoda Road, (5) ward, Mayangone Township, Yangon.
Phone No.	09250530586
Email	marineacaryfishmealyangon@gmail.com

Director List

No.	Name	Responsibility
1	U Hla Phay	Managing Director
2	Daw Nang Aung Lu	Director
3	U Sai Yu Wai	Director

Salient Features of the Project

Type of Proposed Business:	Manufacturing of Fishmeal and Ice Factory
Type of Investment:	100% Local Investment
Amount of Investment	1886.05 million Kyats (Including 0.47 million US Dollar)
Type of Share:	Ordinary Share
Operation Start Date	1st April 2011
Type of land:	Farm Land
Total land area:	32.32 acres
Address:	Yay Kyaw Gyi Kwinn, No. 917, Ue Pain No. 2/8, Katonkani Kyaye Ywar Oke Suu, Bogalay Township, Ayeyarwaddy Region, Myanmar.

Contact person:	U Zaw Htet Aung General Manager 09 262 694 448 marinefighter17@gmail.com

The Environmental Management Plan Report for Marine Acary Production Company Limited is prepared and compiled by Myanwei Environmental Solutions Company Limited. Relevant information regarding the licensed individuals responsible for preparing the Environmental Management Plan Report on behalf of Myanwei Environmental Solutions Company Limited is detailed in the table below.

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Licensed Member of EMP Study Team

No.	Name	Registration/License No. by ECD	License Type	Area of Expertise	Responsibility
၁.	ဦးထွန်းလင်းကျော်	EIA-AC 051/2023	တွဲဖက်အကြံပေး	လူမှုရေးဆိုင်ရာလေ့လာခြင်းနှင့် သရုပ်ခွဲ ဆန်းစစ်ခြင်း	**Team Leader** Chapter 4 (**Hydrology, Surface Water and Ground Water Conservation** - Check and Review Hydrological and Hydrogeological Data and Report Writing) Chapter 7 **(Public Consultation –** Check and Review Social Data, Data Entry and Report Writing) Chapter 6 (**Solid Waste and Hazardous Waste Management –** Analysis for Waste Disposal System, Management and Monitoring)
၂.	ဒေါက်တာဟိန်းလင်းအောင်	EIA-AC 052/2023	တွဲဖက်အကြံပေး	ကျန်းမာရေး	**Reviewer** **Occupational Health & Community Health Impacts Assessment**
၃.	ဦးလင်းထက်စိန်	EIA-AC 053/2023	တွဲဖက်အကြံပေး	အထွေထွေပတ်ဝန်းကျင်စီမံခန့်ခွဲခြင်း	**Co Leader** Chapter 6 **(General Environmental Management –** Project Leading: Communication, Discussion with Project Proponent for Environmental Management, Foundation and Consultancy for Environmental Management System) Chapter 5, Chapter 6 (**Risk Assessment and Hazard Management** for Activities of the Project: Finding and Identification the Hazards, Evaluation the Affected Risks and

No.	Name	Registration/License No. by ECD	License Type	Area of Expertise	Responsibility
					Management for the Project's Environmental Prevention) **Executive for Environmental Policy and Objectives**
၄.	ဦးစောရန်နောင်	EIA-AC 054/2023	တွဲဖက်အကြံပေး	လူမှုရေးဆိုင်ရာလေ့လာခြင်းနှင့် သရုပ်ခွဲ ဆန်းစစ်ခြင်း	**Member** Chapter 4 **(Noise and Vibration -** Baseline Survey and Monitoring, Data Analysis and Modelling, Data Entry and Report Writing) Chapter 5, Chapter 6 (**Solid Waste and Hazardous Waste Management –** Identify and Analysis of Wastes, Management and Monitoring**)** Chapter 7 **(Social Study and Analysis –** Participating in Public Consultation Meeting) Chapter 8 Conclusion & Recommendation
၅.	ဦးကောင်းဆက်လွင်	EIA-AC 055/2023	တွဲဖက်အကြံပေး	ဘူမိဆိုင်ရာဆန်းစစ်လေ့လာခြင်း	**Member** Chapter 2 (**Legal Studies and Analysis** - Check and Review legal requirements related to project, Data Entry and Report Writing) Chapter 4 (**Geological Assessment -** Check and Review Geological Data, Data Entry and Report Writing)
၆.	ဒေါ်ဆုမြတ်လှိုင်	EIA-AC 101/2024	တွဲဖက်အကြံပေး	လေထုညစ်ညမ်းမှု စောင့်ကြပ်ကြည့်ရှုခြင်း	**Member** Chapter 4 (**Air Pollution Monitoring, Meteorology, Air Quality Assessment and Prediction –** Baseline Survey and Monitoring, Data Analysis and Modelling, Check and Review Meteorological Data, Data Entry and Report Writing)

No.	Name	Registration/License No. by ECD	License Type	Area of Expertise	Responsibility
					Chapter 5, Chapter 6 (**Air Pollution Prevention and Control –** Evaluation of the Air Quality Impacts and Mitigation Measures, Adaptation for Air Pollution, Air Pollution Management, Control and Monitoring) Chapter 4, Chapter 5 (**Water Pollution, Prevention, Control, Monitoring and Impact Prediction –** Baseline Survey and Monitoring and Report Writing, Evaluation of the Water Quality Impacts and Mitigation Measures, Adaptation for Water Pollution, Water Pollution Management, Control and Monitoring)

Supporting Team

Name	Background Education	Supporting Field	Activities/Responsibility
ဒေါ်နုနုရိုးရှိ	B.A (Myanmar)	လေထုညစ်ညမ်းမှု စောင့်ကြပ်ကြည့်ရှုခြင်း	Chapter 4 (**Air Pollution Monitoring, Meteorology, Air Quality Assessment and Prediction –** Baseline Survey and Monitoring, Data Analysis and Modelling) Chapter 4 **(Noise and Vibration -** Baseline Survey and Monitoring, Data Analysis and Modelling)

2. Policy, Legal and Institutional Framework

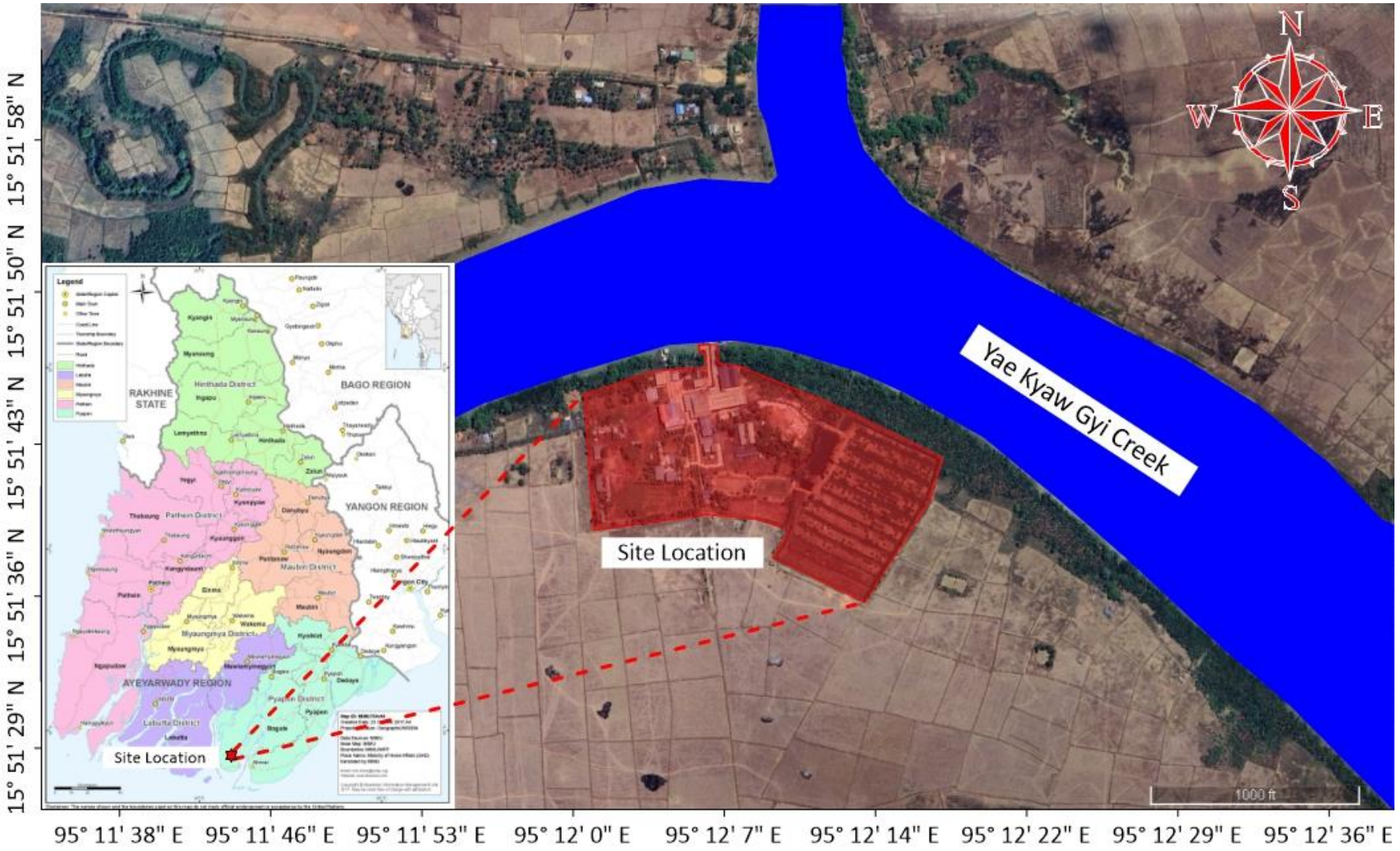
The environmental and social policies that the project proponent commits to comply with are outlined below. These include the Environmental Conservation Law, rules and regulations, and guidelines issued by the Ministry of Natural Resources and Environmental Conservation, such as the National Environmental Quality (Emission) Guidelines (2015) and the Environmental Impact Assessment Procedure (2015). Additionally, they include relevant regional and international regulations related to the project.

Sr	Laws and regulations	Enacted Year	Committed Section/Rule/Article
Environmental Conservation			
1	Constitution of the Republic of the Union of Myanmar	2008	350, 390
2	Environmental Conservation Law	2012	14, 15, 16
3	Environmental Conservation Rules	2014	69 (a), (b)
4	Environmental Impact Assessment Procedure	2015	13 (a), (b), 34, 35, 36, 37, 38, 40, 102, 104 to 110, 113, 115, 117
5	National Environmental Quality (Emission) Guidelines	2015	-
Forest, Biodiversity and Natural Resources			
6	Myanmar Forest Law	2018	12
7	Conservation of Biodiversity and Protected Area Law	2018	40, 41
8	Conservation of Water Resources and Rivers Law	2016	8, 11, 19, 22
9	Protection and Preservation of Ancient Monument Law	2015	12, 15, 20
10	Underground Water Act	1930	3, 5
Public Health			
11	Public Health Law	1972	3
12	Prevention and Control of Communicable Diseases Law	1995 (Amended 2011)	3 (a) (9), 4, 11
13	Control of Smoking and Consumption of Tobacco Product Law	2006	9
Land Use			
14	Farm Land Law	2012	12, 29
15	Vacant, Fallow and Virgin Lands Management Law	2012 (Amended 2018)	16
Urban Development			
16	Law on Standardization	2014	17, 19, 26
17	Myanmar Engineering Council Law	2013	37 to 42
18	Prevention of Hazard from Chemical and Related Substances Law	2013	15, 16, 17, 22, 27
19	Prevention of Hazard from Chemical and Related Substances Rules	2016 (Amended 2018)	-
20	Electricity Law	2014	44 to 47

Sr	Laws and regulations	Enacted Year	Committed Section/Rule/Article
21	Petroleum and Petroleum Product Law	2017	30 to 33
Economic and Investment			
22	Ayeyarwady Region Development Organization Law	2012	63
23	Myanmar Companies Law	2017	2, 4
24	Myanmar Investment Law	2016 (Amended 2019)	36, 37, 38, 50, 51, 53, 57, 59 to 70, 72, 73, 74, 77, 79, 80, 82, 83, 84
25	Myanmar Investment Rules	2017	202, 203
26	Myanmar Insurance Law	1993	15, 16
27	Commercial Tax Law	1990 (Amended 2014)	4(a), 5, 11(a)(b), 13(a), 15(a)
Workers and Workplace			
28	Labour Organization Law	2011 (Amended 2012)	29, 30, 31, 37, 43, 44, 49,
29	Labour Organization Rules	2012	29, 30
30	Workmen’s Compensation Act	1923 (Amended 1955, 1957, 2005)	3, 4, 8
31	Employment and Skill Development Law	2013	3, 5, 14, 30
32	Occupational Safety and Health Law	2019	18, 19, 21, 23, 26, 27, 28, 29, 34, 48, 49
33	Minimum Wage Law	2013 (Amended 2023)	12, 13, 16, 22, 24
34	Minimum Wages Rules	2013	43
35	Payment of Wages Law	2016	3, 4, 5, 6, 7, 9, 10, 11
36	Leave and Holiday Act	1951 (Amended 2014)	3 to 11
37	Leave and Holiday Rules	2018	15, 20, 21, 29, 33, 41, 50, 51, 52
38	Social Security Law	2012 (Amended 2014)	48, 49, 50, 51, 53, 54, 65, 66, 67, 69, 70, 74, 75, 77
39	Labor Dispute Settlement Law	2012 (Amended 2019)	23, 28, 34 to 45, 51
Transportation			
40	Vehicle Safety and Vehicle Management Law	2020	17,18, 19, 24, 26, 28, 29, 75, 80 to 84,
41	Vehicle Safety and Vehicle Management Rules	2022	5, 83
Emergency			
42	Myanmar Fire Force Law	2015	17, 24, 25, 30, 32
43	Natural Disaster Management Law	2013	13, 25 to 31

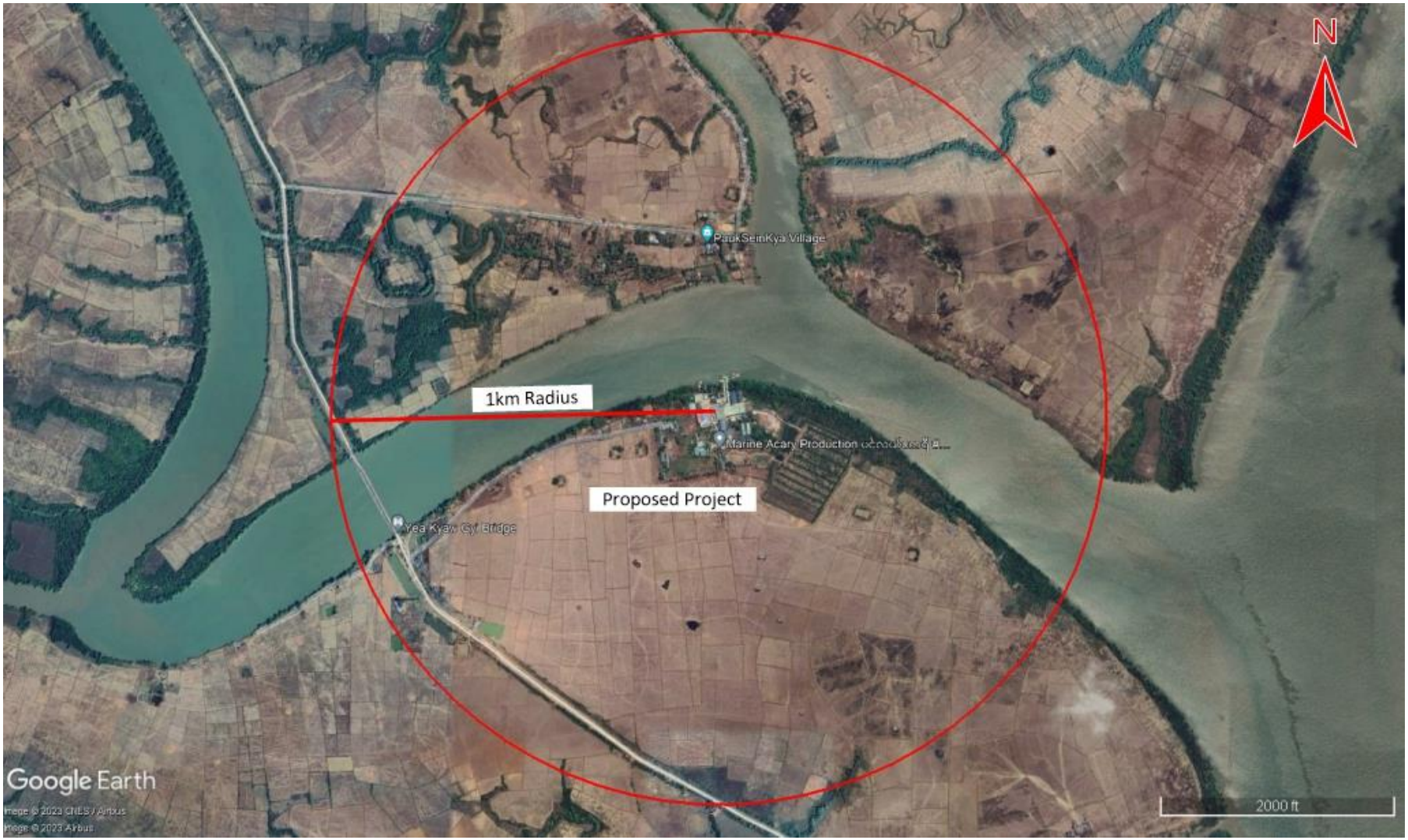
3. Project Description

Marine Acary Production Co., Ltd. is located at Latitude 15°51'43.32" N and Longitude 95°12'6.04" E and the project site covers a total area of 32.32 acres in No. 917, Ue Pain No. 2/8, Yay Kyaw Gyi Kwinn, Katonkani Kyaye Ywar Oke Suu, Bogalay Township, Ayeyarwady Region. The site can be accessed from Bogale Town by motorboat, which takes approximately four hours.



Location Map of Marine Acary Production Co., Ltd.

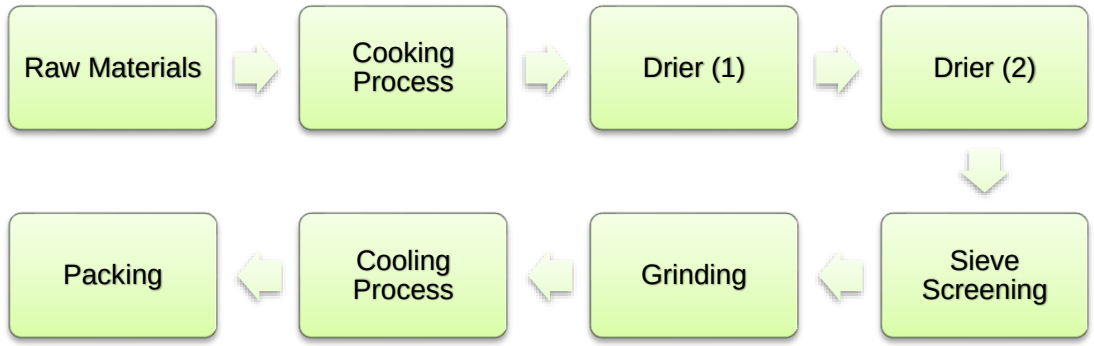
Factory Layout Drawing



Adjacent Map of the project

Within the project area, the following facilities have been constructed and are operational: one single-story hall-type building for the fishmeal factory, two storage warehouses, two single-story hall-type buildings for the ice factory, one boiler building, one single-story office building, two residential buildings, and five buildings containing a total of eight rooms for staff dormitory. The fishmeal factory and ice factory are carried out with the support of 120 local workers. The project is designed to produce 50 tons of fishmeal annually and 60 tons of ice daily.

The ice factory is not intended for commercial sale but rather to fulfill the ice requirements for purchasing raw fish materials. It operates only when raw fish are being purchased from the sea. To obtain the necessary raw fish materials for the fishmeal factory, unsaleable fish are sourced from fishing trawlers and transported to the project site using company-owned boats. Once the raw fish materials arrive, they are washed and sent to cooking machines to kill bacteria and microorganisms. After cooking, the fish are transferred to two drying machines. Once dried, impurities such as shells, crab shells, fish bones, and other waste materials are removed using a screening machine. The cleaned fish are then ground in a grinding machine. The ground fishmeal is cooled and proceeds to the packaging stage. The packed fishmeal bags are stored in the warehouse, ready for shipment and sale.



Production Process

Raw Materials

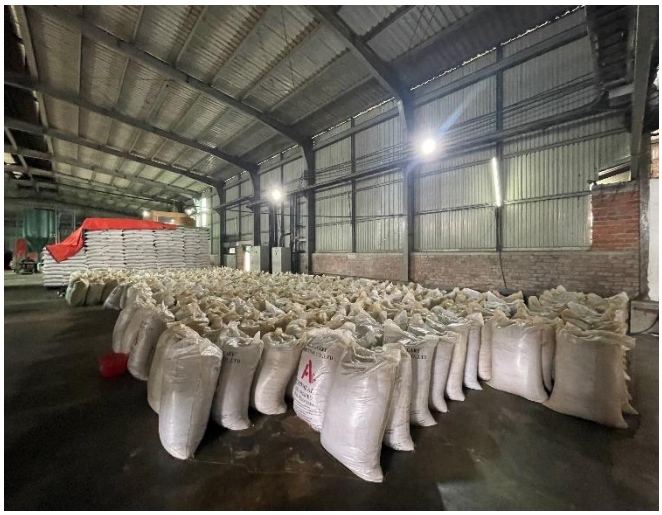

Cooking Machine


Drier Machines

Sieve Screening Machine

Grinding Machine

Cooling Machine



Final Products and Packaging

Production Process Photos


Final Products and Storage Photos

The machinery and equipment required for the fishmeal factory and ice factory operations are imported from China. The project operates approximately 300 days per year, with daily working hours from 7:00 AM to 5:00 PM. Groundwater serves as the primary water source for the project, accessed through eight tube wells, along with a reservoir with a capacity of 750,000 gallons to support project and general water needs. Annually, the ice production business consumes approximately 2,700,000 gallons of water, while washing and cooking raw fish requires an estimated 4,680,000 gallons. Drinking water consumption amounts to approximately 36,000 liters per year, and general usage requires about 1,080,000 liters. Additionally, the boiler operations utilize around 3,276,000 gallons of purified water annually.

To meet the electricity requirements of the project, three 800 kVA generators, one 500 kVA generator, one 250 kVA generator, one 110 kVA generator, and three 1250 KW dynamos have been installed and are in use. Daily diesel consumption amounts to approximately 12 barrels, each holding 50 gallons. The diesel is stored in 150 steel barrels, four diesel storage tanks with a capacity of 3,000 gallons each, and three diesel storage tanks with a capacity of 1,000 gallons each. Additionally, a rice husk-fueled boiler, measuring 40 feet in length and 15 feet in width, is installed and equipped with a 100-foot-tall chimney. The boiler consumes approximately 20 tons of rice husk fuel daily, generating about 2 tons of ash as a by-product. The ash is reused for road paving and as fertilizer in agricultural fields.

Five staff dormitory units have been constructed for employees, and facilities such as a dining hall, medical support, access to clean drinking and utility water, and sanitation facilities are provided. For emergency situations, approximately 30 fire extinguishers are placed within the project area. Additionally, six fire hydrants have been installed, complemented by fire engines and hoses that are adequately maintained in accordance with the guidelines of the Fire Services Department. Emergency contact numbers and evacuation routes are displayed in visible locations throughout the premises. Employees are also trained in fire safety practices to ensure preparedness in the event of a fire.

The project generates approximately 200 tons of marine animal shells, bones, and other waste materials each month. These waste materials are used for landfilling and road construction activities. Additionally, the staff generates around 150 kilograms of general waste daily, which is disposed of in the designated waste disposal area in the village. To ensure proper drainage, drainage channels have been constructed within the project area. Wastewater from fish cleaning operations is not directly discharged into the river; instead, it is transported to nearby ponds near the project's coconut palms farm for

treatment and reuse. Any wastewater that does not reach these ponds is filtered through a wastewater treatment tank in stages before being discharged into the river. Hot water discharged from the project is not directly released into the river; it is first mixed with cool water, and then passed through the wastewater treatment tank before being discharged. To prevent foul odors from spreading into the environment, four deodorizing system are installed, which capture the emitted smells. The odors are cooled and converted from gaseous form to liquid before being filtered through a water purification tank and released into the river. In order to maintain good air quality within the project area, various trees and plants, especially coconut palms, have been planted.

4. Brief Description of Surrounding Environment

For the collection of baseline environmental data, measurements and surveys were conducted from July 19 to July 21, 2023, within the proposed project area. The air quality, noise levels, odor emissions, boiler stack emission, were measured, and treated wastewater quality and river water quality, samples were taken for analysis. Additionally, information on the socio-economic conditions, physical, biological, and climatic factors in the vicinity of the proposed project area was collected from the Bogalay Township. This data will be used to assess the potential impacts of the project on the local environment and community.

Baseline Environmental Quality Monitoring Point

Item	Parameter
Air quality	Particulate Matter (PM_{10}, $PM_{2.5}$), Nitrogen Dioxide (NO_2), Sulfur Dioxide (SO_2), Ozone (O_3)
Noise level	Indoor sound level (LAeq)
Rive water	pH, Turbidity, Total Solids, Hardness, Chloride, Free Cyanide, Arsenic, Copper, Iron, Lead, Manganese, Zinc

Item	Parameter
Wastewater (Treated)	pH, Turbidity, TSS, Total Solids, Hardness, Chloride, Free Cyanide, Arsenic, Copper, Iron, Lead, Manganese, Zinc, Oil & Grease
Boiler Stack Emission	Carbon Dioxide (CO2), Sulfur Dioxide (SO2), Nitrogen Dioxide (NO2), Carbon Monoxide (CO)
Odor Intensity	Odor Gas

Survey Result in Proposed Project

Type	Results	Guideline Value
Air Quality		
$PM_{2.5}$	12.97 µg/m^3	25
PM_{10}	19.03 µg/m^3	50
SO_2	0.28 µg/m^3	500
NO_2	22.4 µg/m^3	200
O_3	17.32 µg/m^3	100
Noise Level		
Project Site	62.33 dBA	70 dBA
Boiler Stack Emission		
CO_2	453.025 ppm	5000 ppm
NO_2	0.35 ppm	5 ppm
SO_2	0.53 ppm	5 ppm
CO	21.85 ppm	50 ppm
Odor Emission		
Odor Intensity	7.47 OU	5-10 OU

Factory tube well water testing results, river water testing results and treated wastewater testing results are shown in **APPENDIX Q**.

During the air quality measurements, $PM_{2.5}$, PM_{10}, O_3, NO_2, and SO_2 levels were monitored, in line with the National Environmental Quality (Emission) Guidelines. Noise levels within the work environment were also measured according to the relevant standards. The stack emission from the boiler were assessed following guidelines from the Occupational Safety and Health Administration (OSHA). As for the odor emissions, the situation was found to be within acceptable limits for the work to proceed safely, and employees were required to use personal protective equipment (e.g., nose masks) while working in these conditions. The quality of treated wastewater met the required standards outlined in the National Environmental Quality (Emission) Guidelines. While some parameters of river water quality were found to exceed the established limits, it was determined that the project's effluent discharge did not contribute to these exceedances. The groundwater quality measurements were also found to be in compliance with the established standards.

The development of the proposed project has the potential to bring about both positive and negative impacts on the physical, biological, and socio-economic aspects of the region's environment. The environmental changes that may arise from the activities of the proposed project could lead to

significant alterations in the local environment. These potential impacts need to be carefully assessed through a thorough environmental impact evaluation, involving consultations and discussions with the project proponents, managers, and responsible parties. This will help categorize and examine the possible effects based on their nature, allowing for proper management and mitigation measures to be implemented where necessary.

5. Risk Assessment and Mitigation Measure

The assessment of each impact is based on consideration of the magnitude, duration, extent and probability of activities, which are going to be carried out during operation phases.

Impact Assessment Parameter and Its Skill

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

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

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

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

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

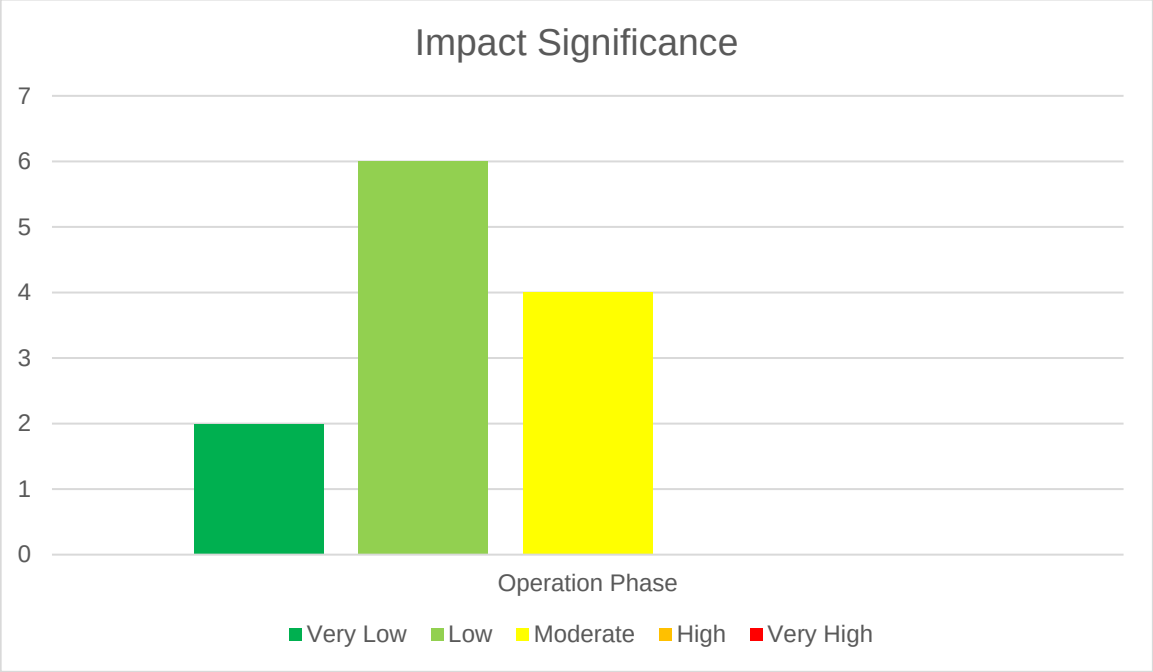
Project construction phase: The project was completed during the period of conducting environmental impact assessments. Therefore, the environmental impacts during the construction period of the project are no longer required to be included.

Evaluation and Prediction of Significant Impacts and Mitigation Measure During Operation Phase

Impact	Project Activities	Impact Significance	Mitigation Measures
Operation Phase			
Air Quality	The emissions from the boiler can cause a decrease in air quality. The odors from fish products can also be released, affecting the surrounding air. Dust particles from drying and grinding processes can spread into the air.	Low	Regular maintenance of the boiler and chimney stack, use of recycled fuel in the boiler, construction of the chimney stack at an adequate height, proper sealing of machines that produce dust and particles during operation, regular cleaning both inside and outside the factory, planting trees with good air purification qualities, and locating staff dormitory at a distance from the production area.
Noise	The use of powerful machinery results in the generation of noise. The ice cutting process in the ice production factory and the operation of cold compressors also cause noise. Additionally, noise is produced from the loading and unloading of raw materials and products, as well as from the vehicles involved in transportation.	Low	To prevent noise pollution, the factory is securely constructed, and machinery is regularly maintained and repaired. The compressors and cold storage equipment used in ice production are installed in a way that minimizes noise emissions. The generators and boilers, which produce noise, are kept in separate rooms to isolate the sound. Regular maintenance of the engines is also carried out to reduce noise from the machinery.
Water Quality	The wastewater generated from cleaning fish products, if not properly reused or disposed of, can negatively affect water quality and harm aquatic life in nearby water bodies. The ice production process requires a significant amount of water, which can impact water resources. Additionally, wastewater from cleaning machinery can also contaminate water quality.	Moderate	The wastewater generated from cleaning and cooking fish products are filtered through wastewater treatment system before being disposed of. To reduce wastewater discharge, the brine used in ice production are reused multiple times. Additionally, some of the water from cleaning fish products are reused in the project's owner's fish pond for irrigation purposes.
Soil Quality	The lack of systematic waste management and improper disposal of wastewater can lead to contamination, as these materials may seep into the soil and cause pollution.	Low	The waste materials from fish products and by-products are reused for road construction or as land filler. Plastic waste is systematically disposed of at designated locations. To prevent wastewater from seeping into the soil, drainage systems are constructed. Additionally, areas used for storing machine oils are paved with concrete to prevent any leakage into the soil.
Waste Generation	**Solid Waste -** Along with raw fish, by-products such as fish heads, bones, and other waste materials are generated. In addition to the waste produced	Very Low	The waste materials from fish products and by-products are reused in road construction or as land filler. Metal scraps and old machinery are resold for recycling purposes. General waste

Impact	Project Activities	Impact Significance	Mitigation Measures
	during the packaging process, there are also domestic waste materials generated by the workers.		from workers is disposed of systematically at designated locations, while organic waste is used as compost for land fertilization.
	Liquid Waste - The wastewater from cleaning fish products contains high levels of nutrients, which can lead to water pollution. The use of water in the ice-making process increases the volume of wastewater generated. Additionally, wastewater from cleaning machinery can further degrade water quality, potentially impacting the overall water quality in the area.	Moderate	A proper wastewater treatment system is installed to manage wastewater effectively. Recycled water is used for irrigating trees. To reduce wastewater discharge from the ice production process, a system for recycling water is implemented. During equipment cleaning and maintenance, environmentally friendly cleaning materials are used. Regular maintenance is performed to prevent leakage or seepage from machinery, ensuring minimal environmental impact.
	Hazardous Waste - During the maintenance of machinery, wastewater containing pollutants, used oil filters, heavy metals from the boiler and cooling systems, as well as discarded batteries, light bulbs, and other damaged equipment, are generated.	Very Low	Used machine oils and lubricants are properly stored and disposed of in designated areas, and sold to recycling facilities for reuse. Regular maintenance of machinery is conducted to prevent oil leaks and seepage. Used batteries and electrical equipment are disposed of in accordance with local regulations at designated disposal sites within the municipality.
Ecological Resources	Overfishing may occur due to the high demand for raw materials, leading to the depletion of fish populations. Excessive nutrient levels in wastewater can harm aquatic life, especially aquatic organisms in water bodies. This can also damage their feeding habitats and potentially deplete freshwater resources.	Moderate	Wastewater are properly treated in wastewater treatment tank before being discharged into rivers. Through recycling and controlled usage, the impact on water resources can be minimized. To prevent waste from entering the river, waste bins and temporary storage areas are used systematically to properly manage waste.
Occupational Health and Safety	The dispersion of dust and particles within the factory can lead to respiratory diseases. The use of large and heavy machinery may cause physical damage to the workplace. Noise pollution from machinery can negatively affect health, and the risk of accidents such as malfunctions, breakdowns, or explosions within the project can impact workplace health and safety.	Low	To reduce dust dispersion within the factory and ensure good ventilation, proper air circulation systems are installed. Workers in areas with high dust dispersion and noise wear protective equipment such as face masks and earplugs before working. Additionally, workers are systematically trained on the safe handling of machinery and safety protocols. To prevent accidents such as slips, trips, and falls within the project, anti-slip flooring systems are used during construction.

Impact	Project Activities	Impact Significance	Mitigation Measures
Fire Hazard	There is a risk of fire hazards due to equipment malfunctions. Increased dust emissions, when exposed to heat, could lead to spontaneous combustion in the air. If the boiler and fuel storage are not properly managed and maintained, fire hazards could occur.	Low	To prevent electrical malfunctions, machinery is regularly maintained and inspected. Proper ventilation systems are in place to reduce the risk of fire hazards. The boiler and its furnace are regularly checked and maintained. Fuel for the boiler are stored systematically, and fire safety equipment such as fire extinguishers, fire hoses, and fire-fighting systems are properly installed and readily available.
Socio-economic Condition	By creating job opportunities for local workers, training them to handle machinery, and improving their standard of living, the project can contribute to the local community. It can also support local agriculture and water-related industries by providing high-quality raw materials, thereby boosting the local economy and improving the social welfare of the region.	Moderate (Positive Impact)	-



Impact Significance During Operation Phase

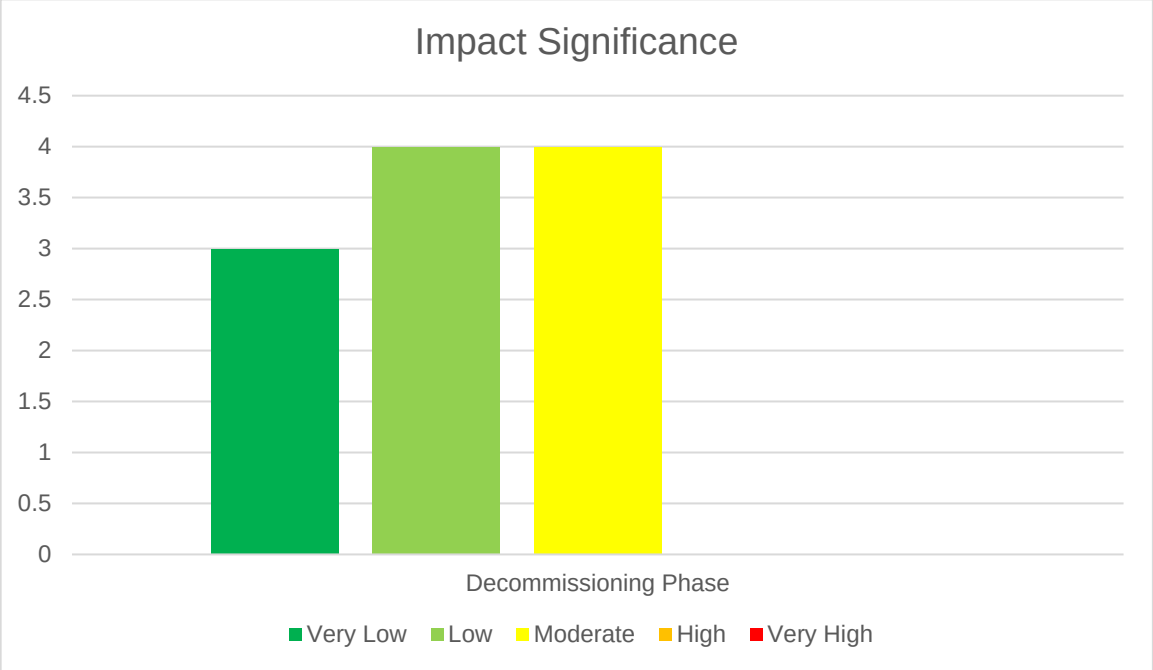
Evaluation and Prediction of Significant Impacts and Mitigation Measure During Decommissioning Phase

Impact	Project Activities	Impact Significance	Mitigation Measures
Decommissioning Phase			

Impact	Project Activities	Impact Significance	Mitigation Measures
Air Quality	Demolition of buildings, transportation of machinery, and disposal of waste materials can lead to the dispersion of dust and particles into the air. Old machinery and chemicals can release hazardous substances into the atmosphere, posing a risk to air quality. Additionally, fuel spills from machinery and transport vehicles can contaminate the air, negatively affecting air quality.	Low	To prevent the dispersion of dust in the workplace, water will be sprayed twice a day. Hazardous waste materials will be securely stored before disposal to prevent them from entering the air. Regular monitoring of air quality will be conducted, and proper ventilation systems will be installed to ensure a safe and clean working environment.
Noise	The demolition of buildings and the use of machinery can generate noise. The operation of large and heavy machinery may also cause high noise levels. Transportation of equipment and waste materials can result in noise reaching nearby villages. These activities can impact the surrounding environment by contributing to noise pollution.	Low	To manage noise levels in areas with high noise emissions, work will be scheduled to minimize disruption. Using equipment that generates less noise and installing noise barriers around the work area can help reduce sound pollution. Regular inspection, maintenance, and repairs will be conducted on machines such as generators and crushers to ensure they operate efficiently and minimize noise.
Water Quality	If proper management and disposal of machine oils, chemicals, and waste materials are not carried out during equipment cleaning, contamination of nearby water bodies may occur. Improper disposal of waste can lead to pollutants reaching rivers through drainage systems, resulting in water pollution. Additionally, if refrigerant materials like ammonia are not disposed of properly, they may contaminate surrounding water resources, further impacting the environment.	Moderate	It is essential to prevent the direct discharge of waste water into rivers. Instead, wastewater will be treated through proper filtration and purification processes at wastewater treatment tanks before being safely discharged. Additionally, ensuring that drainage systems (such as water canals) will be well-maintained to facilitate proper flow and water management will help prevent pollution and support the health of surrounding water bodies.
Soil Quality	Contamination of soil quality due to machine oil, chemicals, and waste materials; if waste materials and chemicals (such as cleaning agents and refrigerants) are not disposed of systematically, it can lead to soil pollution; the use of large and heavy machinery can cause disruption to soil quality and infiltration.	Very Low	Properly storing hazardous waste materials and disposing of them in designated safe areas; if accidental leaks occur, immediate cleaning will be carried out; contaminated soil will be removed and disposed of in the designated areas.

Impact	Project Activities	Impact Significance	Mitigation Measures
Waste Generation	**Solid Waste** - Concrete parts, steel, wood, and insulation materials may be generated as waste; old equipment, used consumables, and packaging materials may also be produced as waste. If refrigerants and materials used to store refrigerants are not disposed of properly, they may harm the environment and public health.	Low	Dispose of waste materials by sorting and storing them according to their types. Non-recyclable waste materials should be disposed of in designated safe areas, while recyclable waste materials should be resold for reuse.
	Liquid Waste - Cleaning of equipment and the disposal of chemicals can lead to the generation of waste water. There may be leakage or seepage of oils, lubricants, and refrigerants from machinery, which can damage water resources and soil layers. If wastewater is not disposed of systematically, environmental pollution and health issues may arise.	Moderate	Instead of directly discharging waste water into rivers, ensure that it will be properly filtered through wastewater treatment systems before being released. To prevent leakage or seepage, ensure that machinery oils, lubricants, and refrigerants will be managed and maintained systematically. Store used oils in designated areas on concrete surfaces to prevent any seepage.
	Hazardous Waste - Chemical substances, refrigerants, and used oils are prone to leakage. If these materials are not handled systematically, they can cause contamination to the soil layer and water resources.	Very Low	Disposing of waste systematically in designated areas of the sanitary landfill in accordance with environmental standards, and providing education to workers regarding the handling of hazardous waste materials.
Ecological Resources	The dismantling of the project, the generation of waste, and the increase in noise levels can harm local wildlife. If waste is not disposed of systematically, it can contaminate their feeding areas.	Moderate	To prevent harm to wildlife and their habitats, waste management should be carried out systematically. Control measures should be implemented to prevent soil erosion and leakage of waste materials.
Occupational Health and Safety	Workers may be exposed to dust, chemicals, heavy machinery, and concrete debris. If there is no proper handling of the equipment and machinery used in the workplace, accidents may occur.	Very Low	Assess potential hazards and provide training to workers. Ensure they wear personal protective equipment while performing their tasks. Educate workers on the safe handling of hazardous waste materials and provide relevant knowledge.
Fire Hazard	Proper handling and use of equipment that involves fire, and the risk of fire outbreaks from handling machine oils and chemicals.	Low	Removal of flammable waste materials within the workplace, ensuring fire extinguishers and firefighting equipment are readily available, and providing training to workers on how to handle and resolve fire hazards.

Impact	Project Activities	Impact Significance	Mitigation Measures
Socio-economic Condition	The closure of the project may result in the loss of employment opportunities for local communities and can impact the local economy.	Moderate	Engaging with local communities to connect them with appropriate alternative employment opportunities.



Impact Significance During Decommissioning Phase

6. Environmental Management (Action) Plan

The Environmental Management Action was implemented based on identified impacts, mitigation measures, monitoring, management, and oversight plans. For the proposed project's environmental improvements and modifications, the following programs will be completed, and the Environmental Management Plan will be reviewed by the Marine Acary Production Company Limited's factory Environmental Management Team. This includes the formulation of mitigation plans, implementation, monitoring of results, and taking appropriate actions to enhance environmental impacts when necessary. Marine Acary Production Company Limited's Environmental Management Action and monitoring initiatives will be carried out under the responsibility of the project's environmental team.

1. Air Pollution/Dust Management Plan
    - Regular monitoring of air quality.
    - Installation of effective ventilation systems to minimize the spread of dust and particulates.
    - Regular inspection and maintenance of machinery, along with providing training to staff on the proper handling of waste materials.
    - Installation and maintenance of odor control systems to ensure proper functionality.

2. Noise Management Plan
    - Placement of noisy machinery in designated soundproof rooms.
    - Regular maintenance and repairs of machinery to prevent excessive noise caused by malfunctions.
    - Ensuring employees working in high-noise areas wear personal protective equipment (earplugs) while performing their duties.
3. Water Consumption Management Plan
    - Installation of water meters and control devices to ensure systematic water usage in ice production operations.
    - Providing training and awareness programs for employees to promote efficient and responsible water usage.
4. Solid Waste Management Plan
    - Segregating and storing waste materials according to their types and disposing of them systematically.
    - Prohibiting the burning of waste and repurposing waste from fishmeal production as fertilizer.
    - Conducting training and awareness programs for employees to encourage proper waste segregation and disposal practices.
5. Liquid Waste Management Plan
    - Constructing and maintaining a wastewater treatment tank to purify wastewater generated by the project before releasing it.
    - Regularly measuring the quality of treated wastewater and ensuring compliance with the national environmental quality (discharge) guidelines and standards.
    - Providing training to employees on proper handling of wastewater.
    - Regularly inspecting pipelines and drainage systems to prevent leaks and addressing any issues proactively.
6. Hazardous Waste Management Plan
    - Properly labeling hazardous waste materials and storing or disposing of them systematically.
    - Providing training to employees on the correct handling of hazardous waste materials and ensuring they wear personal protective equipment (PPE) while handling such materials.
7. Fire Hazard Management Plan
    - Regularly inspecting and maintaining workplaces and storage areas to prevent potential fire hazards.
    - Installing smoke detectors, fire alarms, and sprinkler systems.

- Equipping the premises with appropriate fire extinguishers, fire hoses, and fire-fighting equipment for different types of fires.
- Systematically storing and handling flammable materials and maintaining proper safety measures while using them.

8. Occupational Health and Safety Management Plan
    - Identifying and categorizing potential hazards within the workplace.
    - Providing employees with suitable personal protective equipment (PPE) and first aid kits appropriate for their work environment.
    - Establishing and providing guidelines for handling and using machinery and chemicals (including cooling agents).
    - Conducting training sessions for employees on workplace safety, machinery operation, and emergency response procedures.
    - Regularly measuring and monitoring environmental factors in the workplace, such as air quality and noise levels.
9. Energy Management Plan
    - Replacing outdated machinery with energy-efficient equipment, as well as substituting traditional bulbs/lamps with energy-saving alternatives.
    - Educating employees on good practices, such as turning off machinery and electrical devices when not in use, to promote energy conservation.
10. Emergency Respond Plan
    - Identifying and addressing potential emergency situations that may arise during the project implementation process, and taking corrective actions.
    - Ensuring the availability of emergency communication systems, fire protection equipment, and disaster management resources, along with regular inspections.
    - Providing training for employees on emergency response procedures.
    - Establishing easy coordination with local fire departments, hospitals, and environmental organizations for efficient response in case of emergencies.
11. Natural Disaster Management Plan
    - Identifying potential natural disaster risks and implementing appropriate measures to mitigate their impact.
    - Ensuring that buildings, including factory structures, are designed and constructed to withstand natural disaster risks systematically.
    - Regularly inspecting and maintaining critical systems such as fire supply, water, and communication networks to ensure their proper functioning during and after a natural disaster.

- Keeping emergency medical kits and emergency contact phone numbers readily available.
- Training employees on effective response methods for managing natural disasters and equipping them with the necessary skills to handle such situations.

Environmental Monitoring Plan

Issues	Parameter	Frequency	Area to be Monitored
Operation Phase			
Air Quality	PM $_{2.5}$, PM $_{10}$, SO_2, NO_2, O_3	Every Six Month	Outdoor Area of the factory (15°51'43.32" N 95°12'6.04" E)
Noise	Production noise level (dBA)	Every six months	Production Area (15°51'45.09" N 95°12'7.38" E)
Factory Outlet Treated Water Quality	pH, Turbidity, TSS, Total solids, Hardness, Chloride, Free Cyanide, Arsenic, Copper, Iron, Lead, Manganese, Zinc, Oil & Grease	Every six months	Outlet Water Point (15°51'46.29" N 95°12'6.24" E)
Tube well Water Quality	pH, Turbidity, Total Dissolved solids, Chloride, Total Hardness, Iron, Calcium, Magnesium, Electrical Conductivity	Every six months	Tube well at the factory (15°51'42.61" N 95°12'6.71" E)
Boiler Stack Emission	CO2, SO2, NO2, CO	Every six months	At the boiler chimney (15°51'43.49" N 95°12'6.29" E)
Odor Intensity	OI	Every six months	Production Area (15°51'45.09" N 95°12'7.38" E)
Occupational Health and Safety (OHS)	Prohibitions for safety, First Aid Kit, PPE	Monthly regular inspection and Maintenance	Project Area (15°51'44.99" N 95°12'7.40" E)
Waste Generation	Solid waste	Monthly (Record & will be included in monitoring report)	Temporary waste storage area (15°51'44.15"N 95°12'10.86"E)

Issues	Parameter	Frequency	Area to be Monitored
	Liquid waste	Weekly regular inspection and Maintenance	Drainages and wastewater treatment tank (15°51'46.20"N 95°12'6.52"E)
	Hazardous waste	Every six months (Record & will be included in monitoring report)	Temporary hazardous waste storage area (15°51'44.22"N 95°12'7.43"E)
Fire Hazardous	Fire-fighting equipment	Monthly regular inspection and Maintenance	Project Area (15°51'44.99" N 95°12'7.40" E)
Energy	Visual inspection and Record	Monthly	Project Area (15°51'44.99" N 95°12'7.40" E)
Emergency Response	Emergency preparedness for natural disaster and emergency plan	Annually	Project Area (15°51'44.99" N 95°12'7.40" E)
Decommissioning Phase			
Air quality	$PM_{2.5}$, PM_{10}, O_3, SO_2, NO_2	One time during this phase	One point in this phase (15°51'43.32" N 95°12'6.04" E)
Noise	Noise level in decibel (dBA)	One time during this phase	One point at this phase (15°51'45.09" N 95°12'7.38" E)
Tube well Water Quality	pH, Turbidity, Total Dissolved solids, Chloride, Total Hardness, Iron, Calcium, Magnesium, Electrical Conductivity	One time after this phase	Tube well (15°51'42.61" N 95°12'6.71" E)
Waste Generation	Solid waste (Demolished materials & debris)	One time in this phase	Temporary waste storage area (15°51'44.15"N 95°12'10.86"E)
	Liquid waste (Treated wastewater) (pH, Turbidity, TSS, Total solids, Hardness, Chloride,		Drainages (15°51'45.74" N 95°12'6.71" E)

Issues	Parameter	Frequency	Area to be Monitored
	Free Cyanide, Arsenic, Copper, Iron, Lead, Manganese, Zinc, Oil & Grease)		
	Hazardous waste (Empty Oil containers, old batteries, broken glass, light tubes/bulbs)		Temporary hazardous waste storage area (15°51’44.22” N 95°12’7.43” E)
Occupational Health and Safety (OHS)	Prohibitions for safety, First Aid Kit, PPE	Regular inspection and Maintenance	Decommissioning Area (15°51’44.99” N 95°12’7.40” E)
Fire Hazard	Fire-fighting equipment	One time in this phase	Decommissioning Area (15°51’44.99” N 95°12’7.40” E)
Emergency Response	Emergency preparedness for natural disaster and emergency plan	One time in this phase	Decommissioning Area (15°51’44.99” N 95°12’7.40” E)
Rehabilitation	Recovering and Revegetation	After the decommissioning phase	All decommissioning area

Estimated Budget Plan for Environmental Management Plan and Environmental Monitoring

No	Item	Frequency/Times	Estimated Cost (MMK)
Monitoring Plan			
1	Air Quality	Every six months	1,600,000 per year
2	Noise Level	Every six months	1,000,000 per year
3	Factory Outlet Treated Water Quality	Every six months	1,000,000 per year
4	Tube Well Water Quality	Every six months	1,000,000 per year
5	Boiler Stack Emission	Every six months	800,000 per year
6	Odor Intensity	Every six months	600,000 per year
Emergency Preparedness			
1	Fire Fighting Equipment	Once per month	800,000 per year

No	Item	Frequency/Times	Estimated Cost (MMK)
2	Natural Disaster and Emergency Preparedness	Once per year	1,000,000 per year
3	Drills and Trainings	Once per year	1,000,000 per year
4	Occupational Health and Safety (PPE, First Aid Kit, Medical Supply, Warning Signs)	Once per year	1,000,000 per year
Waste Disposal			
1	Solid Waste	Monthly	800,000 per year
2	Liquid Waste	Weekly	50,000 per month
3	Hazardous Waste	Every six months	500,000 per year
4	Maintenance of Wastewater Treatment Tank	Annually	800,000 per year
Environmental Audit			
1	Environmental Compliance Auditing	Once	600,000 Lump Sum

Corporate Social Responsibility (CSR) Plan

The community welfare activities of the project are designed to enhance the living standards of local communities and foster good relationships with nearby villages. The project's community development initiatives primarily focus on three key areas: health, education, and local development. These activities will be carried out in accordance with the guidelines of the Myanmar Investment Commission, ensuring that the project benefits both employees and the local population. Specifically, the project aims to support health-related activities by improving access to healthcare and promoting health education, contribute to the local education sector by enhancing educational opportunities and resources, and support regional development by implementing initiatives that foster social welfare and community improvement. As part of these efforts, 2% of the project's profits will be allocated to support social welfare initiatives, benefiting both the workforce and the local community.

Content	Contribution	Estimate Amount (MMK)
Healthcare	0.5 %	2,000,000
Education	0.5 %	2,000,000
Community Development	1 %	3,000,000

7. Public Consulting

Public consultation during preparation of EMP report was conducted on 20th August 2024, following the EIA procedure. The project's stakeholders in this category are key officials or representatives of the regional and local authorities who have direct responsibilities for the administration

of the EMP process for environmental and social clearance and issuing operation permits for proposed development projects.

Time and Date	20th August 2024, 10:00 AM – 11:30 AM	
Venue	Marine Acary Production Company Limited's meeting room.	
Agenda	➢ Introduction of Marine Acary Production Company Limited. ➢ Introduction of Environmental Management Plan ➢ Environmental Baseline Study of the proposed project ➢ Impact Assessment, Environmental Mitigation Measure ➢ Environmental Management Plan and Monitoring Plan ➢ Performances of Marine Acary Production Company Limited	
Organized by	Myanwei Environmental Solutions Company Limited	

8. Conclusion & Recommendation

In conclusion, the suggestions, desires, and needs of the local community members, as recorded during the public consultations, have been effectively addressed and incorporated into the environmental management report. Marine Acary Production Company Limited has been able to create job opportunities for the local population while enhancing the skills and capacities of its employees. Therefore, the company is committed to implementing the proposed social responsibility programs to improve the social and economic standards of the local community. This project will contribute positively

to the development of the local population and the country as a whole, ensuring that the expected beneficial outcomes are achieved.

This is recommended that;

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

The implementation of the project will lead to the development of the industrial sector, socio-economic growth, and the creation of job opportunities. Through the development of an environmental management plan, the impacts of the project can be minimized, and ongoing monitoring will be conducted. Once the environmental management plan report of Marine Acary Production Company Limited is approved, a progress report will be submitted every six months to ensure that the project's environmental impact is effectively managed and mitigated.

1. INTRODUCTION

This report describes the findings of the Environmental Management Plan (EMP) for the Manufacturing of fishmeal and ice factory by Marine Acary Production Company Limited. The main objective of this report is to identify the major environmental impacts due to implementation of the project along with the effective measures to mitigate the potential adverse impacts.

The proposed factory is local investment by Marine Acary Production Company Limited with an investment amount of 1886.05 million (MMK). The proposed factory is located at No. 917, U Paing No. 2/8, Yay Kyaw Gyi Kwinn, Katonkani Kyaye Ywar Oke Suu, Bogalay Township, Ayeyarwady Region, Myanmar at the coordinates of North latitude 15°51'43.32"N and longitude 95°12'6.04"E and the total land area is about 32.32 Acres. The Nearest water body of the proposed project is Yay Kyaw Gyi Creek.

1.1. OBJECTIVES AND APPORACH

The purpose of this EMP is to provide information on the nature and extent of potential environmental and social impacts arising from the production of fishmeal and ice factory.

1. The overall acceptability of any adverse environmental consequences that is likely to arise because of the proposed Project.

2. The conditions and requirements for the detailed operation of the Project to mitigate against adverse environmental consequences, where practical.

3. The acceptability of residual impacts after the proposed mitigation measures are implemented.

This report comprises assessment and the potential impact/s of the proposed development on the environment. This Report highlights areas of potential concern and impacts on the environment and the surrounding community (socio-economic). Mitigations are presented on how these impacts can be minimized and addressed. These are summarized and presented in an EMP.

1.2. PROJECT BACKGROUND

The project approved for the investment permit from the Myanmar Investment Commission (MIC) permit No. MaNaTha 745/2010 on 5th April 2010 (**Appendix A).** The investment committee notified for the environmental approval and comments of the Ministry of Natural Resources and Environmental Conservation (MONREC) on the proposed project and had approved the proposal for investment in Manufacturing of fishmeal and ice factory. 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 (Ayeyarwady ECD), the said project requires an Environmental Management Plan (EMP) to meet the environmental assessment requirements of Notification No. EIA/NR (စက်မှု/စီးပွားဖြေငှားဂရန်)/ (163/2023) on 19th January 2023. Therefore, Marine Acary Production Company Limited commissioned Myanwei Environmental Solutions Company Limited (Myanwei) for EMP report study.

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

Table 1-1 Information of Investor

Investor Name:	Daw Nang Aung Lu
National Registration Card No.	13/ La Ya Na (N) 116409
Citizenship:	Myanmar
Company ID No.	104094090
Name of principle Organization	Marine Acary Production Company Limited
Address	No. 102, Nawaday Garden Housing, Kabar Aye Pagoda Road, (5) ward, Mayangone Township, Yangon.
Phone No.	09250530586
Email	marineacaryfishmealyangon@gmail.com

Table 1-2 Director List

No.	Name	Responsibility
1	U Hla Phay	Managing Director
2	Daw Nang Aung Lu	Director
3	U Sai Yu Wai	Director

Table 1-3 Salient Features of the Project

Type of Proposed Business:	Manufacturing of Fishmeal and Ice Factory
Type of Investment:	100% Local Investment
Amount of Investment	1886.05 million Kyats (Including 0.47 million US Dollar)
Type of Share:	Ordinary Share
Operation Start Date	1st April 2011
Type of land:	Farm Land
Total land area:	32.32 acres
Address:	Yay Kyaw Gyi Kwinn, No. 917, Ue Pain No. 2/8, Katonkani Kyaye Ywar Oke Suu, Bogalay Township, Ayeyarwaddy Region, Myanmar.
Contact person:	U Zaw Htet Aung General Manager 09 262 694 448 marinefighter17@gmail.com

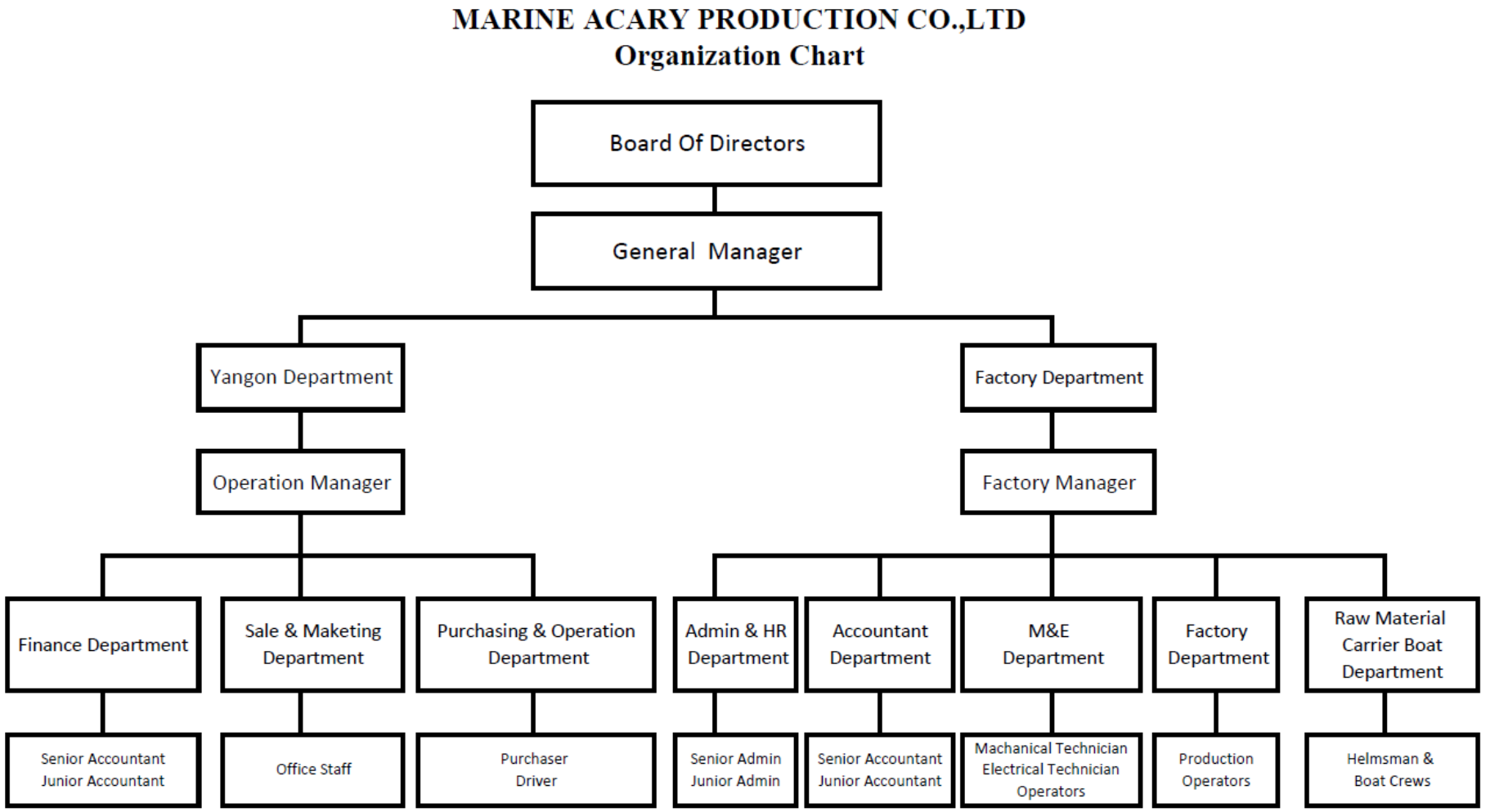


Figure 1-1 Organization Chart of Marine Acary Production Company Limited

1.3. ENVIRONMENTAL CONSULTANT PROFILE

Myanwei Environmental Solutions Company Limited prepares the EMP for the proposed project. The environmental study was carried out by the following study team and the following is their expertise license and information of supporting member is shown in **APPENDIX C**.

Myanwei Environmental Solutions Company Limited	Company Registration No. 126024312	Environmental Impact Assessment License (Organization) License Number – EIA-CO(B)001/2024	MYANWEI ENVIRONMENTAL SOLUTIONS

Table 1-4 Members of EMP Study Team

No.	Name	Registration/License No. by ECD	License Type	Area of Expertise	Responsibility
၁	ဦးထွန်းလင်းကျော်	EIA-AC 051/2023	တွဲဖက်အကြံပေး	လူမှုရေးဆိုင်ရာလေ့လာခြင်းနှင့် သရုပ်ခွဲ ဆန်းစစ်ခြင်း	**Team Leader** Chapter 4 (**Hydrology, Surface Water and Ground Water Conservation** - Check and Review Hydrological and Hydrogeological Data and Report Writing) Chapter 7 **(Public Consultation –** Check and Review Social Data, Data Entry and Report Writing) Chapter 6 (**Solid Waste and Hazardous Waste Management –** Analysis for Waste Disposal System, Management and Monitoring**)**
၂	ဒေါက်တာဟိန်းလင်းအောင်	EIA-AC 052/2023	တွဲဖက်အကြံပေး	ကျန်းမာရေး	**Reviewer** **Occupational Health & Community Health Impacts Assessment**
၃	ဦးလင်းထက်စိန်	EIA-AC 053/2023	တွဲဖက်အကြံပေး	အထွေထွေပတ်ဝန်းကျင်စီမံခန့်ခွဲခြင်း	**Co Leader** Chapter 6 **(General Environmental Management –** Project Leading: Communication, Discussion with Project

No.	Name	Registration/License No. by ECD	License Type	Area of Expertise	Responsibility
					Proponent for Environmental Management, Foundation and Consultancy for Environmental Management System) Chapter 5, Chapter 6 (**Risk Assessment and Hazard Management** for Activities of the Project: Finding and Identification the Hazards, Evaluation the Affected Risks and Management for the Project's Environmental Prevention) **Executive for Environmental Policy and Objectives**
၄	ဦးစောရန်နောင်	EIA-AC 054/2023	တွဲဖက်အကြံပေး	လူမှုရေးဆိုင်ရာလေ့လာခြင်းနှင့် သရုပ်ခွဲ ဆန်းစစ်ခြင်း	**Member** Chapter 4 **(Noise and Vibration -** Baseline Survey and Monitoring, Data Analysis and Modelling, Data Entry and Report Writing) Chapter 5, Chapter 6 (**Solid Waste and Hazardous Waste Management –** Identify and Analysis of Wastes, Management and Monitoring**)** Chapter 7 **(Social Study and Analysis –** Participating in Public Consultation Meeting) Chapter 8 Conclusion & Recommendation
၅	ဦးကောင်းဆက်လွင်	EIA-AC 055/2023	တွဲဖက်အကြံပေး	ဘူမိဆိုင်ရာဆန်းစစ်လေ့လာခြင်း	**Member** Chapter 2 (**Legal Studies and Analysis** - Check and Review legal requirements related to project, Data Entry and Report Writing) Chapter 4 (**Geological Assessment -** Check and Review Geological Data, Data Entry and Report Writing)

No.	Name	Registration/License No. by ECD	License Type	Area of Expertise	Responsibility
၆	ဒေါ်ဆုမြတ်လှိုင်	EIA-AC 101/2024	တွဲဖက်အကြံပေး	လေထုညစ်ညမ်းမှု စောင့်ကြပ်ကြည့်ရှုခြင်း	**Member** Chapter 4 (**Air Pollution Monitoring, Meteorology, Air Quality Assessment and Prediction –** Baseline Survey and Monitoring, Data Analysis and Modelling, Check and Review Meteorological Data, Data Entry and Report Writing) Chapter 5, Chapter 6 (**Air Pollution Prevention and Control –** Evaluation of the Air Quality Impacts and Mitigation Measures, Adaptation for Air Pollution, Air Pollution Management, Control and Monitoring) Chapter 4, Chapter 5 (**Water Pollution, Prevention, Control, Monitoring and Impact Prediction –** Baseline Survey and Monitoring and Report Writing, Evaluation of the Water Quality Impacts and Mitigation Measures, Adaptation for Water Pollution, Water Pollution Management, Control and Monitoring)

Table 1-5 Supporting Team

Name	Background Education	Supporting Field	Activities/Responsibility
ဒေါ်နုနုရှိုးရှိ	B.A (Myanmar)	လေထုညစ်ညမ်းမှု စောင့်ကြပ်ကြည့်ရှုခြင်း	Chapter 4 (**Air Pollution Monitoring, Meteorology, Air Quality Assessment and Prediction –** Baseline Survey and Monitoring, Data Analysis and Modelling) Chapter 4 **(Noise and Vibration -** Baseline Survey and Monitoring, Data Analysis and Modelling)

2. POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

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

2.1. PROJECT RELEVANT LOCAL LAWS, RULES, GUIDELINES AND PROCEDURES

The project proponent is committed to the existing relevant Myanmar Laws, rules, and regulations. In addition, the project proponent is committed the international rules, regulations and guidelines related to the project. The Project Proponent will be followed and committed to National laws and regulations for environmental protection of Myanmar which are as the following –

2.1.1. Ayeyarwady Region Development Organization Law, 2012

According to Section 63, without the permission of the committee within the boundaries of the city development or in accordance with the terms and conditions issued by the permit, any person shall; A. Not construct building or any part of building on the public road, drainage, water pipe, and a sewer pipeline. B. Not occupy places (i.e., spreading or hanging of the mats or other objects) on the public road, drainage, water pipe, and a sewer pipeline.

2.1.2. Commercial Tax Law, 1990 (Amendment in 2014)

Chapter II Section 4(a)	Any person shall be charged the tax as mentioned in the schedule for the following transactions: (a) Producing and selling the goods in the country; (b) Importing the goods; (c) Trading; (d) Providing services;
Section 5	The tax due under Section 4 shall; (a) if it is an import, be paid by the importer. (b) if it is producing or trading or re-selling the imported goods or service providing, be paid by the producer or trader or importer or service provider by collecting tax from the buyer or service receiver together with proceeds or receipts prior to charging the commercial tax. if they are special be paid by the producer or importer commodities contained in the Taxation of the Union Law.”
Section 11 (a)	Any person who carries out a goods production enterprise or service enterprise shall register with the relevant Township Revenue Officer as stipulated by regulations.
Section 11(b)	Any person who commences operation of a goods production enterprise or service enterprise shall furnish a letter of intimidation on the commencement of the operation as such to the relevant Township Revenue Officer as stipulated by regulations.
Section 13(a)	Any person who has taxable proceed of sale or receipt from service in a year shall furnish an annual return for such year to the Township Revenue Officer within three months after the end of the relevant year.

Subsection 15(a)	If any person is a person departing from Myanmar, shall obtain the certificate of tax payment under this Law in accord with the stipulations contained in the regulations. Provided that, the Ministry of Finance of the Union Government shall make exception in respect of this matter by issuing notification.

2.1.3. **Constitution of the Republic of the Union of Myanmar, 2008**

Section 350	Women shall be entitled to the same rights and salaries as that received by men in respect of similar work.
Section 390	Every citizen has the duty to assist the Union in carrying out the following matters: (a) preservation and safeguarding of cultural heritage; (b) environmental conservation; (c) striving for development of human resources; and (d) protection and preservation of public property.

2.1.4. **Conservation of Biodiversity and Protected Areas Law, 2018**

Section 40	a) Hunting or selling normally protected wild fauna, or possessing, transporting or transferring such wild fauna or any part of them, without permission; b) Extracting, collecting or destroying, in any manner, any protected wild flora within a specified area without permission.
Section 41	a) Killing, hunting, wounding, collecting, selling or transferring a completely protected wild animal or animal regulated for international trade, or possessing or transporting such wild animal or animal or any part or blood derivative or product thereof without permission; b) Extracting, collecting or destroying in any way a completely protected wild plant or a plant regulated for international trade without permission or collecting, possessing, selling, transporting or transferring in any way such wildlife plant or plant or any derivative product thereof without permission.

2.1.5. **Conservation of Water Resources and River Law, 2016**

Chapter V Prohibitions Section 8	No person shall: (a) carry out any act or channel shifting with the aim to ruin the water resources and rivers and creeks. (b) cause the wastage of water resources wilfully.
Section 11	No person shall: (a) dispose of engine oil, chemical, poisonous material and other materials which may cause environmental damage, or dispose of explosives from the bank or from a vessel which is plying, vessel which has berthed, anchored, stranded or sunk. (b) catch aquatic creatures within river-creek boundary, bank boundary or waterfront boundary with poisonous materials or explosives. (c) dispose of disposal soil and other materials from panning for gold, gold mineral dredging or resource production in the river and creek, into the river and creek or into the water outlet gully which can flow into the river and creek.

Section 19	No one shall dispose of any substance into the river-creek that may cause damage to waterway or change of watercourse from the bank or vessel which is plying, vessel which has berthed, anchored, stranded or sunk.
Section 22	No one shall, without the permission of the directorate, pile sand, shingle and other heavy materials for business purposes in the bank area and waterfront area.

2.1.6. Control of Smoking and Consumption of Tobacco Product Law, 2006

Section 9	The person-in-charge shall: a) keep the caption and mark referring that it is a non-smoking area at the place mentioned in section 6 in accordance with the stipulations; b) arrange the specific place where smoking is allowed as mentioned in section 7, and keep the caption and mark also referring that it is a specific place where smoking is allowed, in accordance with the stipulations; c) supervise and carry out measures so that no one shall smoke at the non-smoking area; d) accept the inspection when the supervisory body comes to the place for which he is responsible.

2.1.7. Environmental Conservation Law, 30 March 2012

Section 14	A person causing a point source of pollution shall treat, emit, discharge and deposit the substances which cause pollution in the environment in accord with stipulated environmental quality standards.
Section 15	The owner or occupier of any business, material or place which causes a point source of pollution shall install or use an on-site facility or controlling equipment in order to monitor, control, manage, reduce or eliminate environmental pollution. If it is impracticable, it shall be arranged to dispose the wastes in accord with environmentally sound methods.
Section 16	A person or organization operating business in the industrial estate or business in the SEZ or category of business stipulated by the Ministry: a) is responsible to carry out by contributing the stipulated cash or kind in the relevant combined scheme for the environmental conservation including the management and treatment of waste;

2.1.8. Environmental Conservation Rules, 2014

Chapter (XIII) Prohibitions Rule 69	(a) Any person shall not emit, ask to emit, dispose, ask to dispose, pile and ask to pile, by any means, hazardous waste or hazardous substances stipulated by notification according to any rules in this rules at any place which may affect the public directly or indirectly. (b) Nobody shall carry out any activity which can damage the ecosystem and the natural environment which is affected due to such system, expect for the permission of the Ministry for the interests of the people.

2.1.9. **Environmental Impact Assessment Procedure, December 2015**

Articles (63) (8.0) Environmental Management Plan	8.1 Project Description by Project phase (pre-construction, construction, operation, decommissioning, closure and post-closure) 8.2 Project's Environmental, Socio-economic and, where relevant, Health Policies and Commitments, legal requirements and institutional arrangements 8.3 Summary of Impacts and Mitigation Measures 8.4 Overall budget for implementation of the EMP 8.5 Management and Monitoring Sub-Plans by Project phase (preconstruction, construction, operation, decommissioning, closure and post closure); the Management and Monitoring Sub-Plans shall address and satisfy all relevant environmental and social management and monitoring issues such as but not limited to noise, vibrations, waste, hazardous waste, wastewater and storm water, air quality, odor, chemicals, water quality, erosion and sedimentation, biodiversity, occupational and community health and safety, cultural heritage, employment and training, and emergency response 8.6 Content of each Sub-Plan 8.6.1 Objectives 8.6.2 Legal Requirements 8.6.3 Overview maps and site layout maps, images, aerial photos, satellite images 8.6.4 Implementation Schedule 8.6.5 Management Actions 8.6.6 Monitoring Plans 8.6.7 Projected Budgets and Responsibilities
Articles (63) (9.0) Public Consultation and Disclosure	9.1 Methodology and Approach 9.2 Summary of consultations and activities undertaken 9.3 Results of Consultations 9.4 Further ongoing Consultations 9.5 Disclosure
Chapter VII. **Environmental Management Plan** Articles (76)	For Project types which require EMP according to the Article 55 (a) of the Rules or Article 24 of the Procedure, the Project Proponent may prepare an EMP by itself or may appoint a person or organization who/which is registered according to the Article 18.
Article (77)	The Project Proponent shall issue a letter of endorsement in a format prescribed by the Ministry according to the Article 63. Such letter shall be submitted to the Department prepared either in the Myanmar language, or in the English language or both. The Project Proponent shall submit the EMP to the Department in both digital form and complete paper copies, together with the required service fee as prescribed by the Department, and confirming: a) the accuracy and completeness of the EMP; b) that the EMP has been prepared in strict compliance with applicable laws including this Procedure; and

	c) that the Project will at all times comply fully with the commitments, mitigation measures, and plans in the EMP.
Article (82)	Any additional costs associated with reaching a determination regarding Project types which require EMP shall be borne by the Project Proponent.
Chapter VIII. **Environmental Consideration in Project Approval** Article (102)	The Project Proponent shall bear full legal and financial responsibility for: a) all of the Project Proponent's actions and omissions and those of its contractors, subcontractors, officers, employees, agents, representatives, and consultants employed, hired, or authorized by the Project acting for or on behalf of the Project, in carrying out work on the Project; and b) PAPs until they have achieved socio-economic stability at a level not lower than that in effect prior to the commencement of the Project, and shall support programs for livelihood restoration and resettlement in consultation with the PAPs, related government agencies, and organizations and other concerned persons for all Adverse Impacts.
Article (104)	The Project Proponent shall be responsible for, and shall fully and effectively implement, all requirements set forth in the ECC, applicable Laws, the Rules, this Procedure and standards.
Article (105)	The Project Proponent shall timely notify and identify in writing to the Ministry, providing detailed information as to the proposed Project's potential Adverse Impacts.
CHAPTER IX. **Monitoring** Article (106)	The Project Proponent shall, during all phases of the Project (pre-construction, construction, operation, decommissioning, closure and post-closure), engage in continuous, proactive and comprehensive self-monitoring of the Project and activities related thereto, all Adverse Impacts, and compliance with applicable laws, the Rules, this Procedure, standards, the ECC, and the EMP.
Article (107)	The Project Proponent shall notify and identify in writing to the Ministry any breaches of its obligations or other performance failures or violations of the ECC and the EMP as soon as reasonably possible and in any event, in respect of any breach which would have a serious impact or where the urgent attention of the Ministry is or maybe required, within not later than twenty-four (24) hours, and in all other cases within seven (7) days of the Project Proponent becoming aware of such incident.
Article (108)	The Project Proponent shall submit monitoring reports to the Ministry not less frequently than every six (6) months, as provided in a schedule in the EMP, or periodically as prescribed by the Ministry.
Article (109)	The monitoring reports shall include: a) documentation of compliance with all conditions; b) progress made to date on implementation of the EMP against the submitted implementation schedule; c) difficulties encountered in implementing the EMP and recommendations for remedying those difficulties and steps proposed to prevent or avoid similar future difficulties; d) number and type of non-compliance with the EMP and proposed remedial measures and timelines for completion of remediation;

	e) accidents or incidents relating to the occupational and community health and safety, and the environment; and f) monitoring data of environmental parameters and conditions as committed in the EMP or otherwise required.
Article (110)	Within ten (10) days of completing a monitoring report as contemplated in Article 108and Article 109 in accordance with the EMP schedule, the Project Proponent shall make such report (except as may relate to National Security concerns) publicly available on the Project's website, at public meeting places (e.g. libraries, community halls) and at the Project offices. Any organization or person may request a digital copy of a monitoring report and the Project shall, within ten (10) days of receiving such request, submit a digital copy via email or as may otherwise be agreed upon with the requestor.
Article (113)	For purposes of monitoring and inspection, the Project Proponent: a) shall grant to the Ministry and/or its representatives, at any time during normal working hours, access to the Project's offices and to the Project site and any other location at which the Project activities or activities related to the Project are performed; and b) from time to time as and when the Ministry may reasonably require, shall grant the Ministry access to the Project's offices and to the Project site and any other location at which the Project activities or activities related to the Project are performed.
Article (115)	In the event of an emergency, or where, in the opinion of the Ministry, there is or may exist a violation or risk of violation of the compliance by the Project with all applicable environmental and social requirements, the Project shall grant full and immediate access to the Ministry at any time as may be required by the Ministry.
Article (117)	The Project Proponent shall further ensure that the Ministry's rights of access here under shall extend to access by the Ministry to the Project's contractors and subcontractors.

2.1.10. Electricity Law, 2014

Section 44	No person shall operate the electrical business without permit.
Section 45	No permit holder shall operate any other electrical business except the business contained in the permit.
Section 46	No person shall operate the electrical installation and repair without obtaining the electrical professional certificate.
Section 47	No person shall operate the generation, transmission, connection of electric power without obtaining the electrical safety certificate.

2.1.11. Employment and Skills Development Law, 2013

Chapter (2)	The Ministry shall manage the facilities and measures to help for selection of employment, obtaining employment for employment seeker suitable according to

Employment and Employment Seeking Section 3	the age and strength; tenure in employment and skill development, and to help employers for obtaining workers suitable for the employment
Chapter (3) Making Contract of Employment Section 5	(a)(1) After the employer has employed a worker for any job, he shall within 30 days of so doing, sign a Contract of Employment with the worker. This clause however shall not apply to permanent workers of government departments and organizations. (2) If prior to employment, the worker is required to attend any per-employment training for a period or appointed on probation for a period, sub-section (1) shall not apply for that period. (c) The workplace rules in the Employment Contract shall conform to the rules made under existing laws and the rights of the workers in the Contract shall not be less than those in existing laws.
Chapter (5) Implementing Training Programs and Skills Development 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.
Chapter (8) Establishing and Utilizing Workers' Skills Development Fund Section 30	(a) The employers of Industrial and Service Enterprises shall pay contribution to the fund every month without fail amounting to not less than below 0.5% of the payroll of his workers up to the level of supervisors of the workers. (b) The employer shall not deduct the contribution paid under sub-section (a) to the fund from the wages of the workers.

2.1.12. **Farm Land Law, 2012**

Section 12	The person who has the right to use the farmland: (f) right to use common interest the farmland in accord with the Foreign Investment Law of the Republic of the Union of Myanmar by cooperating with the foreigner or the organization in which the foreigner is included.
Section 29	In order to use the farmland by other means for the purpose of long-term national interests of the State, the relevant Ministry that will implement the huge projects may carry out with the approval of the Union Government after obtaining remark of the Central Administrative Body of the Farmland.

2.1.13. **Labor Dispute Settlement Law, 2012 (Amendment in 2014 and 2019)**

Section 23	An employer or worker may file in person or through a legally authorized representative, an application to the relevant department or competent court with regard to a dispute concerning a right.
Section 28	The parties in dispute may do the following if they do not agree with the decision of the arbitration body, except a decision with regard to an essential services business – a) filing an application to the arbitration council by a party within 7 days from the receipt of the decision of the arbitration body;

	b) carrying out a lock-out or strike in accordance with the relevant law.
Section 34	If both parties agree with or no party files an application to the arbitration council within the specified period concerning a decision of the arbitration body, the decision shall be valid from the date of it having been passed.
Section 35	The decision of the Tribunal shall be deemed as the decision of the Arbitration Council. Such decision shall come into force on the day of its decision.
Section 36	The relevant parties may agree to amend the decision of the Arbitration Body or Arbitration Council after ninety days from the day of coming into force. In such circumstances, the new agreement shall supersede the relevant part of the Arbitration decision.
Section 37	The following persons shall be complied with the decision which had been come into force: a) all of the persons relevant to the dispute; b) legal successors of the employer involved in the dispute; c) all of the workers working in the trade at the time of the dispute or thereafter.
Section 38	No employer or worker shall fail to be present in person or through a representative without proper reason on the date and time set by the conciliation body for the negotiation of a dispute. (a) No employer or worker shall fail to form a coordination committee according to the provisions of section 3. Furthermore, there shall be no failure to do so within 60 days after being sentenced by the relevant court for the failure.
Section 39	No employer shall, with the intention of harming the interest of the workers, suddenly amend the employment terms specified before the dispute or carry out a lock-out without proper reason during the process of the dispute being heard by the arbitration body or tribunal.
Section 40	No person shall lock-out or strike without accepting negotiation, conciliation and arbitration by Arbitration Body in accord with this law in respect of a dispute.
Section 41	No person shall lock-out or strike to amend such decision or agreement to amend within the effective period of any decision or collective agreement of the Arbitration Body or the Arbitration Council.
Section 42	No person shall prohibit the right to work independently of the workers who are not desirous to participate in the strike nor impede the right of a worker to strike.
Section 43	No employer or worker shall fail to comply with or enforce an item in the agreement concluded in front of the conciliation body with regard to a dispute.
Section 44	No person, after having informed in advance by the Arbitration Body or Tribunal for settling the dispute, shall fail to arrange to enable to examine the trade under dispute or to produce the documents which is considered by the Arbitration Body or Tribunal that it concerns with the dispute or to appear as a witness when he is so summoned.
Section 45	No person, if he is sent notice for examination before the Arbitration Body or Tribunal, shall fail without sufficient cause to appear in person or to send legal representative within the stipulated period.

	(a) No one shall violate any provision of the rules, notifications, orders and directives issued according to this law.
Section 51	An employer having done or omitted, without proper reason, an act with the intention of harming the interest of a worker during the settlement of a dispute shall fully pay the amount specified by the arbitration body, arbitration council or tribunal. An officer of the Department assigned by the Ministry shall collect the amount like arrears of land tax.

2.1.14. Labor Organization Law, 2011

Section 29	The employer shall recognize the labour organizations of his trade as the organizations representing the workers.
Section 30	The employer shall allow the worker who is assigned any duty on the recommendation of the relevant executive committee to perform such duty not exceeding two days per month unless they have agreed otherwise. Such period shall be deemed as if he is performing the original duty of his work.
Section 31	The employer shall assist as much as possible if the labour organizations request for help for the interest of his workers. However, the employer shall not exercise any acts designed to promote the establishment or functioning of labour organizations under his domination or control by financial or other means.
Section 37	The employer desirous of locking-out the public utility service or service which is not included in the public utility service shall inform the starting day and period of lock-out of the work in accord with the stipulation, at least 14 days in advance before the lock-out to the relevant township labour organization and relevant conciliation body and lock-out the work only after receiving the permission of the relevant conciliation body.
Section 43	No employer shall, without permission of the relevant conciliation body, lock-out a public utility service or service which is not included in public utility service.
Section 44	No employer shall: a) lock-out a work due to such dispute during the pendency of a trade dispute settlement; b) carry out an illegal lock-out which is involved with any provision contained in subsections (a) and (c) of section 41; c) dismiss a worker who opposes an illegal lock-out which is involved with any provision contained in sub-sections (a) and (c) of section 41; d) dismiss a worker for his membership in a labour organization for the exercise of organizational activities or participating in a strike in accord with this Law.
Section 49	No person shall coerce, threaten, use undue influence or seduce by illegal means any worker to participate or not to participate in a labour organization.

2.1.15. Labor Organization Rules, 2012

Rule 29	The employer shall recognize the labour organizations of his trade as the organizations representing the workers.

Rule 30	The employer shall allow the worker who is assigned any duty on the recommendation of the relevant executive committee to perform such duty not exceeding two days per month unless they have agreed otherwise. Such period shall be deemed as if he is performing the original duty of his work.

2.1.16. **Law on Standardization, 2014**

Chapter (VI) Application for and Issue of Certification Section 17	A person desirous of obtaining certificate of certification shall apply to the department and organization which has obtained the accreditation.
Chapter (VII) Taking Action by Committee Section 19	The Committee may, if it is found out that holder of certificate of certification violates any term or condition contained in the relevant recommendation, pass any of the following administrative orders: (a)warning; (b)suspending the certificate of certification for limited period; (c)cancelling the certificate of certification
Chapter (IX) Offences and Penalties Section 26	If any person who obtained certificate of certification uses standardization mark on the product which is not in conformity with the relevant standard or relating to service shall be punished with imprisonment for a term not exceeding one year or with fine not more than one million Kyats or with both.

2.1.17. **Leave and Holidays Act, 1951 (Amendment in 2014)**

Section 3	(1) Every employee shall be granted by his employer the following public holidays with full wages or pay: “Public holidays published and declared annually by notification by the Union Government”. (2) If any public holiday falls on any weekly day of rest or on any other holiday, an alternative holiday shall not be allowed, but that weekly day of rest or holiday (as the case may be) on which the public holiday incidentally falls shall be regarded as a public holiday. If, however, an employee is required to work on a public holiday, he shall be paid basic wages or pay (as the case may be) at double the usual rate, as well as the cost-of-living allowance, if admissible, at the ordinary single rate. (3) A holiday without wages or pay may be granted on the occasion of religious festivals to non-Buddhist employees by mutual agreement between employers and employees. (4) The employer shall determine and allow at least a day in a week as the holiday on full wage or pay.
Section 4	(1) Every employee who has completed a period of twelve months continuous service shall be granted earned leave with average wages or average pay for a period of ten consecutive days by his employer during the subsequent period of twelve months.

	(2) Earned leave shall be granted after completion of a period of 12 months' continuous service during which and employee has worked at least twenty four days in every month. Provided that an employee shall forfeit one day from his earned leave for every month in which he has not worked twenty days. Explanation: An employee shall be deemed to have completed a period of 12 months' continuous service notwithstanding any interruptions in service during those 12 months brought about by sickness or accident or absence duly authorized under this Act, which counted together, do not exceed 90 days, or by a lockout or a strike which is not an illegal strike or by intermittent periods of involuntary unemployment which, counted together, do not exceed 30 days. (3) An employer shall fix the time at which earned leave may be taken by his employee within three months from the last date of the period of 12 months in respect of which the earned leave is to be granted. Accumulated earned leave admissible may, however, by mutual agreement between the employer and the employee concerned be granted to the employee at any time during any period not exceeding three years. (4) An employee who has been granted earned leave shall, before his earned leave begins, be paid the wages or pay (as the case may be) due for the period of earned leave allowed. Such payment shall be made to the employee or his authorized representative at the place where wages or pay are or is usually paid. (5) If an employee who is entitled to earned leave resigns, or is discharged by his employer, or dies before he has taken his earned or accumulated leave, the employer shall pay him or his legal representative wages or pay (as the case may be) in lieu of earned leave at a rate equivalent to the daily average of the wages or pay (as the case may be) for the days on which he had worked during the 30 days immediately preceding his resignation, discharge or death. Such payment shall, in the case of resignation or discharge, be made within two days and, in case of death, as soon as possible after a claim is made for such payment.
Section 5	(1) An employee shall be admissible to casual leave with wages or pay (as the case may be) aggregating six days in a year: Provided that he shall only be admissible to a maximum casual leave of three days at any one time for either traveling long journey by water and land transport or any special occasions related to religious affairs. (2) Casual leave shall not be combined with any other kind of leave. (3) If the employee does not take the casual leave which he is entitled to within the year, it shall lapse.
Section 6	(1) An employee shall be admissible to leave on medical certificate with wages or pay (as the case may be) not exceeding 30 days in a year: Provided that leave on medical certificate shall not be admissible to an employee until he has been in service for at least six months, and that the grant of such leave shall be subject to a waiting period of three days for which he shall be paid half his usual pay or wages (as the case may be). If, however, an employee has not been in service for at least six months, he shall be admissible to leave on medical certificate without pay.

	(2) Leave on medical certificate shall be granted on production of a certificate (in order of priority) from the registered doctor of the trade, industry or establishment concerned, or a registered doctor approved by the trade, industry or establishment, or from a government registered doctor in the case of government employees, or from the railway registered doctor in the case of railway employees, or from any other registered doctor. (4) An employee, who has been granted leave on medical certificate shall, if so requested by him, be paid the wages or pay (as the case may be) due to him weekly during the period of leave on medical certificate. Such payment shall be made to the employee or his authorized representative at the place where wages or pay are or is usually paid. (5) If the employee does not take the medical leave which he is entitled to within the year, it shall lapse.
Section 7	Subject to the provisions of sub-section (5) of section 6, leave on medical certificate may be granted in continuation of earned leave. 7 (A) The pregnant woman workers shall be allowed six weeks before and eight weeks after the delivery as maternity leave with the relevant wage or pay. The maternity leave may be allowed joining with medical leave.
Section 8	Notwithstanding the provisions contained in sections 4,5 and 6, an employee who works in any trade, industry or establishment where work is not carried on continuously for 12 months shall be granted by his employer earned leave, casual leave or leave on medical certificate proportionate to his period of service.
Section 9	Any agreement or contract of service whereby an employee agrees to take leave or holidays on terms less favourable than those provided in this Act shall be null and void in so far as it purports to reduce the liability of an employer.
Section 10	(1) Any change in ownership of any trade, industry or establishment shall not affect the employee's rights under this Act. (2) Nothing in this Act shall operate to the prejudice of any rights to which an employee may be entitled under any other law or under the terms of any award, agreement or contract of service or under any custom or practice, which provides better rights in respect of leave and holidays with wages or pay (as the case may be) than those provided in this Act.
Section 11	Every employer shall keep and maintain such registers and records as may be prescribed.

2.1.18. **Leave and Holidays Rules, 2018**

Section 15	As an employer, one must document the wages for the weekly day off and send a monthly report with Form (4) to the Department.
Section 20	Even if the employer instructs a worker to work only part-time on a gazette holiday, the employer must still pay double of the respective basic wages or basic salary, according to the law.

Section 21	When the employer instructs a piece-work worker to work full working hours on a gazette holiday, the employer has to pay double of the regular respective wages, calculated based on the number of products or counted based on the extent of the worker's performance.
Section 29	Workers can take a maximum of three days' consecutive casual leave. If the worker needs to take additional casual leave, and has a concrete reason, the worker must present to the employer or manager or to an authorized person the concrete reason. If so, the employer can allow casual leave of more than three days.
Section 33	The employer or manager or authorized person must maintain the casual leave record. And, this also must be reported to the Department in the designated format.
Section 41	The employer has to pay wages for entitled earned leave to the terminated worker for the earned leave period according to the employment contract or workplace rules established based upon the nature of work.
Section 50	The employer – a) must provide the worker casual leave, medical leave and maternity leave with respective wages or salary. Moreover, must allow the worker earned leave with respective average wages or average salary. If the employer normally pays the cost of living then the cost of living must also be included; b) must provide the worker with earned leave starting from the day of entitlement within 12 months, with respective average wages or with average salary, and also must advance the entitled wage prior to the worker taking leave; c) must announce the number of entitled earned leave calculations within three months starting from the last day of the 12-month period or entitled earned leave. In this way, workers can take leave by turns (alternatively). Moreover, to fix the eligibility period within which workers can take earned leave; d) if the worker resigns or is terminated or in case of death, has to pay the respective wages/salary within two business/working days starting from the date of incidence; e) has to pay the eligible wage/salary for earned leave to his/her official representative (if the worker is deceased); f) has to pay for the respective earned leave period if there is a temporary or permanent shutdown and to allow eligible earned leave if the nature of work is less than twelve months; g) is not allowed to suspend, to reduce the salary, to relocate or to terminate a worker due to the worker taking maternity leave or medical leave; h) has to fill up Form (1), (2), (3), (4), (5) and (6) according to the law. These forms shall be easily accessible from the Inspector. The employer must maintain these documents for up to twelve months' period; i) has to record the leave taken in Form (7) and submit to the Inspector not later than every seventh day of each month;

	j) wants the worker to work on a gazette holiday, the employer must receive consent from the worker. The employer must submit Form (8) to the Inspector for approval.
Section 51	If the employer rents the business to another person or organization, that other person or organization (the one renting the premises) is responsible for the legal entitlements included within these Rules.
Section 52	One must follow the provisions within the Rules when settling disputes on matters related to leave and holidays.

2.1.19. **Minimum Wage Law, 2013**

Section 12	The employer: a) shall not pay wage to the worker less than the minimum wage stipulated under this Law; b) may pay more than the minimum wage stipulated under this Law; c) shall not have the right to deduct any other wage except the wage for which it has the right to deduct as stipulated in the notification issued under this Law; d) shall pay the minimum wage to the workers working in the commerce, production business and service in cash. Moreover, if the specific benefits, interests or opportunities are to be paid, it may be paid in cash in accord with the stipulations or jointly in some cash and in some produce prescribed in local price according to the desire of the worker; e) may pay jointly in some cash and some produce prescribed in local price according to the local custom or desire of the majority of workers or collective agreement in paying the minimum wage to the workers and working in the agriculture and livestock breeding business. Such payment shall be for any personal use and benefit of the worker and his family and the value shall also be considerable and fair.
Section 13	The employer: (a) shall inform the workers the rates of minimum wage relating to the business among the rates of minimum wage stipulated under this Law and advertise it at the workplace to enable to be seen by the relevant workers; (b) shall prepare and maintain the lists, schedules, documents and wages of the workers correctly; (c) shall report the lists, schedules and documents prepared and maintained under subsection (b) to the relevant department in accord with the stipulations; (d) shall accept the inspection when summoned by the inspection officer. Moreover, he shall produce the said lists and documents upon asking to submit; (e) shall allow the entry and inspection of the inspection officer to the commercial, production and service businesses, agricultural and livestock breeding workplaces and give necessary assistances; (f) if the workers cannot work due to sickness, shall give them holiday for medical treatment in accord with the stipulations;

	(g) if the funeral matter of the member of the family of worker or his parent occurs, shall give holiday without deducting from the minimum wage, in accord with the stipulations.
Section 16	If an employer is convicted by a court for his failure to pay the minimum wages and other benefits stipulated under this Law or for the payment to worker less than such minimum wage and ordered to pay defaulted wages and other benefits to the relevant worker as fine, and if such worker does not obtain fully the wages and other benefits which is entitled under section 14, it shall not affect the right to institute civil proceeding for such wages and benefits.
Section 22	Any employer: a) shall not fail to pay the workers the minimum wage stipulated under this Law; b) shall not pay to the workers less than the minimum wages and other benefits which is entitled to enjoy by the worker under section 14; c) in respect of the accounts, schedules, documents and lists of wage of the workers: i. shall not make false entry, deceitful recording or false and deceitful reporting; ii. shall not fail to report to the relevant department in accord with the stipulations; iii. shall not fail to submit when required by the inspection officer. d) shall not fail to go and accept without sufficient case when summoned by the inspection officer; e) shall not disturb or interfere with the inspection officer who comes and inspects on duty.
Section 24	Any employer: (a) shall not violate any term and condition contained in the minimum wage notification; (b) shall not fail to inform the workers relating to the rates of minimum wage concerning to his workers among the rates of minimum wage stipulated under this Law and announce at the place where the workers are able to see it in the work centre and workplace.

2.1.20. **Minimum Wage Rules, 2013**

Section 43	The employer: a) shall increase the remuneration depending on the skill, to promote the productivity and the employment skill of the employees; b) shall perform in accord with the factory act 1951, leave and holiday act 1951 under section 13 (b) at the law for the list, schedule and document, remunerations; c) when the employees are not able to work due to ill health, injury at work site: i. if they are under premium paid insurance to the health and social care fund, the insurance under health and social security care 2012, or

	ii. if they are not entitled to enjoy social security law 2012, they must be arranged to enjoy the leave and holiday act 1951. d) in the event of family or parents' funeral affairs, his entitled remuneration should not be deducted and shall be arranged to enjoy according to leave and holiday act 1951; e) before fixing of the minimum wage by the National Committee under this rule, if his remuneration is less than the prescribed amount, he should be paid up to the full amount; f) part time, hourly job employees shall be paid the prescribed minimum wage for the working hours; g) for the salary employees one-day day – off shall be allowed in a week. If he has to work on the off day, overtime wage shall be paid in accord with the existing law; h) if the employee has to work less than the prescribed working hour and if it is not due to his will or he has to stop the work due to the shortage of work from the employer, he shall be entitled to enjoy the remuneration as if he has to work full time; i) the prescribed minimum wage shall be paid without discrimination of the male or female; j) although he has the obligation to pay the minimum wage in cash, separate entitlement, benefit in accord with the stipulation shall be given due to the employee's will, majority of the employees' will, collective consent, in cash or partial in cash or prevailing regional rate or regional tradition; k) overtime work shall be allowed according to the law after negotiation with the employees; l) the employee who is not capable to fulfill the standard norm or production norm prescribed in accord with the factory, workshop, department, shall be trained to be skillful in the probation period. If necessary, the relevant factory, workshop, departments under this law shall be paid for not less than 50% of the remuneration within three months. In the probation period 75% of the remuneration shall be paid.

2.1.21. **Myanmar Companies Law, 2017**

Section 2	The following types of company may be incorporated and registered under this law: (a) a company limited by shares, which may be either: (i) a private company which may have no more than 50 members not including persons who are in the employment of the company; or (ii) a public company which may have any number of members; (b) a company limited by guarantee which may have any unlimited number of members; and (c) an unlimited company which may have any number of members.
Section 4	(a) A company registered under this law shall have the following facts: (i) a name; (ii) a constitution;

	(iii) at least one share in issue (provided that a company limited by guarantee need not have a share capital); (iv) at least one member; (v) subject to sub-section (vi), at least one director who shall be ordinarily resident in the Union; (vii) if the company is a public company, at least three directors, one of whom shall be a Myanmar citizen who is ordinarily resident in the Union; and (viii) a registered office address in the Union. (b) A company may appoint a company secretary and have a common seal.

2.1.22. **Myanmar Engineering Council Law, 2013**

Chapter 13 Prohibitions and Penalties Section 37	No one shall perform any engineering work and technological work which are specified as being dangerous to the public by a rule enacted under this law without having received a registration certificate issued by the council, except for engineers appointed in a government department or an organization in the performance of their duties.
Section 37	No engineer, graduate technologist and technician shall use, together with his name, a title which is not compatible with his status.
Section 38	No registered engineer, graduate technologist and technician- (a) shall transfer his registration certificate to anyone or allow it to be used by anyone; (b) shall fail to return his registration certificate to the council within 30 days from the day on which a decision is passed, or an administrative action is taken, under this law to cancel the registration certificate.
Section 39	Anyone convicted of having violated the prohibition contained in section 37 shall be punished with imprisonment for not more than 2 years or with a fine or with both.
Section 40	any registered engineer, graduate technologist or technician convicted of having violated the prohibition contained in section 38 shall be punished with imprisonment of not more than 1 year or with a fine or with both.
Section 41	Any registered engineer, graduate technologist or technician convicted of having violated the prohibition contained in 39 shall be punished with imprisonment of not more than 1 year or with a fine or with both.
Section 42	Any registered engineer, graduate technologist or technician convicted of having violated any prohibition under this law shall be punished with imprisonment of not more than 6 months or with a fine or with both.

2.1.23. **Myanmar Fire Force Law, 2015**

Section 17	The relevant Government department or organization shall, for the purpose of fire safety, obtain the recommendation of the inspection on fire safety of the Department of Fire Services before granting permission for the following matters: a) constructing three-storied and above buildings, condominium, market and complex buildings;

Section 24	No person shall fail to abide by the directives of fire safety issued under section 16 by the head of the relevant Township Department of Fire Services.
Section 25	The owner or manager of the factory, workshop, bus terminal, airport, port, hotel, motel, lodgings, condominium, market, department, organization or business exposed to fire hazard shall, in accord with the directive of the Department of Fire Services: a) not fail to form the Reserve Fire Brigade; b) not fail to provide fire safety equipment.
Section 30	No person shall remove, clear or transfer the evidence from the specified area of the place razed by fire before the place of starting fire on and cause of fire are inspected confirmed by whom it concerns.
Section 32	No person shall form or dissolve the Reserve Fire Brigade without the direction or permission of the Department of Fire Services.

2.1.24. Myanmar Forest Law, 2018

Section (12)	Whoever, within forest land and forest covered land at the disposal of the Government: (a) wishes to carry out any development work or economic scheme shall obtain prior approval of the Ministry; (c) carries out any development work or economic scheme under sub-section (a) shall abide by the Environmental Conservation Law and other related laws;

2.1.25. Myanmar Insurance Law, 1993

Chapter VI Effecting Insurance and Granting of Benefits Section 15	Owners of motor vehicles shall affect compulsory Third Party Liability Insurance with the Myanmar Insurance.
Section 16	An entrepreneur or an organization operating an enterprise which may cause loss to State-owned property or which may cause damage to the life and property of the public or which may cause pollution to the environment shall affect compulsory General Liability Insurance with the Myanmar Insurance.

2.1.26. Myanmar Investment Law, 2016 (Amendment 2019)

Section 36	The investor shall submit a proposal to the commission and invest after receiving the Permit for the following businesses stipulated in the rules; (a) investment business that are essential to the Union strategy; (b) large capital-intensive investment projects; (c) projects which are likely to cause a large impact on the environment and the local community; (d) investment businesses which use state-owned land and building; (e) investment businesses which are designated by the government to require the submission of a proposal to the Commission
Section 37	No investor requires to submit a proposal to the Commission for other investment businesses except investment businesses stipulated under section 36. However, in order to enjoy the rights to use land under Chapter XII, and all or more than or

	any exemptions and reliefs under sections 75, 77 and 78, an endorsement application must be submitted in the stipulated form to the Commission office.
Section 38	When submitting the endorsement application, all approvals or licenses or permits or similar documents issued by the relevant organizations according to the type business have to be attached.
Section 50	(a) An investor who obtains permit or endorsement under this Law has the right to obtain a long-term lease of land or building from the owner if it is private land or building, or from the relevant government departments or government organization if it is land managed by the government, or land or building owned by the Union in accordance with the stipulations in order to do investment. (b) Foreign investor may lease land or building either from the government or government organizations or from owners of private land or building from commencing on the date of receipt of the permit or endorsement of the Commission up to an initial period of (50) years in accordance with the stipulation. (c) After the expiry of the term of the right to use land or building or the period of right to lease of land or building permitted under subsection (b), a consecutive period of (10) years and a further consecutive period of (10) years extension to such period of lease of land or building may be obtained with the approval of the Commission. (d) The investor shall register the land lease contract at the Office of Registry of Deeds in accordance with the Registration Act.
Section 51	The investor: (a) may appoint of 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 Laws; (b) shall appoint them to replace, after providing for capacity building programs in order to be able to appoint citizens to different level positions of management, technical and operational experts, and advisors; (c) shall appoint only citizens for works which does not require skill; (d) shall appoint skilled citizen and foreign workers, technicians, and staff by signing an employment contract between employer and employee in accordance with the labor laws and rules; (e) shall ensure to obtain the entitlements and rights in the labor laws and rules, including minimum wages and salary, leave, holiday, overtime fee, damages, compensation of the workman, social welfare, and other insurance relating to workers in stipulating the rights and duties of employers and employees and occupational terms and conditions in the employment contract; (f) shall settle disputes arising among employers, among workers, between employers and workers, and technicians or staff in the investment in accordance with the applicable laws.
Section 53	Foreign Investors may transfer abroad the following funds relating to the investments made under this law: a) capital designated under the provisions relating to capital account rules stipulated by the Central Bank of Myanmar; b) proceeds, profits from the asset, dividends, royalties, patent fees, license fees, technical assistance and management fees, shares and other current income resulting from any investment under this Law; c) proceeds from the total or partial sale or liquidation of an investment or property owned by an investment; d) payments made under a contract, including a loan agreement; e) payments resulting from any settlement of investment disputes; f) other compensation or money as compensation under investment or expropriation;

	g) remuneration, salary and earning of foreign expert legally employed in the Union.
Section 57	With respect to transferring a loan or taking a loan, it shall be transferred and taken with the approval of the Central Bank of Myanmar, in accordance with the stipulated regulations.
Section 59	Any transfer of funds shall be allowed only after paying all tax obligations imposed on the amount to be transferred in accordance with the stipulated tax laws.
Section 60	Foreign experts with legal work permits may make remittances abroad without any further deduction from the amount of money paid the tax obligations under the Income Tax Law, through banks authorized foreign exchange dealer license and established in the Union.
Section 61	In respect of transfers of funds made by foreign investors under section 56, such funds, including capital accounts or current accounts under the Foreign Exchange Management Law may be transferred through banks authorized foreign exchange dealer license and legally established in the Union by freely usable currencies.
Section 62	The Government may prevent or delay a transfer of funds relating to any of the following circumstances: a) insolvency, or the protection of the rights of creditors; b) criminal or penal offences and the recovery of proceeds of crime; c) financial reporting or record keeping of transfers when necessary to assist law d) enforcement or financial regulatory authorities; e) ensuring compliance with orders or judgments in judicial or administrative f) proceedings; g) taxation; h) social security, public retirement, or compulsory savings schemes; i) severance entitlements of employees.
Section 63	The Government shall allow the transfer of capital or expenditures and foreign loans from abroad, which are required to be used for investors and their investments within the Union in accordance with applicable laws.
Section 64	In the event of serious balance-of-payments or external financial difficulties, the Government may adopt or maintain restrictions on payments or transfers related to investments in accordance with the Foreign Exchange Management Law and other international commitments.
Section 65	The Investor: a) shall respect and comply with the customs, traditions and traditional culture of the ethnic groups in the Union; b) shall establish and register a company or sole proprietorship or legal entities or branches of such entities under the Laws in order to invest; c) shall abide by the terms and conditions, stipulations of special licenses, permits, and business operation certificates issued to them, including the rules, notifications, orders, and directives and procedures issued by this Law and the applicable laws, terms and conditions of contract and tax obligations; d) shall carry out in accordance with the stipulations of the relevant department if it is, by the nature of business or by other need, required to obtain any license or permit from the relevant Union Ministries, government departments and government organizations, or to carry out registration; e) shall immediately inform to the Commission if it is found that natural mineral resources or antique objects and treasure trove are not related to the

	investment permitted above and under the land on which the investor is entitled to lease or use and not included in the original contracts. If the Commission allows, the investor shall continue to carry out the investment in such land, and if not allowed, the investor shall transfer and carry out, by obtaining the permission, at the substituted place which is selected and submitted by him; f) shall not make any significant alteration of topography or elevation of the land on which he is entitled to lease or to use, without the approval 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; h) shall list and keep proper records of books of account and annual financial statement, and necessary financial matters relating to the investments performed by permit or endorsement in accordance with internationally and locally recognized accounting standards; 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; n) shall have the right to sue and to be sued in accordance with the 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 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 66	Subject to the assessment under section 65 (q), the Commission may administer the investments to carry out necessary, including to conduct or suspend.
Section 67	The investors shall comply with all responsibilities stipulated under section 65 from the date of this Law comes into effect.
Section 68	If the investor discontinues the investment before the expiry of the permitted period, after paying the tax exemptions or reliefs or both enjoyed during importation in accordance with the approval of the Commission, the investor is to sell, export and dispose all machineries, equipment, motor vehicles and all other articles imported from abroad with the customs duty, other internal taxes and tax exemption or relief or both for his investment.

Section 69	After obtaining a permit or an endorsement from the Commission, the investor shall execute and sign necessary contracts with the relevant government department or a government organization or government organizations and conduct its investments.
Section 70	The permission of the Commission shall be obtained for any extension and amendment of the contracts mentioned in section 69.
Section 72	Investment obtained a permit or an endorsement, shall submit and notice to the Commission of any sublease, mortgage transfer of shares or transfer of business to any person during the investment period.
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.
Section 74	The Commission shall, for the purpose of supporting the development of the Union by allowing investment in sectors which need to be developed, and for the proportionate development of Regions and States, scrutinize and may grant one or more tax exemptions or reliefs if the investor applies for such exemptions or reliefs.
Section 77	The Commission may scrutinize and grant the following exemptions or reliefs from customs duty and other internal taxes to the investor if applied. a) exemptions or reliefs from customs duty or other internal taxes or both on machineries, equipment, instruments, machinery components, spare parts, construction materials unavailable locally, and materials used in the business, which are imported as they are actually required, during the construction period or during the preparatory period of the investment business; b) if the volume of investment is increased with the approval of the Commission and the original investment business is expanded during the permitted period of investment, exemption or relief from the customs duty or other internal taxes or both on machineries, equipment, instruments, machinery components, spare parts, materials used in the business, and construction materials unavailable locally, which are imported as they are actually required for use in the business which is being expanded as such. c) Section 78. The Commission may scrutinize and grant the following exemptions and relief, as required, to the investor if applied: a. exemption or relief from income tax if the profit obtained from the investment business that has obtained a permit or an endorsement is reinvested in such investment business or in any similar type of investment business within one year; b. right to depreciation for the purpose of income tax assessment, after computing such depreciation from the year of commencement of commercial operation based on a depreciation rate which is less than the stipulated lifetime of the machinery, equipment, building or capital assets used in the investment; c. right to deduct expenses which are incurred for the research and development relating to the investment businesses carried out within the Union and actually required for the economic development of the Union from the assessable income.
Section 79	The foreign investors have to pay income tax on their income at the rates applicable to the citizens residing within the Union.
Section 80	Except the exemptions and reliefs under section 75, 77 and 78, other taxes shall be carried out in accordance with relevant tax laws.
Section 82	In effective implementation of this Law, the Commission shall establish and manage a grievance mechanism to resolve, prevent the occurrence of disputes, and carry out the relevant inquiries for the investment issues before reaching at the stage of legal disputes.

Section 83	Before any investment dispute between the investor and the Union or between the investors is brought to any court or arbitral tribunal, all disputing parties shall use due attempts to settle the disputes amicably.
Section 84	If investment disputes are not able to be settled amicably: (a) if the dispute settlement mechanism is not stipulated in the relevant agreement, it shall be settled in the competent court or the arbitral tribunal in accord with the applicable laws; (b) if the dispute settlement mechanism is stipulated in the relevant agreement, it shall be complied with and carried out in accord with the mechanism.

2.1.27. **Myanmar Investment Rules, 2017 (Amendment in 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
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

2.1.28. **Natural Disaster Management Law, 2013**

Chapter VI Natural Disaster Management Section 13	The department, organization or person that has been assigned responsibility under this Law: (a) shall undertake the following functions after laying down the plan in accord with the natural disaster management plans in order to reduce damage and losses that are likely to be caused by natural disaster; (i) preparatory and preventive measures for natural disaster risk reduction in pre-disaster period; (ii) emergency responses including search and rescue during natural disaster; (iii) rehabilitation and reconstruction activities for improving better living standard in post disaster period and conservation of the environment that has been affected by natural disaster; (b) shall give priority and protect infants, the elderly, the disabled and women (especially pregnant women or mothers and suckling mother) in carrying out the functions contained in sub-section (a); (c) shall refrain from the act that causes injuring human dignity in supporting the victims.
Chapter VIII Offence and Penalties Section 25	Whoever, if the natural disaster causes or is likely to be caused by any negligent act without examination or by willful action which is known that a disaster is likely to strike, shall be punished with imprisonment for a term not exceeding three years and may also be liable to fine.
Section 26	Whoever interferes, prevents, prohibits, assaults or coerces any natural disaster management to the department, organization or person assigned by this Law shall, on conviction, be punished with imprisonment for a term not exceeding two years or with fine or with both.

Section 27	Whoever misinforms about the natural disaster for the purpose of dread to the public shall, on conviction, be punished with imprisonment for a term not exceeding one year or with fine or with both.
Section 28	Any department, organization or person assigned by this Law commits any of the following acts or omissions shall, on conviction, be punished with imprisonment for a term not exceeding one year or with fine or with both: (a) falsification of data on damage and losses caused by natural disasters dishonestly; (b) willful failure to perform assigned responsibility.
Section 29	Whoever violates any prohibition contained in rules, notifications and orders issued under this Law shall, on conviction, be punished with imprisonment for a term not exceeding one year or with fine or with both.
Section 30	Whoever commits any of the following acts or omissions shall, on conviction, be punished with imprisonment for a term not exceeding one year or with fine or with both: (a) willful failure to comply with any of the directives of the department, organization or person assigned by this Law to perform any of the natural disaster management; (b) entering into the area or building affected by natural disaster without permission; (c) utilizing, trading, preventing or destroying food, relief items and rehabilitation materials provided for victims dishonestly; (d) making a false application for food, relief items and rehabilitation materials or cash assistance to the department, organization or person assigned by this Law as it is affected by natural disaster.
Section 31	Whoever fails willfully to comply with the direction of remove or evacuation from an area or building at risk natural disaster to the public in such place for the purpose of reduction of damage and losses when the natural disaster strikes or it will be a natural disaster and for the purpose of no obstruction to the prevention and reduction activities of the natural disaster shall, on conviction, be punished with imprisonment for a term not exceeding one month or with fine or with both.

2.1.29. **Occupational Safety and Health Law, 2019**

Section 18	Inspection Officers shall, with the approval of the Chief Inspection Officer, order the Employer to temporarily close a whole or part of the workplace, and notify the relevant Departments if required, if they believe that an occupational accident, occupational disease, hazardous event or major and serious occupational accident occurs or is likely to occur because: a) it is not appropriate to continue doing the Industry/Business due to dangerous workplace condition, or unsafe operation carried by workers, or existence of hazardous materials and hazardous machines, or layout and function of workplace, part of the machine or equipment;

	b) it is not appropriate to continue doing the industry/business due to breach or incompliance with any of the provisions of this law; c) it deems that workers in the workplace are in danger due to acts, omissions, negligence or carelessness; or d) it needs to evacuate workers from hazards because an occupational accident or accident is about to occur.
Section 19	Inspection Officers shall: a) approve the reopening of the whole or part of the workplace if they find out that the submission made by the employer for his/her compliance subject to the order to close the workplace temporarily made under section 18 is complete and correct; and b) inform the relevant Departments and Employer of the approval to resume the workplace under sub-section (a).
Section 21	Inspection Officers: a) may instruct the Employer in writing to repair and reform the condition within the specified timeline if they have a reason to believe that workers are likely to be bodily injured or their health is likely to be at risk or any materials are likely to be damaged; b) shall cause the Employer to submit the compliance and completion of the instruction made under sub-section (a) within the specified timeline by showing complete records and evidence; and c) may prohibit the Employer not to continue operating the Industry/Business if he/she does not follow the instruction under sub-section (a).
Section 23	The Inspection Officer shall direct the Employer to train his/her workers to learn and observe first aid care, extinguishing fire, arrangements and systems to be applied in case of emergency, precautionary plans and likelihood of occurrence of hazards in the workplaces that are listed pursuant to section 22.
Section 26	The employer shall be responsible to a) Arrange as required to assess the risks of workplace, process and machines and materials used thereat; b) Arrange as required to assess the likelihood of occurrence of hazards at the workplace and to the environment; c) Arrange to have workers' medical checked-up by the recognized doctor in accordance with stipulations whether they suffer from any occupational disease; d) Arrange to improve the workplace until it is safe and good for health based on the findings as per sub sections a, b, and c; e) Provide workers with sufficient number of personal protective clothing, materials and facilities prescribed and approved by the Department on free of charge basis and cause workers to wear them while working; f) Prescribe precautionary plans and plans for emergency; g) Provide a clinic, appoint the registered doctors and nurses and provide medicines and supporting equipment for any industry/business where the number of workers is not less than the number determined by the Ministry; h) Make necessary arrangements for managers, workers and members of the occupational safety and health committee including (Employer) himself/herself to

	attend occupational safety and health training courses stipulated by the Ministry in accordance with their departments or types of work; i) Make necessary arrangements to enable immediate reporting to the person in charge for occupational safety and health or manager in case where a worker suffers an occupational accident or his/her life or health is likely to be in danger; j) Arrange to prevent any persons in the workplace from occupational safety and health risks occurred due to materials, machines or wastes used in the workplace or process; k) Immediately stop the process, evacuate workers and conduct necessary rescue plans if any occupational accident is about to occur. If possible, workers will be relocated to another appropriate safe workplaces; l) Display occupational safety and health instructions, danger signs, notices, posters and signage for directions in accordance with stipulations; m) Arrange to be complied with precautions when entering restricted hazardous workplaces; n) Arrange to disseminate occupational safety and health manuals and guidelines issued by the relevant Ministries for knowledge, technology, information and skills not only to workers but also to related persons or raise their awareness or knowledge thereof; o) Lay down the fire safety plan, perform fire drilling and train workers to use fire extinguishers systematically; p) Allow the Chief Inspection Officer and Inspection Officers to enter workplaces, inquire, request documents and information or seize exhibits; q) Cause workers to work only for the specified working hours if they have to work in hazardous industry/business and workplace; and r) Incur the expenses for occupational safety and health matters.
Section 27	No employer shall dismiss or demote a worker: a) During any period before a medical certificate is issued by the registered doctor for occupational injury or by the recognized doctor for contact with occupational disease; b) Because the said worker has addressed a complaint for hazardous or health detrimental conditions; c) Because the said worker has conducted the responsibilities of occupational safety and health committee; or d) Because the said worker has refused to work in any condition where an occupational accident or occupational disease is about to occur.
Section 28	If any worker who has been injured due to occupational accident or contacted with occupational disease is not covered under the Social Security Law 2012, the employer must pay for medical expenses to check the extent of capacity reduction and class of disability of such worker.
Section 29	The employer: a) Can prohibit or restrict any worker to work if he/she does not meet the health standards due to medical check-up results done by the registered doctor in accordance with the needs and nature of the industry/business;

	b) Must, without delay, employ any worker who has been prohibited or restricted to work subject to sub section (a) in his/her original position or at the relevant workplace upon his/her submission of health improvement evidence; and c) Must make necessary arrangements in the workplace in order not to damage health of female workers who are pregnant or breast-feed.
Section 34	The employer is responsible to undertake the following in accordance with the stipulations: a) Informing the Department in case of an occupational accident, hazardous event or major and serious occupational accident; b) If a worker is in contact with a stipulated occupational disease or contaminated or likely to be contaminated due to materials or process used, sending a report to the Department together with a medical report prepared by the recognized doctor.
Section (48)	(a) Any person who is currently operating or wants to operate any Industry/Business to which this Law applies shall not fail to lodge the registration with the Department. (b) No one shall fail to notify the Department in accordance with the stipulations that he/she will build, extend or restructure a building, place, install, extend or change the use of machines in respective processes for the Industry/Business to which this Law applies in accordance with Occupational Safety and Health stipulations.
Section (49)	No Employer: a) shall fail to comply with an order to close the workplace temporarily in accordance with section 18; b) shall fail to comply with the conditions prescribed under section 20, sub-section (b); c) shall fail to comply with the instructions issued by the Inspection Officer in accordance with section 21 sub-section (a); d) shall ask workers to work for more than the specified hours in accordance with section 26 sub-section (q); or e) shall fail to pay for occupational safety and health expenses subject to section 26, sub-section (r).

2.1.30. **Payment of Wages Law, 2016**

Chapter II Methods and Time of Payment of Wages Section 3	The employer: (a) shall pay wages to the workers employing in his business in local currency or foreign currencies stipulated by the Central Bank of Myanmar. Such payment may be paid in cash or cheque or deposit into the bank account of the worker with the agreement between the employer and the worker. (b) In paying such wages: (i) if it is necessary to pay particular benefit, profits and opportunities for workers working in commerce, production and service businesses, it may be

	paid in cash or some in cash and some in things set up by local price on own volition of workers in accordance with the stipulations.
Section 4	The employer: (a) shall pay wages at the end of the work or at the time agreed to pay to the worker for hourly, daily, weekly or other part time work, or temporary or piece work; (b) shall not exceed one month than the period agreed with the worker under sub-section (a) to pay wages; (c) shall pay the wages for the permanent work monthly. In making such payment: (i) if workers are not more than 100, wages shall be paid at the end of the period for payment of wage; (ii) If workers are more than 100, it shall be paid no later than five days after the end of the period for payment of wage; (d) shall pay the due wages within two working days from the date of termination, if a worker is terminated; (e) shall pay the wages at the end of the period for payment of wages, if a worker resigns on his own volition by sending prior written notice of resignation; (f) shall pay the due wages to a legal heir within two working days after the decease, if a worker is deceased; (g) shall pay all wages on a working day
Section 5	If an employer encounters difficulty to make payment under sub-section(c) of the Section 4 due to any unexpected condition, including natural disaster, the employer shall submit that which date has been altered for the payment of wages with the consent of the workers to the Department on reasonable ground.
Section 6	The Department may, with the approval of the Ministry, allow the employers to postpone payment within the appropriate time under stipulated conditions, if it is scrutinized that the submission under Section 5 should be allowed.
Section 7	The employer: a) may deduct from wages, except leaves which are entitled wages under the relevant law and public holidays, for the absent period from work; b) may deduct expenses which are allowance for accommodation and ferry service arranged by the employer, meal allowance, electricity charges, water service charges and income taxes liable to be paid by worker and cash paid in excess under a mistake, which are not included in the expression of wages under this Law; c) may deduct advance payment or reimburse or savings for the worker or any contribution under any law demanded by a worker from wages; d) may deduct from the wages of the worker under a decision of a Court or Arbitration Council or Arbitration Body.
Section 9	In deducting from wages under Section 7, all deductions made by the employer shall not exceed 50 percent of the wages of a worker except deduction from wages for the failure of a worker to perform his duty.
Section 10	The employer:

	a) shall obtain prior approval of the Department for what deduction can be made from wage and how much can be deducted before deducting anything stipulated as a fine under section 11; b) shall post the approval contained in sub-section (a) in conspicuous places at relevant factory and work; c) shall not exceed fine deducted for compensation than the value of damage or loss by action or omission of a worker; d) in deducting from wages under Section 11: i. shall not deduct from wages without giving right to defence of the worker; ii. shall not deduct more than 5 percent of the monthly wages of the worker; e) shall not absolutely deduct as the fine from a worker under 16 years of age; f) may carry out the date of payment of passing fine in accordance with the agreement between the employer and the worker; g) shall deduct from wages for compensation due to loss of property within a limited period by an agreement of the relevant Township Conciliation Body; h) shall enter the deducting cash from wages into the register and systematically maintain it; i) shall submit a report of the deduction from wages to the Department; j) shall use fines of deduction from wages under sub-section (b) of Section 11 for the worker benefit in coordination with legally registered Labour Organization in the factory.
Section 11	The employer may designate as fine to compensate for the following acts and omissions of a worker and deduct from his wages: a) any loss of property and cash expressly entrusted to the worker by the employer due to intentional negligence and carelessness or dishonest acts or omissions of the worker, which is caused directly by the carelessness and mistake of such worker; b) violation of any terms or conditions stipulated as fines in the employment agreement.

2.1.31. Petroleum and Petroleum Product Law, 2017

Section 30	Any person shall, without the relevant licence, not carry out any business activities or measures required to obtain licence under this law.
Section 31	Any licensee: (a) shall not violate any prohibition contained in the rules, regulations, bye-laws, notifications, orders, directives, procedures and conditions or fail the duty to implement; (b) shall not use a receptacle and transport vehicles and pipelines that contains any dangerous petroleum and petroleum product without saliently mentioning in writing of warning signs; (c) shall not import, transport, store and sell and distribute the dangerous petroleum and petroleum product, or non-dangerous petroleum and petroleum product except by the means stipulated in this law;

	(d) shall not have the right to carry out without undertaking the environmental impacts, in operating petroleum and petroleum product businesses activities; (e) shall not distribute and sell petroleum and petroleum products which do not fulfill or are not in conformity with the standard, quality and measurement.
Section 32	Any person who carries out a petroleum and petroleum product business activity shall not refuse if an authorized officer or organization asks to provide suitable help, to inspect the petroleum and petroleum product, receptacle, and machine-powered vehicle, machinery, vessel and pipeline that transports and to take sample of petroleum and petroleum product at any place of import, export, storage, refining, sale and distribution of any petroleum and petroleum product, or at the time of transport.
Section 33	Any person who manages a petroleum and petroleum product business activity shall not fail to report immediately to the nearest authority concerned and provide information relating to any accident if an explosion or fire occurs due to any petroleum and petroleum product business activities, or it is likely to cause fire at or near to the place where petroleum and petroleum product is stored.

2.1.32. **Prevention and Control of Communicable Disease Law, 1995 (Amendment in 2011)**

Chapter 2 Prevention and Response Section 8	For prevention of the outbreak of communicable disease and effective control of communicable disease when it occurs, the public shall, under the supervision and guidance of the Health Officer of the relevant area, undertake the responsibility of carrying out the following environmental sanitation measures: (a) indoor, outdoor sanitation or inside the fence, outside the fence sanitation; (b) well, ponds and drainage sanitation; (c) proper disposal of refuse and destruction thereof by fire; (d) construction and use of sanitary latrines; (e) other necessary environmental sanitation measures.
Section 9	When the head of the household, any member of the household or any entrepreneur knows the occurrence of any of the following matters, he shall report immediately to the nearest health department or hospital: a) encase death of animals including chicken and birds; b) rat fall; c) suspicion or occurrence of epidemic disease; d) occurrence of notifiable disease.
Section 11	In order to prevent and control the spread of a Principal Epidemic Disease, the Health Officer may undertake the following measures: (a) investigation of a patient or any other person required; (b) medical examination; (c) causing laboratory investigation of stool, urine, sputum and blood samples to be carried out; (d) other necessary investigation.

Section 14	An organization or an officer on whom power is conferred by the Ministry of Health and Sports may issue a prohibitive order or a restrictive order in respect of the following matters: (a) right of the person suffering from Principal Epidemic Disease to leave and return to his house; (b) right of people living in the house, ward, village or township infected by Principal Epidemic Disease to leave and return thereto; (c) right of people from outside to enter the house, ward, village or township infected by Principal Epidemic Disease; (d) if there is a person suffering from Principal Epidemic Disease among those people arriving by train, motor vehicle, aircraft, vessel or any other vehicle, right of such person put under quarantine up to a period necessary for medical examination to leave and return thereto; (e) when an outbreak of Principal Epidemic Disease occurs during the time of fair and festival, right of the public to visit the site and right to continue the festival.

2.1.33. Prevention of Hazard from Chemical and Related Substances Law, 2013

Section 15	A person who has obtained a licence, before starting the respective chemical and related substances business: - (a) shall be inspected for the safety and the power of resistance of the machinery and equipment by the respective Supervisory Board and Board of Inspection; (b) shall be attended the person who serve in the work to the respective foreign trainings or the trainings and the expert trainings on prevention of hazard from the chemical and related substances opened by the government department and the government organizations.
Section 16	A person who has obtained a licence: - (a) shall abide the licence regulations; (b) shall perform to abide strictly the instructions for being safety in using the chemical and related substances by himself and also the persons who serve the work; (c) shall keep the required safety equipment enough in the chemical and related substances businesses, furthermore shall grant the personal protection equipment and dresses free of charge to the working persons; (d) shall make the course of training and study and instruction if necessary to the working persons for using the occupational safety equipment, the personal protection equipment and the dresses systematically in the chemical and related substances business; (e) shall be inspected by the respective Supervisory Board and Boards of Inspection in respect of whether or not the hazard may impact on the Human Being and Animals' health and the environment; (f) shall make medical checkup the working persons who will work in the chemical and related substances business and shall permit to serve in that work after obtaining the recommendation that his health is suitable for that work. This medical checkup records shall be kept systematically; (g) shall send the copy of informative letter of the permission to the respective Department of Township Administration, if the hazardous chemical or related substances are permitted to store;

	(h) shall acquire in advance the guidance and agreement of the respective Department of Fire Brigade, if the business that is worried to fire hazard is operated by using the fire hazard substances or the explosive substances; (i) shall transport only the permitted amount of the chemical and related substances in accordance with the prescriptive stipulations, if they are transported in local; (j) shall take the permission from the Central Supervisory Board if the chemical and related substance is altered and transferred from one place to any other place which contained in the license; (k) shall abide and perform in accordance with the related environmental laws not to impact and damage to the environment in operating the chemical and related substances business.
Section 17	A person who has obtained a licence, shall put the insurance in accordance with the prescriptive stipulations to be able to pay the compensation, if the impact and damage is occurred on the Human Being and Animals or the environment in respect of the chemical and related substances businesses.
Section 22	A person who has obtained the registration certificate shall abide the regulations consisted in the registration certificate furthermore shall also abide the order and instructions issued occasionally by the Central Supervisory Board.
Chapter IX Hazard Control and Decrease Section 27	A person who has obtained the licence to be complied the following matters to control and decrease the hazard of the chemical and related substances: - (a) classifying the hazard level to protect in advance the hazard according to the properties of the chemical and related substances; (b) expressing the Material Safety Data Sheet and Pictogram; (c) providing the safety equipment, the personal protection equipment to protect and decrease the accident and attending to the training to be used systematically; (d) performing in accordance with the stipulations in respect of transporting, possessing, storing, using, discharging the chemical and related substances;

2.1.34. **Prevention of Hazard from Chemical and Related Substances Rules, 2016 (Amendment in 2018)**

The Ministry of Industry issued the Prevention of Hazard from Chemical and related Substances Rules on 12th January, 2016. The rules mentioned the aspects of the prevention of hazard from chemical and related substances.

2.1.35. **Protection and Preservation of Ancient Monument Law, 2015**

Section 12	The project proponent has to report to the village-tract or ward administrators if the project proponent will find any ancient monument under the ground or on the ground or under the water.
Section 15	The project proponent has to obtain the prior permission of the Department of Ancient Research Museum if the project area is in the prescribed area of the ancient monument.
Sub-section (f) of section 20	The project proponent has to obtain the prior permission, by written, of Department of Ancient Research and National Museum if the project proponent disposes of the chemical and solid waste in the Ancient Monument.

2.1.36. **Public Health Law, 1972**

Chapter 2 Prevention of Public Health Section (3) Sub-section (1)	the guidelines for environmental health as follow and the project developer commits to follow these guidelines. 1. Residential area has to be trash free and wastage has to be properly disposed. 2. Area of drinking water source has to be cleaned and monitor according to the international standards. 3. Residential area has to be free of odor, smoke, carbon dioxide, dust, noise and radioactive materials. 4. Buildings and places which are used for the development of city/villages, building construction and public uses are advised to be clean.

2.1.37. **Social Security Law, 2012**

Section 48	(a) The employer shall affect insurance by registering at the relevant township social security office in order to get employment injury benefit by the workers applied to provisions of compulsory registration for employment injury benefit insurance system contained in section 45 and by paying contribution to employment injury benefit fund in accord with the stipulations. (b) The employers may affect insurance by registering voluntarily for the workers who are not applied to provisions of compulsory registration for employment injury benefit insurance system and by paying stipulated contribution to employment injury benefit insurance fund.
Section 49	(a) The employers and insured of establishments where the employer had registered compulsorily under sub-section (a) of section 48 or where the employer had registered voluntarily under sub-section (b) of section 48 who have paid contribution to employment injury benefit fund shall not apply to the provisions contained in the Workmen's Compensation Act in respect of the employment injury benefit.
Section 50	In respect of employer's contribution to be paid to employment injury benefit fund for the worker to enjoy the employment injury benefit under section 47, the Ministry of Labour, Immigration and Population shall determine rates of contribution depending on the worker's wage and degree of possibility of employment hazard, by notification, in coordination with the Social Security Board with the approval of the Union Government.
Section 51	The employer: a) shall pay contribution monthly to Employment Injury Benefit Fund at the rates stipulated under section 50. Moreover, he shall also incur the expenses for paying as such; b) shall pay defaulting fees stipulated under section 88, in addition to the contribution if fails to contribute after effecting insurance for employment injury benefit.
Section 53	(a) The employers and workers shall co-ordinate with 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.

	(b) The employer shall incur the costs of medical treatment for employment injury occurring from criminal action or omission of the employer, or occurring from employer's failure to keep occupational safety plans and protections, and other benefits entitled to enjoy under this Law in accord with the stipulations without fail.
Section 54	(a) The employer shall report immediately to the relevant township social security office if a serious occupational accident has been occurred to his insured worker. There shall not be any delay without sufficient cause to report as such.
Section 65	The employer: a) has the right of reimbursement out of benefits granted under this Law, for expenses incurred according to social obligation for an insured in cases of health care, medical treatment and other matters entitled to benefit; b) if the total amount of wages and cash benefit paid to the insured during the period of enjoying any of sickness or maternity, or employment injury benefits under this Law exceeds the normal wages of that insured, may deduct the amount in excess out of benefits granted under this Law. Such payment of excess amount shall be informed to the relevant township social security office.
Section 66	(a) The employer, subject to health care and medical treatment in accord with sections 67 and 68: i. shall not dismiss or terminate the insured from work or demote to lower level during the period which an insured is enjoying any of the sickness or maternity or temporary disability benefits owing to employment injury under this Law; ii. shall not reduce or deduct wages and fees of his worker due to liability for contribution payable under this Law. (b) The insured, as regards his injury due to employer's violation of prohibitions under subsection (a), may submit the matter to the relevant township social security office for settlement in accord with the stipulations.
Section 67	(a) The employer may, in order to provide medical treatment to his insured workers, after obtaining permission and terms and conditions of the Social Security Board, establish private hospital and clinic in accord with the existing law and provide health care and medical treatment in accord with the stipulations with doctors and nurses appointed by him.
Section 69	(b) The employer who defaults to pay contribution shall pay contribution liable under section 17 and 50 and also defaulting fees stipulated under section 88, and incur the benefits and cost payable to the insured and all expenses.
Section 70	(a) When the insured voluntarily resigns from work or transfers to any other establishment not applied by this Law before the completion of age stipulated for superannuation benefit under section 34: (iv) the employer has the right to draw 25 per cent of contribution paid by him for the insured to the fund for invalidity benefit, superannuation benefit, and survivors' benefit for 36 months and above together with interest from that fund in accord with the stipulations. (b) In case of permanent total disability or decease of an insured owing to employment injury:

	(ii) the employer has the right to draw 25 per cent of contribution paid for 36 months and above to the fund contained in clause (i) for an insured together with interest in accord with the stipulations. (c) In case of voluntary resignation or transfer to any other establishment which is not applied by this Law of taking superannuation or becoming invalidity or permanent total disability owing to employment injury, or decease resulting from any cause of an insured: (ii) the employer has the right to draw contribution paid for that insured to the fund for unemployment benefit for 36 months and above together with interest in accord with the stipulations.
Section 74	The employer of each establishment applied by this Law shall keep record of contributions paid to the Social Security Fund and Employment Injury Benefit Fund for himself and his insured workers, keep the record of benefits received for each insured and open account for each insured. Those records and accounts shall be submitted to the relevant township social security office in accord with the stipulations.
Section 75	The employers of establishments applied by this Law: a) shall prepare and keep the following records and lists correctly and submit to the relevant township social security office in accord with the stipulations: i. records and lists of workers' daily attendance; ii. records on appointment of new workers, employing worker by changing of work, termination, dismissal and resignation; iii. records on promotion and paying remuneration; iv. records and lists of employer, manager, and administrator and records on change of them; b) shall inform the relevant township social security office if the following matters arise: i. changes in number of workers and address of establishment; ii. change of employer, change of business, suspension of work, and closedown of work; iii. employment injury, decease and contracting diseases. c) shall submit records of work and lists if requested by inspectorate or official assigned by the Social Security Head Office and various levels of Regional Social Security Office under this Law.
Section 77	Any employer of establishment concerning with the social security and employment injury benefit: a) shall not prepare incorrectly, modify or delete records contained in section 74 and sub-section (a) of section 75; b) shall not report incorrectly to the relevant township social security office relating to the number of workers and contribution; c) shall not refuse when the inspectorate or the official requests to produce those records, reports and other necessary documents under this Law or assigned by the Social Security Board;

	d) shall not fail when he is summoned by the inspectorate or the official under this Law or assigned by the Social Security Board or various levels of Regional Social Security Office.

2.1.38. Underwater Act, 21st June 1930

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 licence 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 licence for the said tube, and such licence 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.

2.1.39. Vacant, Fallow and Virgin Land Management Law, 2012 (Amendment in 2018)

Section 16	The person who has the right to carry out or use vacant, fallow and virgins shall: a) carry out only the carry out only the permitted category of business and the business relating to it; b) reclaim and carry out the permitted land until the completion of business according to the stipulation within 4 years starting from the day of permission. The prescribed period for the passed time due to the natural disaster or unstable situation may be amended and stipulated by the Central Committee; c) not mortgage, gift sell, lease, transfer by other means or divide the permitted vacant, fallow and virgin lands without permission of the Union Government; d) pay up the land revenue for vacant, fallow and virgin lands which he has the right to carry out; e) comply with the terms and conditions stipulated by the Central Committee relating to the right to carry out or use vacant, fallow and virgin lands; f) not extract other natural resources above and below the ground except the permitted business; g) when confiscating the required land area from the permitted land area, in finding the natural resources within the permitted land and the Government is desirous to produce commercially, shall return as directed by the Union Government.

2.1.40. Vehicle Safety and Motor Vehicle Management Law, 2020

Section 17	The owner of a motor vehicle shall register a motor vehicle to a registrar.
Section 18	The owner of a motor vehicle shall a) maintain a motor vehicle to drive safely in accord with standards stipulated by the Department; b) the registration of a vehicle shall not be allowed if the vehicle implies one of the following: i. has any defect; ii. if it is not in conformity with the requirements contained in sub - section a)

	iii. if it is not in conformity with stipulations contained in the rules made under this Law; iv. if the applicant fails to mention the previous registration of this vehicle.
Section 19	a) The owner of a motor vehicle may apply to the registrar to register a motor vehicle temporarily according to the prescribed manner; b) According to sub-section (a), the registrar may review the application and issue the temporary registration certificate by prescribing the period and place.
Section 24	The owner of motor vehicle shall register commercial motor vehicle as a hired motor vehicle.
Section 26	The registrant of a motor vehicle shall inform the registrar to record the new address whenever changing the address.
Section 28	The registrant has to apply to the registrar for the renewal of the vehicle registration before the registration is expired within the prescribed time period and if the registrant applied the renewal after the expiration of the registration, the fines will be applied.
Section 29	The registrant of a motor vehicle shall: a) if he desires to alter in a motor vehicle, apply to the registrar in advance. b) Pay fines prescribed by the Ministry with the approval of Union Government if changes are made to the motor vehicle without the prior permission of the registrant except the stipulations in section 31, sub – section (b).
Section 75	No person shall: a) drive a motor vehicle in a public place without bringing his/her valid driving license with him/her; b) operate as a spare man without bringing his/her valid spare man license with him/her; c) drive a motor vehicle with the expired driving license; d) operate as a spare man with the expired spare man license; e) drive a motor vehicle if he/she is mentally or physically not good enough to drive; f) drive a motor vehicle with the overload; g) drive a motor vehicle installing the extra lights and beams; h) drive a motor vehicle against the rules and regulations of pedestrians crossing; i) use other's spare man license to operate as a spare man; j) fail to present the vehicle registration certificate while driving the valid and registered vehicle; k) use the mobile phone while driving the vehicle; l) let the children under the age of 10 safety sitting in the car seats of baby while driving the vehicle; m) drive the vehicle without wearing seat belt and let other riders not to wear seat belts.
Section 80	No person shall drive/ let drive or stop the motor vehicle at the public place if the vehicle has temporarily suspended or expelled vehicle registration certificate, or the expired vehicle.
Section 81	No person shall in a public place: a) drive a motor vehicle if he has no driving licence; b) drive a motor vehicle if it is not allowed to drive and prescribed in the driving licence; c) drive a motor vehicle by using other's driving licence; d) drive a motor vehicle more or less the speed limit;

	e) drive carelessly or dangerously a motor vehicle; f) drive a motor vehicle which may be dangerous; g) drive or transport a motor vehicle with dangerous goods without following the regulations; h) drive a motor vehicle by using narcotic drugs or psychotropic substances or intoxicated liquor; i) use the vehicle registered as hired vehicle for business purposes;
Section 82	No person shall use or allow to use a motor vehicle in a public place without paying third party liability insurance. This prohibition shall not be applicable to passengers.
Section 83	No owner or responsible person of a motor vehicle shall permit to drive or allow to drive such motor vehicle to any person who has no driving licence.
Section 84	No person shall make any of the followings on the registered motor vehicle: a) making a motor vehicle number plate not to be obvious; b) using other number plate rather than the motor vehicle number plate issued by the department; c) driving or stopping a motor vehicle in a public place without installing the motor vehicle number plate; d) use the documents and motor vehicle number plate for other vehicle issued by the department.

2.1.41. **Vehicle Safety and Motor Vehicle Management Rules, 2022**

Rule 5	The motor vehicle owner must register the motor vehicle with the relevant registration and submitted to the officer in the form prescribed by the Department.
Section 83	No owner or responsible person of a motor vehicle shall permit to drive or allow to drive such motor vehicle to any person who has no driving licence.

2.1.42. **Worker's Compensation Act, 1923 (Amendment in 1955, 1957, 2005)**

Section 3	(1) If personal injury is caused to a workman by accident arising out of and in the course of his employment, his employer shall be liable to pay compensation with the provisions of this Chapter: Provided that the employer shall not be so liable in respect of any injury, not resulting in death, caused by an accident which is directly attributable to – I. the workman having been at the time thereof under the influence of drink or drugs, or II. the wilful disobedience of the workman to an order expressly given, or to a rule expressly framed, for the purpose of securing the safety of workmen, or III. the wilful removal or disregard by the workman of any safety guard or other device which he knew to have been provided for the purpose of securing the safety of workmen. (2) If a workman, whilst in the service of an employer in whose service he has been employed for a continuous period of not less than six months in any employment specified in [List A of] Schedule III, contracts any disease specified therein as an occupational disease peculiar to that employment, the contracting of the disease shall be deemed to be an injury by accident within the meaning of this section and, unless the employer proves the contrary, the accident shall be deemed to have arisen out of and in the course of the employment.

	Explanation - For the purposes of this sub-section a period of service shall be deemed to be continuous which has not included a period of service under any other employer. (3) If a workman contracts any disease specified in List B of Schedule III, and it is certified by a qualified medical practitioner that the disease is directly due to the nature of any employment in which the workman was employed at any time within the twelve months previous to the date of disablement, the contracting of the disease shall be deemed to be an injury by accident within the meaning of this section, and unless the employer proves the contrary the accident shall be deemed to have arisen out of and in the course of the employment aforesaid: Provided that the compensation shall be recoverable from the employer who last employed the workman during the said twelve months in the employment to the nature of which the disease was due.
Section 4	(1) Subject to the provisions of this Act, the amount of compensation shall be as follows, namely: A. Where death results from the injury – I. in the case of an adult, a sum equal to 36 times the workman's monthly wages calculated in accordance with this Act: Provided that the minimum and the maximum payment in such a case shall be the amount of compensation prescribed by notification made by the Ministry of Labour with the approval of the Government respectively, and II. in the case of a minor- the amount of compensation prescribed by notification made by the Ministry of Labour, Immigration and Population with the approval of the Government; B. Where permanent total disablement results from the injury – I. in the case of an adult, a sum equal to 36 times 140 per cent of the workman's monthly wages calculated in accordance with this Act: Provided that the minimum and the maximum payment in such a case shall be the amount of compensation prescribed by notification made by the Ministry of Labour, Immigration and Population with the approval of the Government respectively, and II. in the case of a minor- the amount of compensation prescribed by notification made by the Ministry of Labour, Immigration and Population with the approval of the Government; C. Where permanent partial disablement results from the injury – I. in the case of an injury specified in Schedule I, such percentage of the compensation which would have been payable in the case of permanent total disablement as is specified therein as being the percentage of the loss of earning capacity caused by that injury, and II. in the case of an injury not specified in Schedule I, such percentage of the compensation payable in the case of permanent total disablement as is proportionate to the loss of earning capacity permanently caused by the injury; Explanation - Where more injuries than one are caused by the same accident, the amount of compensation payable under this head shall be aggregated but not so in any case as to exceed the amount which would have been payable if permanent total disablement had resulted from the injuries; D. Where temporary disablement, whether total or partial, results from the injury, a half monthly payment payable on the sixteenth day * * * * from the date of the

	disablement, and thereafter half-monthly during the disablement or during a period of five years, whichever period is shorter – I. in the case of an adult-of a sum equivalent to one-third of the workman's monthly wages calculated in accordance with this Act, and II. in the case of a minor-of one-half of his monthly wages: Provided that – a) there shall be deducted from any lump sum or half-monthly payments to which the workman is entitled the amount of any payment or allowance which the workman has received from the employer by way of compensation during the period of disablement prior to the receipt of such lump sum or of the first half-monthly payment, as the case may be; and b) no half-monthly payment shall in any case exceed the amount, if any, by which half the amount of the monthly wages of the workman before the accident exceeds half the amount of such wages which he is earning after the accident; and c) no compensation shall be payable in respect of the first four days of the disablement if the period of the workman's disablement is ten days or less. E. In cases where the injury results in incapacity of such a nature that the injured workman must have the constant help of another person, additional compensation equivalent to twenty-five percent of the compensation payable in respect of the injury shall be paid to the injured workman. (2) On the ceasing of the disablement before the date on which any half-monthly payment falls due, there shall be payable in respect of that half-month a sum proportionates to the duration of the disablement in that half-month. (3) Where the injury sustained is of such a nature as would entitle the injured workman to the supply and renewal by the employer of such artificial limbs and surgical appliances as are recognised to be necessary, the injured workman shall be paid a lump sum compensation representing the probable cost of the supply and renewal of such appliances. This sum, which shall not exceed ten percent of the compensation payable in respect of the injury, shall be decided at the time when the amount of compensation payable in respect of the injury is settled or revised.
Section 8	(1) No payment of compensation in respect of a workman whose injury has resulted in death, and no payment of a lump sum as compensation to a woman or a person under a legal disability, shall be made otherwise than by deposit with the Commissioner, and no such payment made directly by an employer shall be deemed to be a payment of compensation: Provided that, in the case of a deceased workman, an employer may make to any dependent advances on account of compensation not exceeding an aggregate of the amount of compensation prescribed by notification made by the Ministry of Labour, Immigration and Population with the approval of the Government, and so much of such aggregate as does not exceed the compensation payable to that dependent shall be deducted by the Commissioner from such compensation and repaid to the employer. (2) Any other sum amounting to not less than the amount of money prescribed by notification made by the Ministry of Labour, Immigration and Population with the approval of the Government which is payable as compensation may be deposited with the Commissioner on behalf of the person entitled thereto.

	(3) The receipt of the Commissioner shall be a sufficient discharge in respect of any compensation deposited with him. (4) On the deposit of any money under sub-section (1) as compensation in respect of a deceased workman the Commissioner shall deduct therefrom the actual cost of the workman's funeral expenses, to an amount not exceeding the amount of money prescribed by notification made by the Ministry of Labour, Immigration and Population with the approval of the Government, and pay the same to person by whom such expenses were incurred, and shall, if he thinks necessary, cause notice to be published or to be served on each dependent in such manner as he thinks fit, calling upon the dependents to appear before him on such date as he may fix for determining the distribution of the compensation. If the Commissioner is satisfied after any inquiry which he may deem necessary, that no dependent exists, he shall repay the balance of the money to the employer by whom it was paid. The Commissioner shall, on application by the employer, furnish a statement showing in detail all disbursements made. (5) Compensation deposited in respect of a deceased workman shall, subject to any deduction made under sub-section (4), be apportioned among the dependents of the deceased workman or any of them in such proportion as the Commissioner thinks fit, or may, in the discretion of the Commissioner, be allotted to any one dependent. (6) Where any compensation deposited with the Commissioner is payable to any person, the Commissioner shall, if the person to whom compensation is payable is not a woman or a person under a legal disability, and may in other cases, pay the money to the person entitled thereto. (7) Where any lump sum deposited with the Commissioner is payable to a woman or a person under a legal disability, such sum may be invested, applied or otherwise dealt with for the benefit of the woman, or of such person during his disability, in such manner as the Commissioner may direct; and where a half-monthly payment is payable to any person under a legal disability, the Commissioner may, of his own motion or on an application made to him in this behalf, order that the payment be made during the disability to any dependent of the workman or to any other person whom the Commissioner thinks best fitted to provide for the welfare of the workman. (8) Where, on application made to him in this behalf or otherwise, the Commissioner is satisfied that, on account of neglect of children on the part of a parent or on account of the variation of the circumstances of any dependent or for any other sufficient cause, an order of the Commissioner as to the distribution of any sum paid as compensation, or as to the manner in which any sum payable to any such dependent is to be invested, applied or otherwise dealt with, ought to be varied, the Commissioner may make such orders for the variation of the former order as he thinks just in the circumstances of the case: Provided that no such order prejudicial to any person shall be made unless such person has been given an opportunity of showing cause why the order should not be made, or shall be made in any case in which it would involve the repayment by a dependent of any sum already paid to him. (9) Where the Commissioner varies any order under sub-section (8) by reason of the fact that payment of compensation to any person has been obtained by fraud, impersonation or other improper means, any amount so paid to or on behalf of such person may be recovered in the manner hereinafter provided in section 31.

2.2. PROJECT RELEVANT PLANS, POLICIES AND STRATEGIES OF MYANMAR GOVERNMENT AND RELEVANT MINISTRIES

2.2.1. National Environmental Policy of Myanmar (2019)

The project developer (Marine Acary Production Company Limited) commits to comply with the following National Environmental Policy principles:

1) Every person and citizen living in Myanmar has the right to access a clean and healthy environment, and the duty to protect the environment.

2) The complete value of Myanmar's environment is recognized and considered – both tangible and intangible values, including its significant spiritual values, ecological assets and cultural heritage, in addition to its direct benefits for humanity.

3) Environment and natural resource management will recognize the critical roles that Myanmar's natural capital and ecosystem services play in the country's society and economy.

4) Myanmar's ecosystems are to be protected and managed in a sustainable way in order to maintain their natural functions and resilience, and rich biodiversity.

5) Myanmar's natural resources are to be protected and managed in integrated and sustainable ways without diminishing their availability and quality for future generations.

6) The rights of indigenous people and ethnic nationalities to their lands, territories, resources and cultural heritage, and their roles in environmental conservation and natural resources management, are recognized and protected.

7) Environmental service provisioning (including waste management, wastewater treatment, drinking water purification, ambient air and water quality monitoring and management) will be included as necessary parts of infrastructure planning and development for urban and human settlement areas, with resource efficient and zero waste approaches used.

8) Environmental sustainability will always be a central objective in determining Myanmar's economic and social development strategies, which will priorities low carbon and green economy pathways, through responsible investment and partnerships with the private sector and civil society.

9) Recognizing the inextricable link between environment and poverty, environmental considerations must be central to effective people-centered development and serve to guide development strategies so that sustainable and equitable approaches to improved prosperity and living standards are pursued.

10) Sustainable and renewable energy for the needs of people and for economic development in Myanmar will be secured, and utilized efficiently, through the use of existing technology and innovations in the generation, storage, supply and use of energy.

11) Climate smart approaches to development, including resilience, climate change adaptation and mitigation, and disaster reduction strategies, will be aligned to environmental protection and good

natural resource management approaches in the pursuit of low- carbon, sustainable development.

12) Economic values of environmental services will be recognized and incorporated in development policies so that these values are optimized and maintained to the extent possible.

13) Pollution and waste are to be avoided and minimized at the source as more cost effective than remediation, enterprises will be encouraged to adopt clean production principles and best practices.

2.2.2. **Myanmar Climate Change Policy (2019)**

The project developer (Marine Acary Production Company Limited) commits that the project will be in line with the following guiding principles:

a) Sustainable development – Develop sustainably to meet the needs of the present without compromising the ability of future generations to meet their own needs by ensuring the promotion of an economically, socially and environmentally sustainable future and a fair and equitable society;

b) Precaution – Take cost-effective measures to avoid, minimize and protect from environmentally harmful consequences where there are threats of serious or irreversible damage even if there is a lack of full scientific certainty;

c) Prevention – Take anticipatory action to prevent or minimize environmental damage before it occurs by avoiding, prohibiting or controlling threatening activities;

d) Environmental integrity – Promote, protect and conserve the natural environment and recognize its complete and intrinsic value, whether tangible or non-tangible, economic or non-economic, to the natural, cultural and spiritual heritage of Myanmar;

e) Shared responsibility and cooperation – Encourage, support and embrace the common and shared responsibility of all people for the protection, conservation, and equitable sharing of benefits and resources of the environment, and encourage wide cooperation across sectors and stakeholders at all levels, including the private sector.

f) Inclusiveness – Engage all people at all levels in decision – making and action, by supporting and embracing their diverse social, economic and cultural perspectives, participation and contributions without discrimination, particularly with respect to gender, ethnicity and age, in order to equitably share the benefits and opportunities of climate change adaption, mitigation and low-carbon, climate-resilient development.

g) Good governance – Adopt transparent, participatory and responsive processes to ensure that decision-making at all levels is inclusive, equitable and accountable to all people in Myanmar, in accordance with the rule of law.

h) Climate justice and equity – Promote and protect the rights of the people of Myanmar, in particular the poorest, most vulnerable and marginalized segments of society, including indigenous

peoples, all ethnic groups, local communities, women, children, the elderly, and persons with disabilities to live in a healthy environment and a fair, equitable and sustainable society.

i) Gender equity and women's empowerment – Promote and protect gender equality and women's equal rights through strengthening gender-responsive climate change policy concerning adaptation, mitigation, finance, technology development and transfer and capacity-building and ensuring full and equal participation of women in decision-making.

2.2.3. **Myanmar Sustainable Development Plan (2018 - 2030)**

This MSDP is structured around 3 pillars, 5 Goals, 28 Strategies and 251 Action Plans. The project developer (Marine Acary Production Company Limited) commits to comply with the following aspects.

- Pillar 3: People & Planet is about empowering our people and protecting our planet and it is necessary for sustainable development to be achieved. It is also pointed out that protecting our natural capital and strengthening our human capital will be essential in meeting our national development objectives and ensuring the sustainability of economic growth.

- Goal 5: Natural Resources & the Environment for Posterity of the Nation Protecting Myanmar's natural environment is essential to ensuring Myanmar's development gains may be enjoyed by both our present and future generations.

- Strategy 5.1: Ensure a clean environment together with healthy and functioning ecosystems

- Strategy 5.2: Increase climate change resilience, reduce exposure to disasters and shocks while protecting livelihoods, and facilitate a shift to a low-carbon growth pathway.

- Strategy 5.3: Enable safe and equitable access to water and sanitation in ways that ensure environmental sustainability.

- Strategy 5.4: Provide affordable and reliable energy to populations and industries via an appropriate energy generation mix.

2.2.4. **National Sustainable Development Strategy (2009)**

The National Sustainable Development Strategy (NSDS) is part of a broader program of the UN Sustainable Development Commission set up after the World Summit on Sustainable Development in 2002.Every country, including Myanmar, that signed Agenda 21 at the Earth Summit in Rio de Janeiro in 1992, agreed to develop an NSDS by 2010 in line with the Millennium Development Goals (MDGs). UNEP provided funding for Myanmar to develop an NSDS. The main aim of the process was to develop an NSDS in line with international standards by meeting the MDGs and ensure that environmental and social impacts are mitigated when implementing development projects. Myanmar's NSDS was published in August 2009. The three goals described in Myanmar's NSDS are sustainable management of natural resources, integrated economic development and sustainable social development. Specific strategies are outlined under each goal. For example, the goal for Sustainable Management of Natural Resources suggests strategies for forest resource management, sustainable energy production and consumption, biodiversity conservation, sustainable freshwater resources management, sustainable management of land resources, sustainable management for mineral resources utilization, and so on.

The project developer commits that the project will not negatively impact on the following goal and relevant areas and corresponding activities.

- Goal 1. Sustainable Management of Natural Resources
- Area (2) Biodiversity conservation
- Area (3) Sustainable freshwater resources management
- Area (4) Environmental quality management and enhancement
- Area (10) Sustainable energy production and consumption
- Area (11) Sustainable industrial, transport and communication development

2.2.5. **Myanmar Energy Master Plan (2015)**

The following are the key barriers identified in attracting investment in Myanmar's energy sector:

A. There is competition for private sector investment. Key expectations are: (i) tariffs must be cost-reflective; (ii) tariffs must ensure adequate returns on investments; (iii) the law must protect private assets; and (iv) there must be transparency through mechanisms such as auctions. It is recommended that the government ensure that a legal and regulatory framework is in place that meets international standards, the private sector will be more likely to participate if risks are minimized with the establishment of legal rights and privileges that are enforceable.

B. Environmental standards must be in place and a capability developed to monitor and report compliance in a transparent manner. It is recommended that the government continue to develop consultative mechanisms with civil society and environmental groups

Social acceptance of large hydropower schemes and gas pipelines has diminished in recent years by perceived rent seeking behavior by project developers – local residents claim they receive no direct benefits from energy development projects. The future of hydropower development in particular will be tied to the success of developing greater social acceptance. It is recommended that the government explore the opportunities for local residents to share the benefits of energy developments.

2.2.6. **National Waste Management Strategy and Master Plan (2018 – 2030)**

Myanmar has had to face tremendous challenges in waste management in the recent past, due to many factors including the growing population, economy, increasing complexity of waste streams and lack of effective waste management systems, proper infrastructure, capital investment, financial and human resources, as well as effective policy and regulatory environment. To solve these issues, the National Waste Management Strategy and Master Plan (2018-2030) was developed by the MONREC with the assistance of the International Environmental Technology Centre (ETC) of the United Nations Environment Programme (UN Environment) and the IGES Centre Collaborating with UNEP on Environmental Technologies (CCET).

The aim of the National Waste Management Strategy and the Master Plan is to develop and implement the holistic and integrated waste management strategy based on the principles of

inclusiveness, zero waste, zero emissions, and circular economy to achieve a greener, cleaner and healthier environment in Myanmar.

2.2.7. Myanmar National Drinking Water Standard, 2019

No.	Parameters	Unit	Limitation
1	pH	mg/L	6.5 - 8.5
2	Total Dissolved Solid	mg/L	1000
3	Hardness	mg/L (as CaCO3)	500
4	Arsenic	mg/L	0.05
5	Total Coliform	MPN/100ml	3
6	Iron	mg/L	1
7	Turbidity	NTU (Nephelometric Turbidity Units)	5
8	Color	TCU (True Color Unit)	15
9	Lead	mg/L	0.01
10	Fecal coliform	MPN/100ml	0
11	Manganese	mg/L	0.4
12	Chloride	mg/L	250
13	Sulphate	mg/L	250
14	Taste	Acceptable/ No objectionable taste	
15	Odor	Acceptable/ No objectionable taste	
16	Nitrate	mg/L	50

2.2.8. WHO Drinking Water Guidelines

No.	Parameter	Unit	Standard
1.	pH	-	6.5 – 8.5
2.	Color (True)	TCU	15 TCU
3.	Turbidity	NTU	5 NTU
4.	Conductivity	Micro S/cm	1,660
5.	Total Hardness	mg/l as $CaCO_3$	500 mg/l as $CaCO_3$
6.	Calcium Hardness	mg/l as $CaCO_3$	200
7.	Magnesium Hardness	mg/l as $CaCO_3$	150
10.	Carbonate ($CaCO_3$)	mg/l as $CaCO_3$	500
12.	Iron	mg/l	0.3 mg/l
13.	Chloride (as CL)	mg/l	250 mg/l
15.	Sulphate (as SO_4)	mg/l	500 mg/l
16.	Total Solid	mg/l	1500 mg/l
17.	Total Suspended Solids	mg/l	500
18.	Total Dissolved Solids	mg/l	1000 mg/l

No.	Parameter	Unit	Standard
19.	Manganese	mg/l	0.05 mg/l

2.2.9. IFC EHS Guidelines

The EHS Guidelines by International Finance Cooperation (IFC) are technical reference documents with general and industry–specific examples of Good International Industry practice (GIIP), as defined in IFC's Performance Standard 3: Resources Efficiency and Pollution Prevention. The EHS Guidelines contain the performance levels and measures that are normally acceptable to IFC, and that are generally considered to be achievable in new facilities at reasonable costs by existing technology.

There are two kinds of guidelines, General EHS Guidelines and Industry Sector Guidelines. The General EHS Guidelines contain information on cross-cutting environmental, health, and safety issues potentially applicable to all industry sectors in the following section: (1) Environment, (2) Occupational Health and Safety, (3) Community Health and Safety and (4) Construction and Decommissioning. Table 2-1 shows the contents of the section of Community Health and Safety.

Table 2-1 Community health and safety contents

Contents	Brief Description
Water Quality and Availability	Drinking water sources should at all times be protected so that they meet or exceed applicable national acceptability standards or in their absence the current edition of WHO Guidelines for Drinking-Water Quality. Project activities should not compromise the availability of water for personal hygiene needs and should take account of potential future increases in demand. The overall target should be the availability of 100 liters per person per day.
Structural Safety of Project Infrastructure	Reduction of potential hazards is best accomplished during the design phase when the structural design, layout and site modifications can be adapted more easily. The following issues should be considered and incorporated as appropriate into the planning, siting, and design phases of a project (1) inclusion of buffer strips or other methods of physical separation around project sites to protect the public from major hazards associated with hazardous materials incidents or process failure (2) incorporation of siting and safety engineering criteria to prevent failures due to natural risks posed by earthquakes, tsunamis, wind, flooding, landslides and fire, and (3) application of locally regulated or internationally recognized building codes, standards and regulations, and mitigation measures.
Traffic Safety	Traffic safety should be promoted by all project personnel during displacement to and from the workplace, and during operation of project equipment on private or public roads. Prevention and control of traffic related injuries and fatalities should include the adoption of safety measures that are protective of project workers and of road users, including those who are most vulnerable to road traffic accidents.
Transport of Hazardous Materials	Projects should have procedures in place that ensure compliance with local laws and international requirements applicable to the transport of hazardous materials.
Disease Prevention	Recommended interventions against the communicable diseases at the project level include (1) providing surveillance and active screening and treatment of workers, (2) preventing illness among workers in local communities by undertaking health awareness and education initiatives, training health workers in disease treatment and conducting immunization programs for workers, and (3) providing treatment through standard case management in on-site or community health care facilities.

Contents	Brief Description
Emergency preparedness and Response	All projects should have an Emergency preparedness and Response Plan that is commensurate with the risks of the facility and that includes the following basic elements: (1) Administration (policy, purpose, distribution, definitions, etc.) (2) Organization of emergency areas (command centers, medical stations, etc. (3) Roles and responsibilities, (4) Communication systems, (5) Emergency response procedures, (6) Emergency resources, (7) Training and updating, (8) Checklists (role and action list and equipment checklist), and (9) Business Continuity and Contingency.

2.3. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION'S STACK EMISSION GUIDELINE

Occupational Safety and Health Administration has set the stack emission quality guideline as shown in Table 2-2.

Table 2-2 Stack Emission Guideline of OSHA

Item	OSHA Guideline	Unit	Averaging Period
CO2	5000	ppm	8 Hour
SO2	5	ppm	8 Hour
NO2	5	ppm	8 Hour
CO	50	ppm	8 Hour

Source: Occupational Safety and Health Administration

2.4. NATIONAL ENVIRONMENTAL QUALITY (EMISSION) GUIDELINES (2015)

According to the Environmental Conservation Law, MOECAF shall set standards of environmental qualities as agreed by the Union Government and the Environmental Conservation Committee to provide the basis for regulation and control of noise and vibration, air emissions and liquid discharges from various sources in order to prevent pollution for purposes of protection of human and ecosystem health. In section 13 of NEQG, Air emissions, noise, odor, and liquid/effluent discharges will be sampled and measured at points of compliance as specified in the project EMP and ECC.

2.4.1. General Guidelines

2.4.1.1. Air Emission

Projects with significant sources of air emissions, and potential for significant impacts to ambient air quality, should prevent or minimize impacts by ensuring that: (i) emissions do not result in concentrations that reach or exceed national ambient quality guidelines and standards, or in their absence current World Health Organization (WHO) Air Quality Guidelines1 for the most common pollutants as summarized below; and (ii) emissions do not contribute a significant portion to the attainment of relevant ambient air quality guidelines or standards (i.e. not exceeding 25 percent of the applicable air quality standards) to allow additional, future sustainable development in the same air shed. Industry-specific guidelines summarized hereinafter shall be applied by all projects to ensure that air emissions conform to good industry practice. Reference should be made to WHO's Air Quality Guidelines for Europe2 for air pollutants not included in the following Table 2-3.

Table 2-3 NEQEG Air Quality Guidelines

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

[a]Particulate matter 10 micrometers or less in diameter

[b]Particulate matter 2.5 micrometers or less in diameter

2.4.1.2. Wastewater

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

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

Table 2-4 Wastewater, Storm Water Runoff, Effluent and Sanitary Discharges

Parameter	Unit	Guideline Values
5-day Biochemical oxygen demand	mg/l	50
Ammonia	mg/l	10
Arsenic	mg/l	0.1
Cadmium	mg/l	0.1
Chemical oxygen demand	mg/l	250
Chlorine (total residual)	mg/l	0.2
Chromium (hexavalent)	mg/l	0.1
Chromium (total)	mg/l	0.5
Copper	mg/l	0.5
Cyanide (free)	mg/l	0.1
Cyanide (total)	mg/l	1
Fluoride	mg/l	20

Parameter	Unit	Guideline Values
Heavy metals (total)	mg/l	10
Iron	mg/l	3.5
Lead	mg/l	0.1
Mercury	mg/l	0.01
Nickel	mg/l	0.5
Oil and grease	mg/l	10
pH	S.U.[a]	6-9
Phenols	mg/l	0.5
Selenium	mg/l	0.1
Silver	mg/l	0.5
Sulphide	mg/l	1
Temperature increase	°C	<3[b]
Total coliform bacteria	100 ml	400
Total phosphorus	mg/l	2
Total suspended solids	mg/l	50
Zinc	mg/l	2

a Standard Unit

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

2.4.1.3. Noise Level

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

Table 2-5 Noise Level of National Environmental Quality (Emission) Guidelines

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

[a] Equivalent continuous sound level in decibels

3. PROJECT DESCRIPTION

3.1. LOCATION

The project of Marine Acary Production Company Limited is located at No. 917, Ue Pain No. 2/8, Yay Kyaw Gyi Kwinn, Katonkani Kyaye Ywar Oke Suu, Bogalay Township, Ayeyawady Region, Myanmar. The project locates at the coordinates of North latitude 15°51'43.32"N and longitude 95°12'6.04"E covering the total area of about 32.32 acres. The Nearest water body of the proposed project is Yay Kyaw Gyi Creek. It takes about 4 hours by boat to reach the project from Bogalay township. Location of the proposed project area is illustration in Figure 3-1.

3.2. ADJACENT AREAS NERBY PROJECT SITE

The adjacent places of the project area are Pauk Sein Kya Village which is located at 0.3 miles away from the project and Katonkani Village which is located at about 3 miles away and nearest bridge is Yay Kyaw Gyi Bridge. To the east, there is Yay Kyaw Gyi Creek, and to the west, south, and north, there are farmlands.

3.3. DESCRIPTION OF PROPOSED PROJECT SITE

The proposed project built one storey building (100' x 80' x 25') for fishmeal production process, one storey type of two buildings (80' x 40' x 25') for products warehouse, one storey type of two buildings (100' x 60' x 25') for ice factory, one storey building (60' x 45' x 25') for office, two building (60' x 45') for Residence, one building (80' x 40') for boiler room and 5 buildings each with 8 rooms (100' x 15') for workers house on total land area. Production work will be done with the estimated 120 employees for production of fishmeal and ice factory. Both skill and non-skill workers are local people. The estimated annual export rate for fish meal production is about 50 tons and for ice production process is about 60 tons per day.

In operation phase, major utilizes for proposed factory include power supply, fuel oil and emergency generators, and water supply for domestic use, and for fire-fighting. The factory aims to manufacture fishmeal and ice factory.

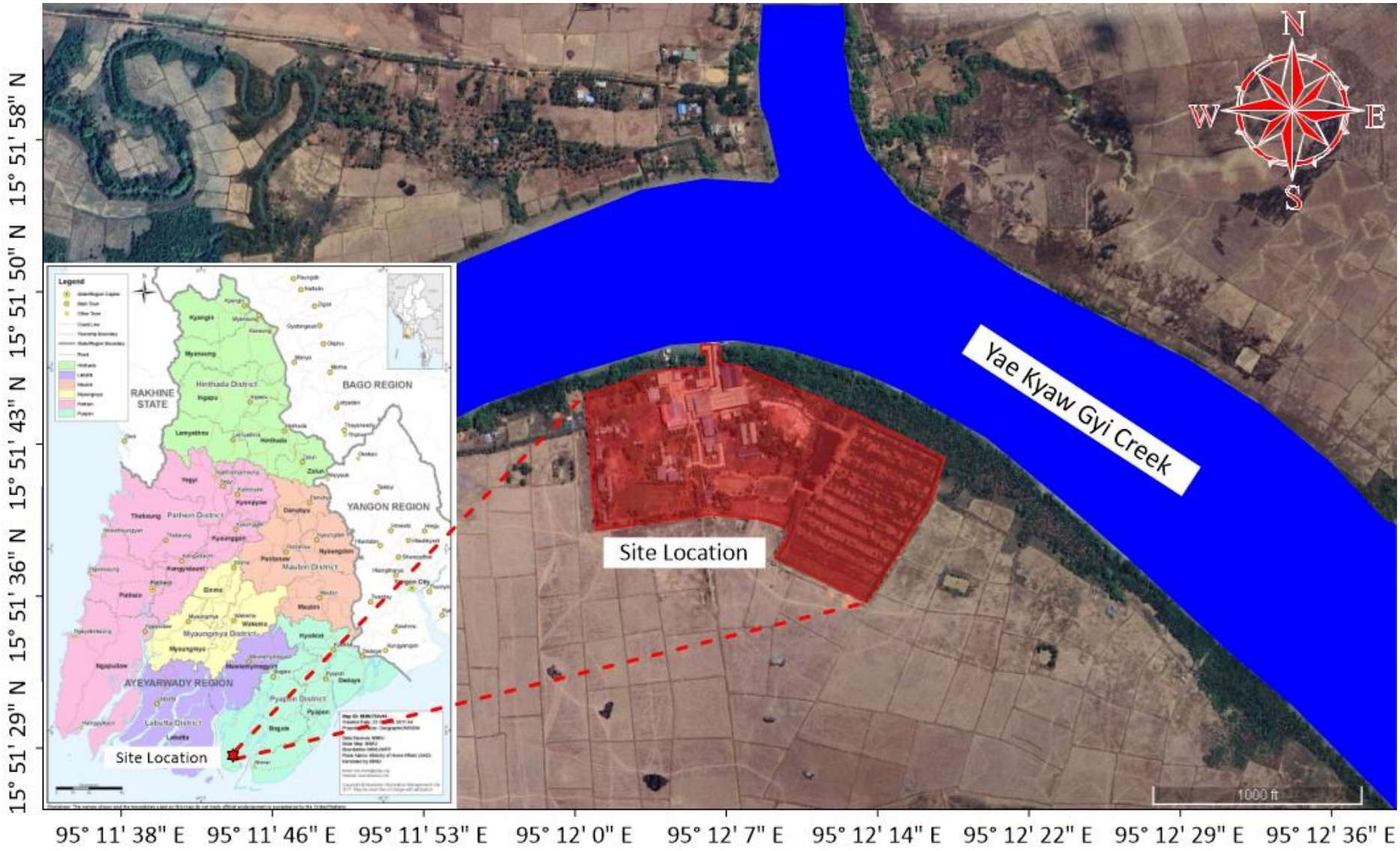


Figure 3-1 Location Map of Marine Acary Production Company Limited

Figure 3-2 Factory Layout Drawing

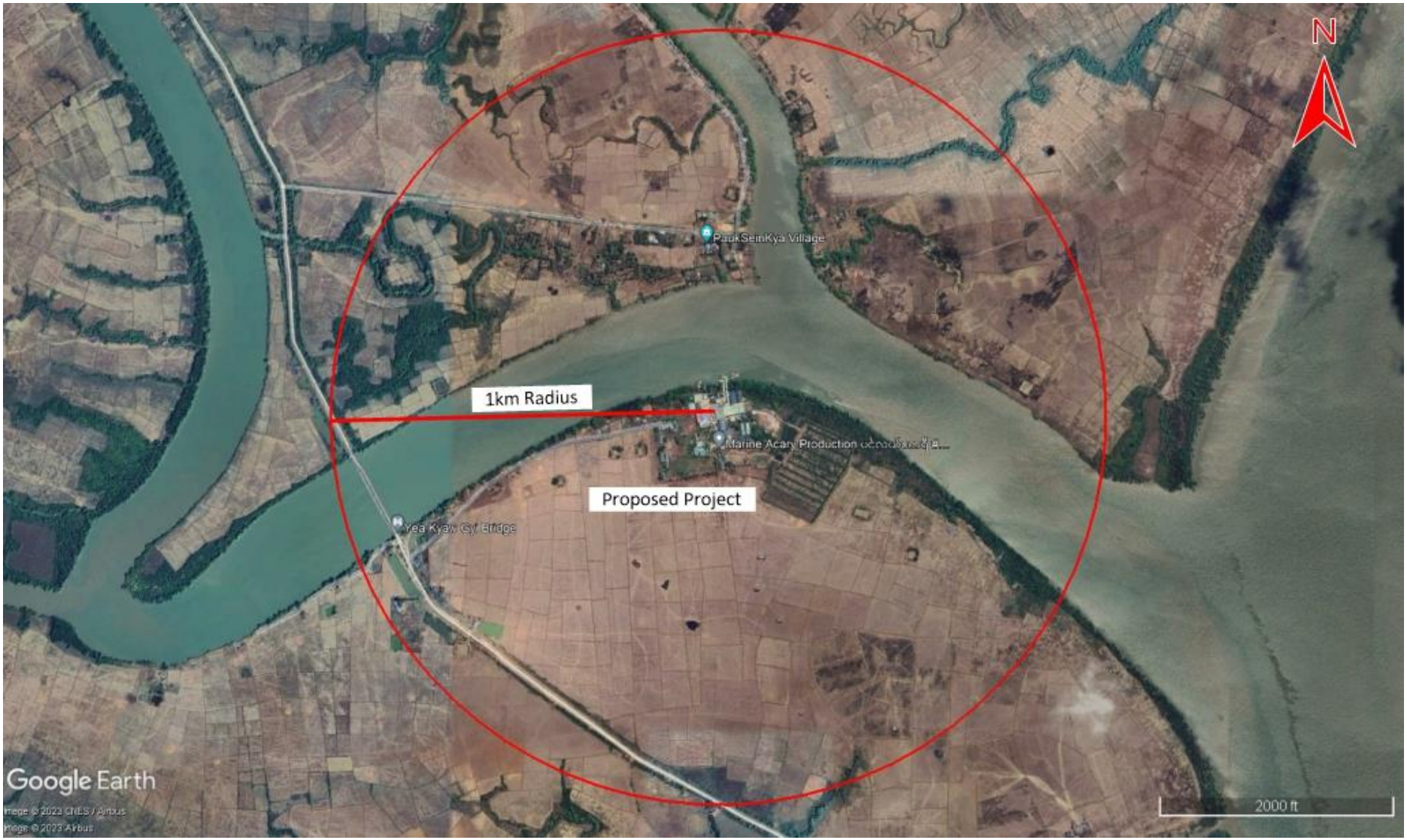


Figure 3-3 Adjacent Map of the Project

3.4. PRODUCTION PROCESS OF FISHMEAL

The proposed project is the production of fishmeal. The production processes making with automatic machines. The production steps are as follow.

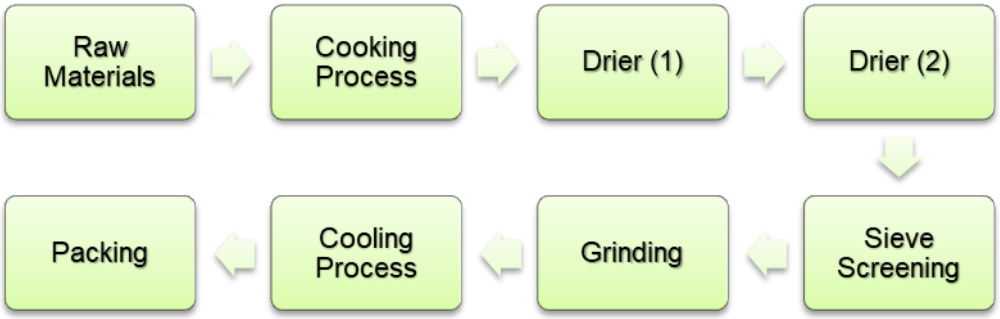


Figure 3-4 Production Process of Marine Acary Production Company Limited

Raw Materials: Fishmeal is primarily made from fish that are not suitable for human consumption, such as by-products from marine fishing vessels and whole fish that may not meet quality standard. The main raw materials of fishmeal production process are small, pelagic, oceanic fish such as menhaden, herring, anchovies, sardine and inedible parts of fish and shellfish. The vessels of the proposed project go to the sea for purchasing raw materials from marine fishing vessels. These raw materials are collected and transported to the fishmeal production factory.

Cooking Process: A long, steam-jacketed cooker plant through which the raw materials are moved by a screw conveyor. The raw fish undergoes cooking to destroy harmful bacteria. This is a stage in preparing the fishmeal, as incomplete cooking means the liquid from the fish cannot be pressed out while over cooking makes the raw materials too soft.

Drier (1) and Drier (2): After the cooking process, the cooked fish move through the drier (1) and drier (2) by screw conveyors. This fishmeal drying machine can mainly remove the moisture and dry the wet fish powder from fish cooking machine. The drying process helps preserve the fishmeal and reduces its water content to a specific level.

Sieve Screening: The process removes snail shells, crab shells, fish bones, any lumps and other materials from fishmeal through sieve holes.

Grinding: Grinding is an important process after drying fishmeal, so that the fishmeal grinding machine used. After drying, fishmeal may form larger particles, which are not easily distributed in feed formulation. This step ensures uniformity in the texture and particle size of the fishmeal.

Cooling Process: The high temperature fishmeal enters the cooling machine through the inlet and is constantly stirred and thrown under the action of the spiral tube. The fishmeal is in large contact with the spiral tube, so that the heat is continually dissipated. The water vapor dissipated is taken away by the cooling circulating air, so that the temperature of the fishmeal is reduced.

Packing: After the cooling process, the final fishmeal products are packaged in bags suitable for transportation and stored at the separated warehouse and then exported to foreign countries.


Raw Materials

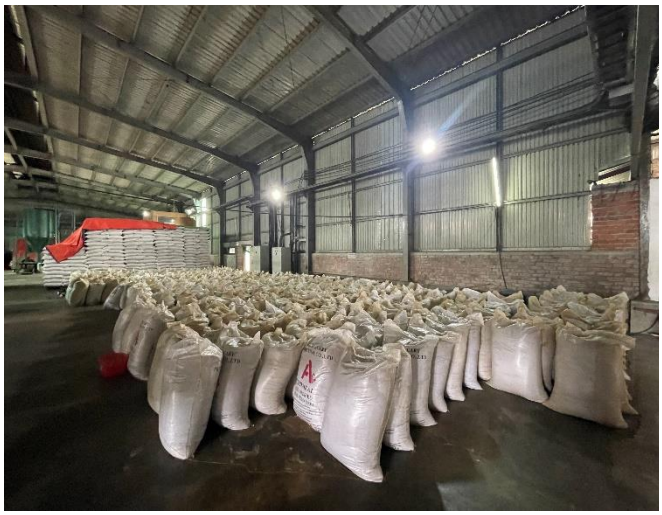

Cooking Machine


Drier Machines

Sieve Screening Machine

Grinding Machine

Cooling Machine



Final Products and Packaging

Figure 3-5 Production Process Photos

3.5. PRODUCTION PROCESS OF ICE FACTORY

The ice factory of the proposed project aims for fishmeal production process that ice blocks used to maintain the freshness of raw materials. The estimated production rate of the ice factory is about 60 tons per day. The ice factory does not operate regularly; it only runs when the project goes to purchase raw fish, at which time ice is needed. The production process of the ice factory is as follow:

1. Ice can in the solution of sodium chloride brine tank filled with water.

2. Ammonia gas in the liquid receiver is passed through the dispersion of spray and turned into small particle. The cooled ammonia gas, small particle is passed through the coils into the sodium chloride brine tank and reduced the temperature of the brine tank.

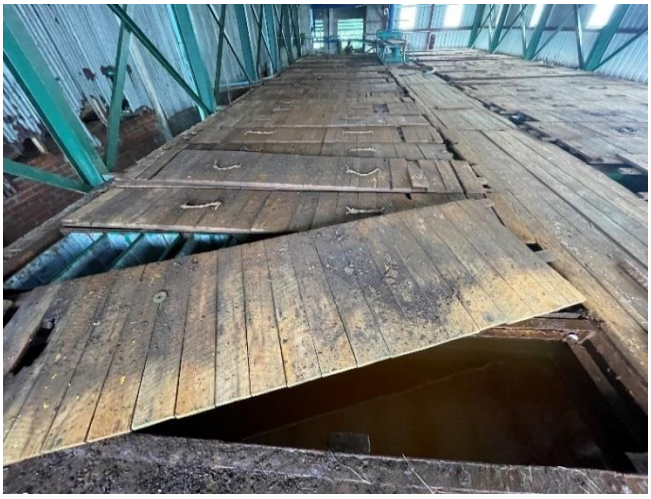
3. When the small particle of ammonia gas exposed to the temperature of the brine tank turned back to the liquid and enter the section bar as they are pulled by the compressor. And then it went out through the discharge bar and into the vessel that separated the compressor oil and ammonia ga.

4. The separated heat ammonia gas enters the condenser coil, where the coils are cooled by spraying water. The cooled ammonia gases are converted from vapor to liquid and returned to the liquid receiver.

5. By re-circulating, the temperature of the brine solution in the brine tank is gradually reduced, and when the temperature of the brine solution reaches (-13 °C), commercial ice blocks are obtained with desired volume.

Ice Can

Sodium Chloride




Brine Tanks


Liquid Receiver


Condenser Coil

Figure 3-6 Ice Production Process

3.6. PRODUCTS

The factory operates for about 9 months a year and runs 24 hours a day. During this time, approximately 150 tons of raw fish are processed, resulting in about 50 tons of fishmeal powder. On an hourly basis, the factory can process about 7 tons of raw fish, producing around 2 tons of fishmeal

powder. The fishmeal produced is packed into bags and stored in warehouses for fishmeal. The fishmeal is mainly exported to China and Thailand, with a small amount also sold domestically.

Figure 3-7 Product Photos

3.7. PROJECT UTILITIES

3.7.1. Machinery and Equipment

Automation systems for fully automatic and semiautomatic systems control of each process machine or complete processing line will be implemented. Needed machineries and equipment imported from China. Lists of machinery and equipment required for the proposed factory are listed in Table 3-1.

Table 3-1 List of machinery and equipment for Rice Milling Process

No	Particular	A/U	Quantity
1	Screw Conveyor	Unit	3
2	Cooker	Unit	1
3	Screw Conveyor	Unit	2
4	Direr-1	Unit	1
5	Screw Conveyor	Unit	3

No	Particular	A/U	Quantity
6	Direr-2	Unit	1
7	Screw Conveyor	Unit	2
8	Sieve Screening	Unit	1
9	Air Lock Valve	Unit	1
10	Screw Conveyor	Unit	1
11	Grinding Machine	Unit	1
12	Screw Conveyor	Unit	1
13	Cooler	Unit	1
14	Screw Conveyor	Unit	1
15	Cooling Fan	Unit	1
16	Air Compressor	Unit	1
17	Deodorizer Spray Pump	Unit	1
18	Blower Motor	Unit	1
19	Boiler (8 Tons)	Set	1
20	Water Treatment Plant	Set	1

3.7.2. **Raw Material Requirements**

The main raw materials of fishmeal production process are small, pelagic, oceanic fish such as menhaden, herring, anchovies, sardine and inedible parts of fish and shellfish. The vessels of the proposed project go to the sea for purchasing raw materials from marine fishing vessels. Raw materials have been frozen to keep them fresh. When the vessels are full of raw materials, they are brought back to the factory and made operation process to produce fishmeal.


Fishing Vessels of Proposed Project


Figure 3-8 Raw Material Photos

3.7.3. Human Resources

All the employee from the proposed Marine Acary Production Company Limited are local people. There are 130 employees for production process and proposed project's operation running days are about 300 days in a year. Working hour starts from 7:00 am to 5:00 pm. The lunch time is from 12:00 pm to 1:00 pm.

3.7.4. Water Supply System and Water Usage

3.7.4.1. Water Resource

The main water supply is from eight tube wells and get water from these tube wells installed to the water storage tank. Groundwater from this tube well is pumped into the water storage tank for the operation process and domestic use. The main water use in the proposed project is for operation process and domestic usage such as for personal washing, food preparation, and washing of utensils. Each of tube well depth is about 630 feet. Main source of water supply will be provided by tube well water in which tube well water is pumped by 2 inches PVC pipe and treated by oxidation tower, chlorine dosing system, de-iron filter (FRP), carbon filter, and cartridge filter. The water will be reserved in (100' x 100' x 10') water storage tank (750,000 gallons) for toilet, firefighting and operation process.

3.7.4.2. Water Demand

Estimated water consumption for boiler is about 14,000 liter per day and 20,000 liters for operation process such as raw materials washing process and cooking process. Daily drinking water requirement of propose project is about 1,000 liter per day.

3.7.4.3. Water Purification System

The tube well water is treated by sedimentation tank, filers in overhead tank and lastly water treatment system including sand filter, carbon filter, water softener and reverse osmosis (RO) system before distribution through the pipe lines. The 2 inches PVC pipe and treated by oxidation tower, chlorine dosing system, de-iron filter (FRP), carbon filter, and cartridge filter. The quantity of water system is presented in Table 3-2 and Table 3-3.

Table 3-2 Expected Water Usage Condition

Sr No	Water Resource	Total Storage
1.	Groundwater from tube well	(750,000) gallons

Table 3-3 Estimated Water Usage Condition

Sr No	Usage	Daily use	One month use	One year use
1	Ice Factory	(10,000) gallons	(300,000) gallons	(2,700,000) gallons
2	Domestic Usage & Dormitory	(30,000) liter	(90,000) liter	(1,080,000) liter
3	Drinking water	(1,000) liter	(3,000) liter	(36,000) liter
4	Boiler	(14,000) liter	(364,000) liter	(3,276,000) liter
5	Operation Process (Washing & Cooking Process)	(20,000) liter	(520,000) liter	(4,680,000) liter

Water Storage Tanks

Drinking Water Supply System

Figure 3-9 Water Supply Photos

3.7.5. Energy and Electricity Usage

The factory has 3 KEMAGE generators with 800 kVA, 1 KEMAGE generator with 500 kVA, 1 KEMAGE generator with 250 kVA, 1 KEMAGE generator with 110 kVA and 3 STANFORD dynamo with 1250 KW used for running the operation process. Required petrol and diesel for vehicles and generators are purchased from the petrol stations of Bogalay township and Pyapon Township. Fuel requirement for proposed project is about 12-steel metal barrels per day. One steel metal barrel has 50 gallons of diesel fuel. The generators use diesel as fuel and the estimated diesel usage is about 600 gallons per day. Diesel fuel stored with about 150 steel metal barrels, four fuel storage tanks with 3,000 gallons capacity and three fuel storage tanks with 1,000 gallons capacity and kept at the fuel storage space.

Figure 3-10 Generators and Fuel Storage Areas

3.7.6. **Boiler**

40 feet in length and 15 feet in width boiler is used in manufacturing of fishmeal for daily and used of fuel is pellet. As boiler operation, pellet boiler is used for fishmeal production processes and this pellet supply from local suppliers. Ash released from pellet boiler is used at landfill. Estimated consumption of the pellet is about 20 tons per day and 10 percent (2 tons) of ash release per 20 tons of pellet. The water used in the boiler is the purified water that has been purified by R.O system. The factory has installed the chimney with 100 feet height to reduce the air pollution.


Figure 3-11 Boiler and Pellet Photos

3.8. PROJECT FACILITIES

3.8.1. Labor Facility

There are five dormitories, each consisting of eight rooms, built with dimensions of 110 feet in length and 15 feet in width. The project providing dormitory for the factory workers and then serve the fundamental facilities for the workers such as canteen, medical supply, social helps, drinking water, bath rooms and toilets throughout the duration of operation process.


Figure 3-12 Labor Facilities of Proposed Project

3.8.2. Fire Fighting Facility

Fire extinguishers, firefighting tank and fire hydrants are set up in the factory for fire emergency cases. Firefighting equipment must be regular inspect and check. In case of fire emergency, the number of 30 fire extinguishers are installed in the proposed project area and water is stored in firefighting water storage tank (100' x 100' x 10') with the water storage capacity (750,000 gallons) at the proposed area. The factory prepares 6 fire hose reels with 7 Hp motor and 2 inches pump, 1 with 16 Hp motor and 2 inches pump and 2 fire hose reels with 20 Hp motor and 2 inches pump for emergency fire cases. The emergency contact numbers of township and district fire services department printed out and tagged to the easily visible places such as building's walls, entrances, office, and canteen. In addition, the project proponent has plans to provide trainings on firefighting for the workers by a professional or otherwise by sending to training courses.

Figure 3-13 Fire Fighting Facility

3.8.3. Solid Waste Management Facility

The factory produces the production wastes and domestic wastes. The main wastes from production process are dust, shell of snails, shell of crabs, fish bones and other materials. Estimated amount of waste from the production process is about 200 tons per month. The waste generated from the production process is temporarily collected within the project area. This waste is then reused for land filling and road construction within the project area. Ash emission of the running boiler process is about 2 tons per day. Ash released from pellet boiler is used at landfill. The recyclable waste that is being processed is shared with nearby villages for road construction, while the ash is reused as soil fertilizer in those villages.

About 150 kg (0.13 tons) of domestic wastes are generated and collected separately in garbage based on their types and stored in relevant separated waste bin: non-hazardous waste, hazardous waste, re-usable waste, and final wastes will be disposed at waste dump located at Katonkani Village. The estimate waste from both production and domestic is about 250 tons per month.

Figure 3-14 Solid Waste Management Facilities

3.8.4. Liquid Waste Control Facility

Office, dormitory, operation buildings and dishwashing sink will be installed with drainage pipe with PVC to drain wastewater from washing area into the concrete channel. Around the compound area of the project area, drainages are also provided and maintain to flow storm water (rain water and surface water). The compound area of the factory is paved with concrete and the drainages are covered and holes are there to flow the storm water.

The factory stores the discharged waste water from the raw materials washing process at the waste water storage pond and that waste water reuse in palm farming. The waste water from production process flow from concrete drainage channel to waste water storage pond. And distilled hot water discharged from raw materials cooking process is not directly discharged, but mixed with cold water in the brick pond to reduce the temperature of hot water. Brick pond filled up with brick debris, sand and pebbles. After cooling the hot water, the water with sufficient cooling rate discharge from factory drainage to Yay Kyaw Gyi creek.

Figure 3-15 Liquid Waste Control Facility

Figure 3-16 Brick Pond and Factory Drainage to Yay Kyaw Gyi Creek

Figure 3-17 Waste Water Storage Pond and Palm Farming

3.8.5. Odor Management Facility

There is odor emission from production processes such as washing and cooking of raw materials. The factory prepares to control and mitigate the emission of odor to surrounding environment. The proposed project installed the 4-deodorizing system plant at the factory that the deodorizer is a

cylindrical tower and refers to minimize the odor emission in the atmosphere by cooling the released odor and turn them from vapor to liquid and then discharged through brick pond to Yay Kyaw Gyi Creek.

Figure 3-18 Odor Management Facility Photos

3.8.6. Planting Facility

Different kinds of trees like palm, lemon, guava, mango, papaya and flower plant like mesua ferrea, orchid, eugenia and star flower are planted within the project area. By making plants and garden around the proposed project can reduce carbon emission from production process and can get fresh air that support for health of employees.


Figure 3-19 Planting Facility Photos

3.9. WASTE GENERATION

The project will be generated solid waste, liquid waste, and hazardous waste from the operation of the proposed project is as follow:

Table 3-4 Estimated Waste Generation and Waste Amount

Waste		Type of wastes	Estimated waste amount	Source of generation
Solid Waste	Production Wastes	Dust, shell of snails, shell of crabs, fish bones and other materials	200 tons per month	Production process of fishmeal
	Domestic Waste	Food residues, domestic waste	50.7 kg / day	Canteen, office, dormitory
Liquid waste		Sanitary discharge water	1.3 m^3 /day	Toilet facility, office and worker house
		Operation discharge water	17.4 m^3/day	Washing and cooking of raw materials
Hazardous Waste		Broken light bulbs/tubes, old batteries	80 kg per month	Office and production areas

4. BRIEF DESCRIPTION OF SURROUNDING ENVIRONMENT

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

4.1. METHODOLOGY FOR DATA COLLECTION AND ANALYSIS

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

- Onsite Measurements and Analysis – Baseline parameters such as air quality, noise level measurement and water quality of the existing project site during the operation phase were measured onsite. For water quality parameters was also measured on site and sample raw water and waste were sent to respective laboratories for analysis. The analyzed results are mentioned in this chapter.
- Secondary data collection of proposed project site area – Socio economic condition, physical/biological environment, and weather data are collected from official township data of Bogalay Township, Ayeyarwady Region.

Figure 4-1 Baseline Environmental Quality Monitoring Point

4.2. PHYSICAL COMPONENT (SECONDARY DATA)

4.2.1. Topography

The proposed project existing at Katonkani Village Tract, Bogalay Township which is low and flat with an elevation of above sea level and it's had many creeks, water outlets, river, lake, and channels. The nearest water body is Yay Kyaw Gyi Creek. Bogalay Township is located between 15°40' to 16°35' North latitude and 95°15' to 95°35' East longitude. It stretches 33.15 miles from east to west and 38.02 miles from south to north. The township has an area of 868.88 square miles. To the east of Bogalay Township is Pyapon Township, to the south is Amar Township, to the west are Laputta Township and Mawlamyine Kyun Township, and to the north is Kyaiklatt Township. Bogalay District is a slightly elevated plain area, situated at an altitude of 8.2 feet above sea level. In the southern part of Bogalay Township has the abundance of rivers and streams, there are also in connection with the abundance of Island and the Andaman Sea. The topographic map of Bogalay Township is shown in Figure 4-2 and topographic map of Myanmar is shown in Figure 4-3.

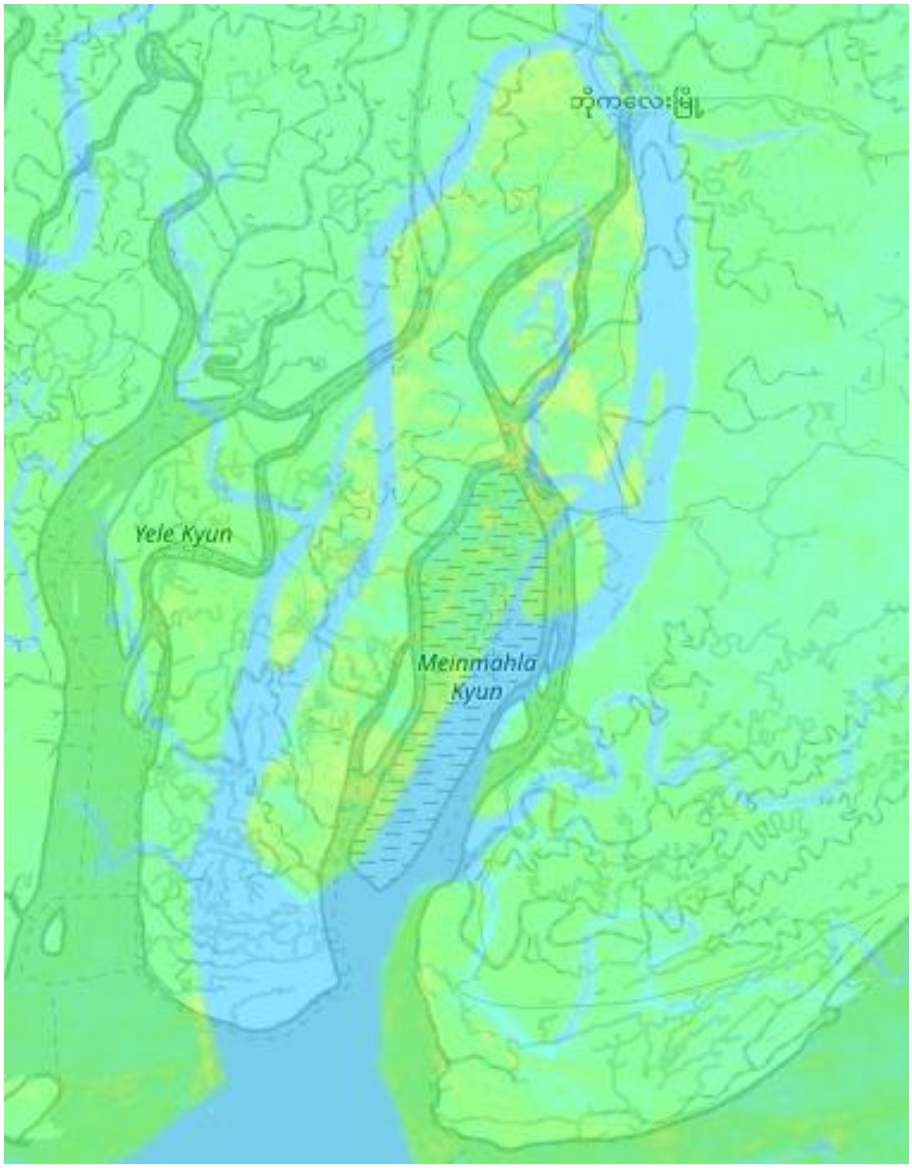


Figure 4-2 Topographic Map of Bogalay Township

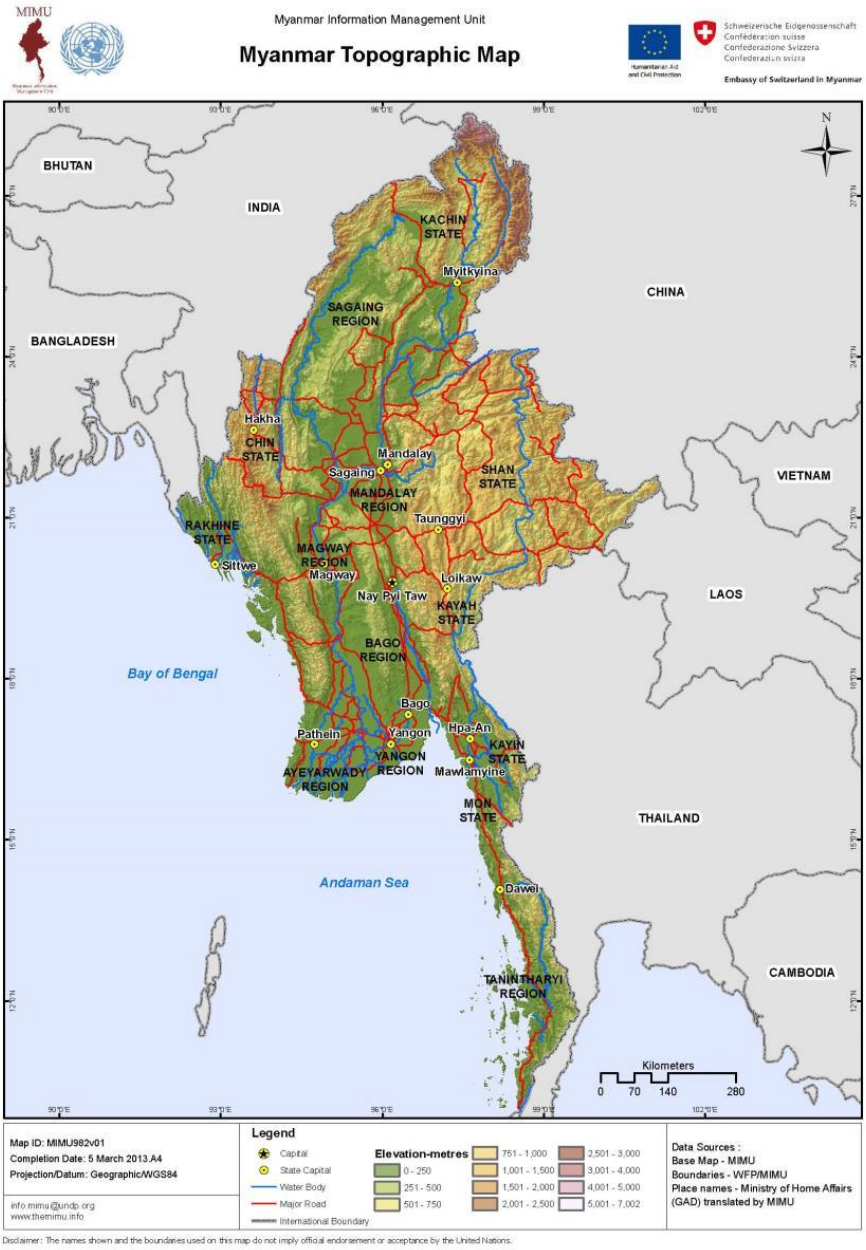
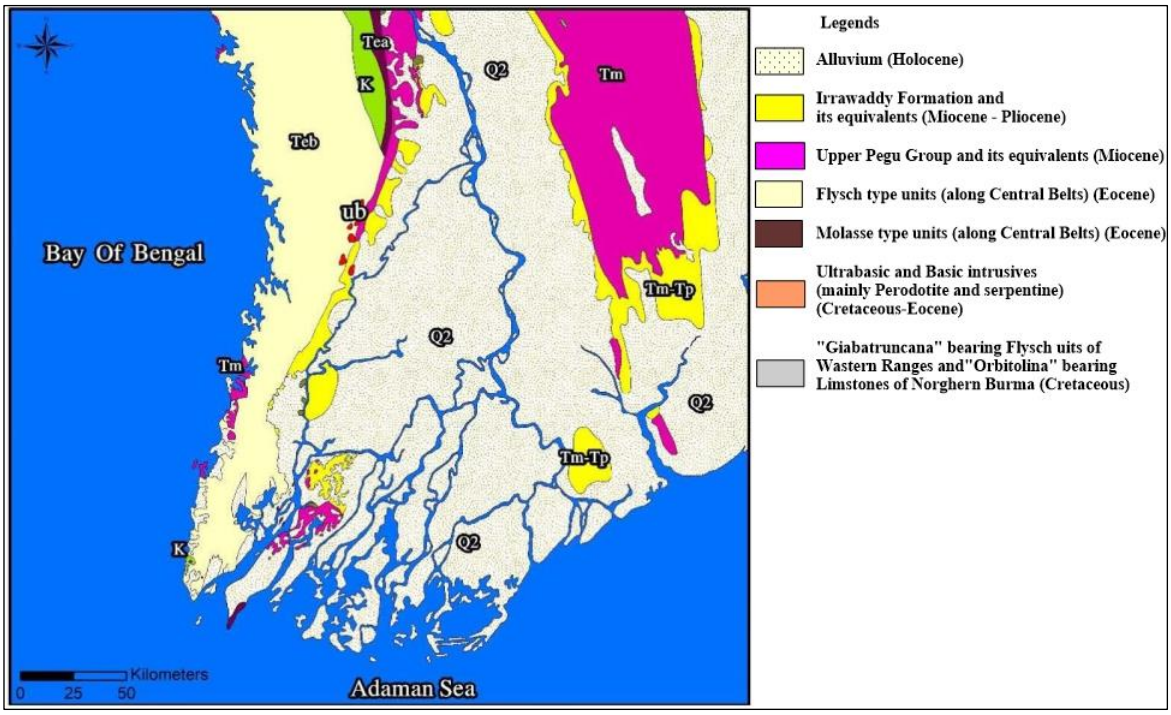


Figure 4-3 Myanmar Topographic Map

4.2.1. **Geology**

Ayeyarwady Region is mainly composed of the sedimentary rocks, and ultrabasic intrusive igneous rocks are also dominant in some areas. The most exposed rock units are Irrawaddy Formation (Miocene to Pliocene), Upper Pegu Group (Miocene), Flysch type units as well as Molasses type units (Eocene), Cretaceous to Eocene aged peridotite and serpentine, and Orbitolina bearing limestones (Cretaceous). The study area constitutes the southwestern coast of Rakhine Yoma Ranges, the southern segment of Western Ranges or Indo Burma Ranges. It is a medium positive fold belt of accretionary complex outstanding between the two molassic troughs Rakhine Coastal Belt and the Central Cenozoic Belt. Southwestern Rakhine Yoma including Sinma, Ngwesaung and Chaungtha regions is mainly covered with Paleocene-Eocene flysch type sedimentary rocks of Zigyaing and Mawdin Formations. Sandstones with convolutions, small scale ripple-cross laminations of wave and current origin are common in the measured section of Chaungtha Island. Geology map is shown in Figure 4-4.

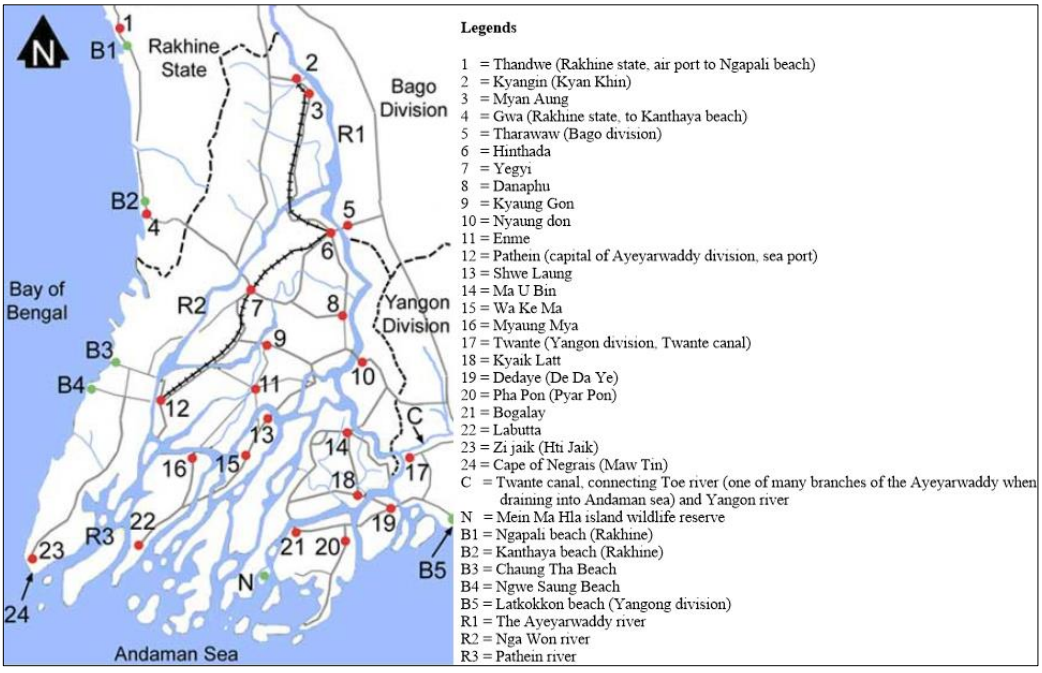


Source: Geological Map of The Socialist Republic of the Union of Burma, 1977

Figure 4-4 Geological Map of Ayeyarwaddy Region

4.2.1. Hydrology

Bogalay Township is an area rich in rivers and streams, with notable rivers such as the Bogalay River, Gonnyin Tan River, Katonkani River, Upper Nat Chaung River, and Lower Nat Chaung River. Most of these rivers have fresh water, making them suitable for agricultural use, drinking water, and other purposes. These rivers are also navigable by boats and motorboats.



(Source: http://www.asterism.info/states/4/map.html)

Figure 4-5 Hydrology Map of Ayeyarwaddy Region

4.2.1. Seismicity

In Myanmar, five seismic zones are demarcated and named (from low to high) Zone I (Low Zone), Zone II (Moderate Zone), Zone III (Strong Zone), Zone IV (Severe Zone), and Zone V (Destructive Zone) by following mainly the nomenclature of the European Macro-seismic Scale 1992. A probable maximum range of ground acceleration in g values and Equivalent Modified Mercalli Scale classes (EMS) are given for each zone.

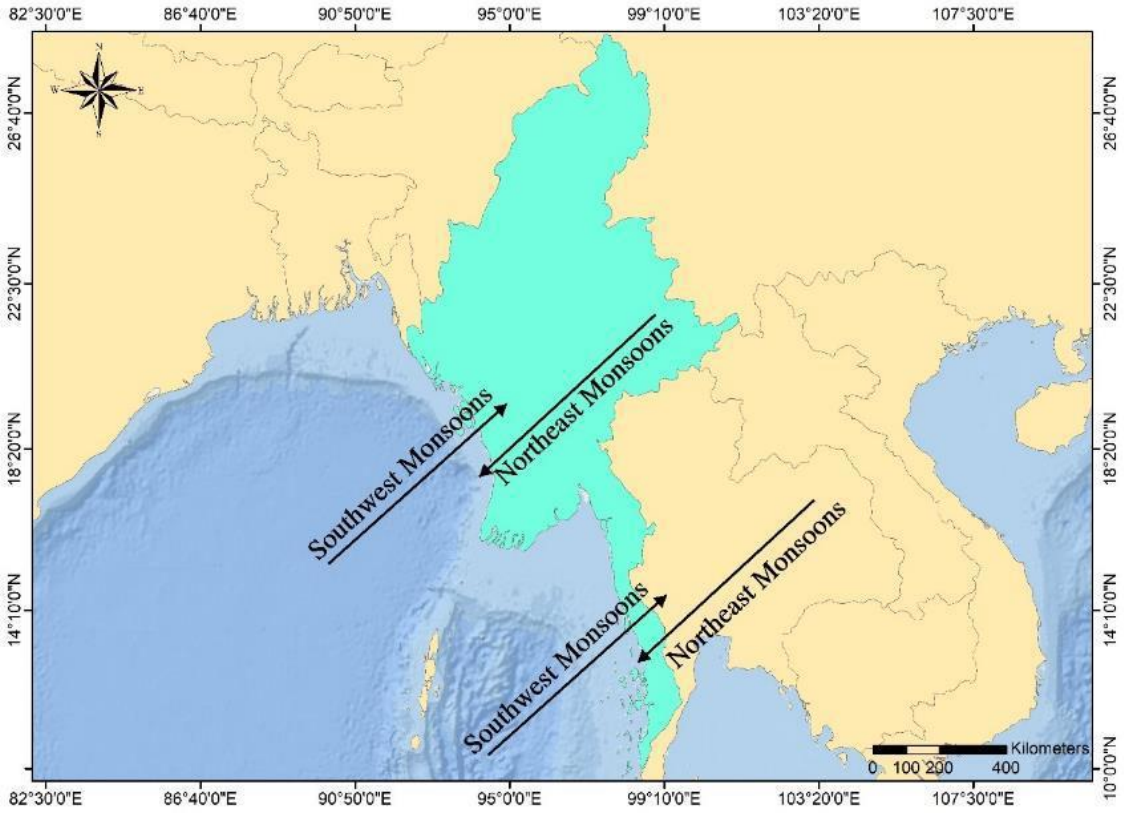
According to seismic zone map of Myanmar, the project area is situated in the seismic zone II (moderate zone) with probable intensity range of 0.1-0.15 which is equivalent to MM class VII. According to the location map of Ayeyarwady Region, the project area is situated in the moderate zone. Therefore, the infrastructures of this area may have less damage due to the earthquake hazard. The seismic zone map is shown in **Error! Reference source not found.**.

Figure 4-6 Seismic Zone Map of Myanmar

4.2.1. **Meteorology**

4.2.1.1. General Meteorology in Myanmar

The regional climate is significantly influenced by the south-west and north-east monsoons as shown in. The south-west monsoon from the Indian Ocean and Andaman Sea passes through the south peninsula around mid-May, bringing with its moisture-laden winds heavy rainfall and humidity. The north-east monsoon from the main land passes through the region from November to February shown in Figure 4-7.



Source: Department of Meteorology and Hydrology

Figure 4-7 Monsoon Wind Direction in Myanmar

4.2.1.2. Climate Conditions

Bogalay Towship has a hot and humid climate, with the highest temperature reaching 35°C and the lowest temperature around 19°C. The rainfall and temperature variations throughout the year are shown in Table 4-1.

Table 4-1 Annual Rainfall and Temperature

Year	Rainfall		Temperature	
	Raining day	Rainfall value (Inches)	Summer season Max (°C)	Winter season Min (°C)
2016	120	157.23	39	19
2017	137	123.96	35	19
2018	112	138.26	38	18
2019	86	95.75	34	25

Source: Department of Administrative Bogalay Township, Regional data (www.mimu.myanmar.com)

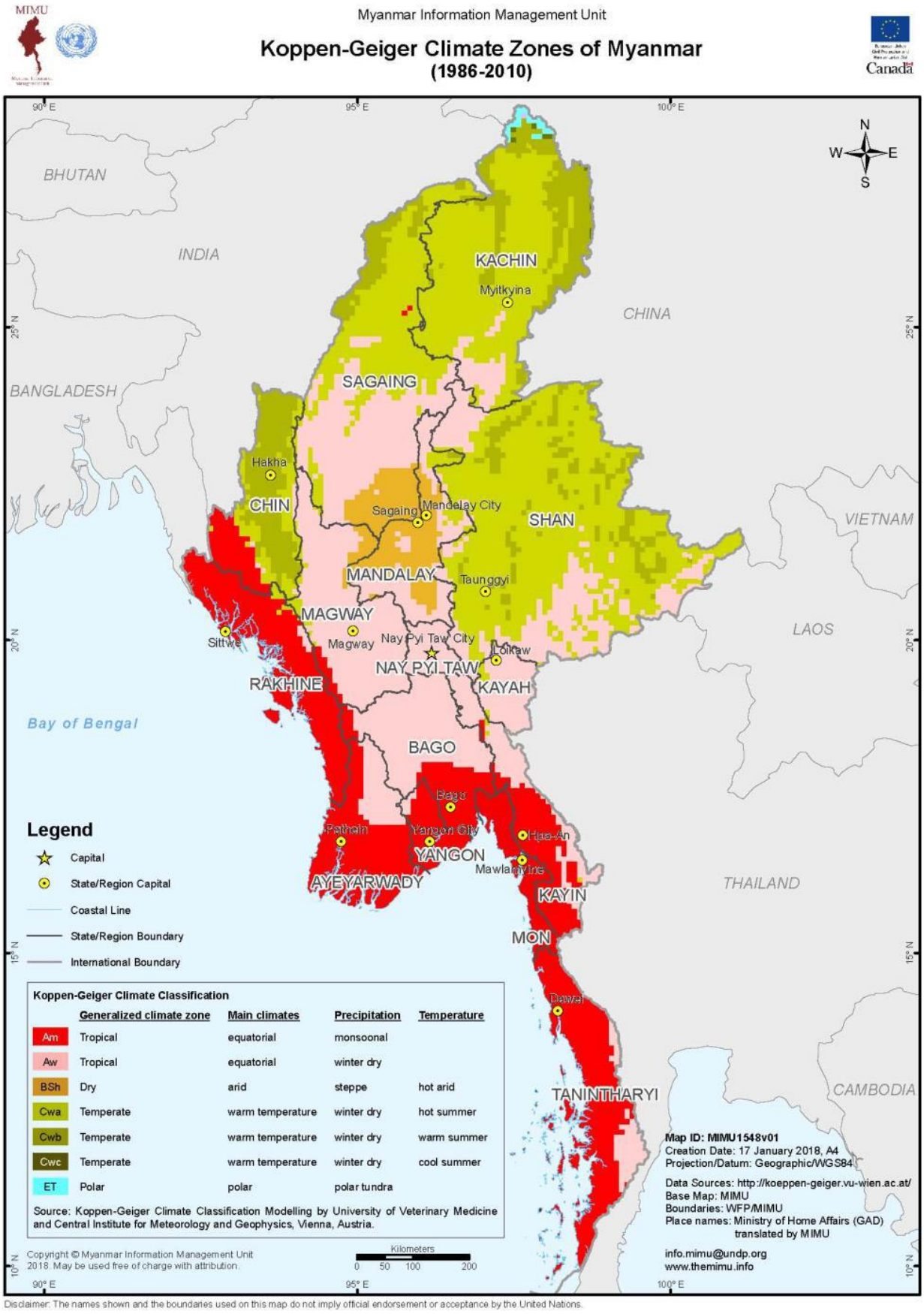


Figure 4-8 Climate Classification Map of Myanmar

4.2.2. Natural Disaster

Bogalay Township, located along the coastline, is prone to natural disasters. Over the years, the township has experienced various types of natural calamities. In 2008, there was one cyclone disaster, followed by two cyclones in 2009 and one cyclone in 2011. In 2012, a tsunami disaster occurred. In 2014, the township faced two flooding disasters and one fire disaster. The following years saw an increase in disasters, with two fire disasters and two wind disasters in 2015, three fire disasters and nine wind disasters in 2016, and four fire disasters and eight wind disasters in 2017. From October 2018 to the end of September 2019, the township continued to experience natural disasters shown in Table 4-2, highlighting its vulnerability to such events.

Table 4-2 Occurrences and Damages of Natural Disaster (2018 – 2019)

Type	Frequency	Number of Dead/Missing	Building Damage	Value of loss (Million Kyats)
Storm	-	-	-	-
Tsunami	-	-	-	-
Earthquake	-	-	-	-
Flood	-	-	-	-
Fire	5	-	7	3.79
Wind	23	-	24	3.16
Total	**28**	**-**	**31**	**6.95**

4.3. SITE SURVEY AND ENVIRONMENTAL BASELINE STUDY

The baseline environmental quality at the project Site and its immediate surroundings was established by ambient air quality, noise, boiler stack emission, odor intensity and factory outlet wastewater and river water measurements and collections at immediate surrounding areas. To determine the existing baseline environmental quality within the project site on 19th - 21th July 2023. The summary of environmental survey is shown in Table 4-3.

Table 4-3 Summary of Environmental Survey

Item	Parameter
Air quality	Particulate Matter (PM_{10}, $PM_{2.5}$), Nitrogen Dioxide (NO_2), Sulfur Dioxide (SO_2), Ozone (O_3)
Noise level	Indoor sound level (LAeq)
Rive water	pH, Turbidity, Total Solids, Hardness, Chloride, Free Cyanide, Arsenic, Copper, Iron, Lead, Manganese, Zinc
Wastewater (Treated)	pH, Turbidity, TSS, Total Solids, Hardness, Chloride, Free Cyanide, Arsenic, Copper, Iron, Lead, Manganese, Zinc, Oil & Grease
Boiler Stack Emission	Carbon Dioxide (CO_2), Sulfur Dioxide (SO_2), Nitrogen Dioxide (NO_2), Carbon Monoxide (CO)
Odor Intensity	Odor Gas

The purpose of this chapter is to predict how environmental and socio-economic conditions will affect because of the implementation of the proposed project. This requires a sound understanding of the baseline conditions at the project Site, which established through desktop study research, site

surveys, primary data collection and projections for future developments. Findings provide the current and future characteristics of the project site and the value and vulnerability of the key environmental and socio-economic resources and receptors.

4.3.1. Air Quality

Air quality monitoring was conducted at the project site from 19th - 20th July 2023 for 24 hours period. To determine the existing baseline ambient air quality status within the project site of working period air pollutants level, which include dust (PM_{10} and $PM_{2.5}$) and gases (SO_2, NO_2, O_3) were measured at the selected site using the Oceanus AQM-09 air monitoring station.

Figure 4-9 Air Quality Monitoring System (Oceanus AQM-09)

Table 4-4 Technical Features of AQM-09

Items	Description	Specification
Particle monitor	Working principle	Light scattering technique
	Measurement data	$PM_{2.5}$, PM_{10}, TSP
	Measuring range	0~1000 μg/m^3
	Dehumidification	With the automatic dehumidification function module
Gas Module	Working principle	High precision Electrochemical sensor
	Gas monitor	SO_2, CO, NO_2, O_3, CO_2, VOC
	Sulfur Dioxide SO_2	Measuring range: 0~1000ppb Resolution: 1 ppb Response time: <45 s
	Nitrogen Dioxide NO_2	Measuring range: 0~1000ppb Resolution: 1 ppb Response time: <45 s
	Ozone O3	Measuring range: 0~1000ppb Resolution: 5 ppb Response time: <45 s
	Carbon Monoxide CO	Measuring range: 0~200ppm Resolution: 0.1 ppm

Items	Description	Specification
		Response time: <45 s

To determine the existing baseline ambient air quality status within the project site, working period of air pollutants, which include dust PM_{10}, $PM_{2.5}$, SO_2, NO_2 and O_3 were measured at the selected site using the Air Quality Monitoring System (AQM-09). To reveal the existing status of baseline air quality, the average ambient air qualities measured were compared with National Environmental Quality (Emission) Guidelines. The measurement location points are at latitude 15°51'43.32"N and longitude 95°12'6.04"E. It was observed that the quality of all measured parameters is within the National Environmental Quality (Emission) Guidelines.

Table 4-5 Observed Air Quality Results

Parameters	Observed Value	NEQEG Value	Unit	Period
$PM_{2.5}$	12.97	25	µg/m^3	24 hrs
PM_{10}	19.03	50	µg/m^3	24 hrs
SO_2	0.28	500	µg/m^3	24 hrs
NO_2	22.4	200	µg/m^3	1 hr
O_3	17.32	100	µg/m^3	8 hrs Daily Maximum

NEQEG = National Environmental Quality (Emission) Guidelines

Figure 4-10 Air Quality Monitoring at Project Site

4.3.2. **Noise Level**

The Noise level was measured by using Digital Sound Level Meter (BENTECH, GM - 1356) for parameter of A-weighted loudness equivalent (LAeq). The noise level measurement was conducted during 19th - 20th July 2023 at the project site. Measurement of noise level was conducted by referring to the recommendation of the National Environmental Quality (Emission) Guidelines. The instrument used for noise measurement was set at the height of 1.2 m. A-weighted loudness equivalent level was measured automatically every 20 seconds and recorded in a memory card.

Figure 4-11 Digital Sound Level Meter (BENTECH, GM – 1356)

Table 4-6 Technical Features of GM – 1356

Sound Level Meter	GM - 1356
Measurement range	30~130dBA、35~130dBC
Accuracy	±1.5dB（reference sound pressure standard，94dB@1KHz）
Frequency response	31.5Hz~8.5KHz
Resolution	0.1dB
Measuring level	30 to 80, 50 to 100, 60 to 110, 80 to 130, 30 to 130
Dynamic range	50dB/100dB
Overload indication	OVER / UNDER
Frequency weighting characteristic	A and C
Digital display	4 digits
Analogy bar graph	1dB/1 bar graph
Sampling rate	FAST:8times/second; SLOW:2times/second
AC signal output	4Vrms/ full bar graph, output impedance is about 600 ohms

PWM signal output	Duty cycle =0.01X dB value/3.3 x 100%
Dyna mic characteristic	FAST (high speed)/SLOW (low speed)
Calendar accuracy	±30seconds/day
Data storage quantity	4700
The maximum value holding	MAX
Auto power off	10 minutes without operation
Micro phone	1/2inch polarization capacitance microphone
Power supply	6V (4PCS 1.5V Alkaline battery)
Dimension	70 x 35 x 256mm
Weight	244G (Without battery)
Battery life	24h continuous use (Alkaline batteries)

The measurement location points are situated at within the project area at latitude 15°51'45.09"N and longitude 95°12'7.38"E. According to the measurement results, noise level of the project is acceptable and within the NEQEG.

Table 4-7 Comparison of Noise level measurement

Location	Noise Result	NEQEG Value	Remark
Production Process	62.33 dBA	70 dBA	Acceptable NEQEG

Figure 4-12 Sound Analysis Graph

Figure 4-13 Noise Level Measurement Photo

4.3.3. Water Quality

The baseline data on factory outlet water and surface water were collected in 21 July, 2023 with respect to relevant Guidelines. Water samples has been taken by Alpha horizontal plastic water sampler and collected and sterilized glass sample containers. Tested water quality laboratory analysis results can be seen in (**Appendix Q)**. Analyzed results of water results tested at ALARM Ecological Laboratory.

Table 4-8 Coordinated point of Water Collection Points

Sampling point	GPS Value	Location
Factory Outlet Water	15°51'46.29"N 95°12'6.42"E	Wastewater Treatment Tank
River Water	15°51'50.68"N 95°12'6.72"E	Yay Kyaw Gyi Creek

Table 4-9 Factory Outlet Water Quality Laboratory Results

No	Quality Parameters	Result	Unit	Emission Standards
1	pH	6.3	S.U	6.0 – 9.0
2	Turbidity	12	FAU	-
3	TSS	9	mg/L	≤ 50
4	Total Solids	1576	mg/L	-
5	Hardness	46	mg/L	-
6	Chloride	164	mg/L	-
7	Free Cyanide	< 0.01	mg/L	≤ 0.1
8	Arsenic	0.005	mg/L	≤ 0.1
9	Copper	ND	mg/L	≤ 0.5
10	Iron	0.24	mg/L	≤ 3.5
11	Lead	ND	mg/L	≤ 0.1
12	Manganese	0.2	mg/L	≤ 2
13	Zinc	< 0.02	mg/L	≤ 2
14	Oil & Grease	6	mg/L	≤ 10

Table 4-10 River Water Quality Laboratory Results

No	Quality Parameters	Result	Unit	Drinking Water Standards
1	pH	6	S.U	6.5 – 8.5
2	Turbidity	81	FAU	≤ 5
3	Total solids	1391	mg/L	-
4	Hardness	65	mg/L	≤ 500
5	Chloride	69	mg/L	≤ 250
6	Free Cyanide	< 0.01	mg/L	-
7	Arsenic	0.005	mg/L	≤ 0.05
8	Copper	ND	mg/L	≤ 2
9	Iron	0.32	mg/L	≤ 1
10	Lead	ND	mg/L	≤ 0.01
11	Manganese	< 0.1	mg/L	≤ 0.4
12	Zinc	< 0.02	mg/L	≤ 3

Figure 4.6 Factory Outlet Water sampling and River Water Sampling Photos

Table 4-11 Tube Well Water Results

No	Quality Parameters	Result	Unit	Drinking Water Standards
1	pH	6.6		6.5 – 8.5
2	Turbidity	1	NTU	5
3	Total Dissolved solids	40	mg/L	1000
4	Chloride	14.997	mg/L	250
5	Total Hardness (as Ca CO3)	60	mg/L	500
6	Iron	0.35	mg/L	1
7	Calcium	50	mg/L	200
8	Magnesium	41	mg/L	150
9	Electrical Conductivity	110	µs/cm	1500

4.3.4. Boiler Stack Emission

The stack emission measurement was conducted by using OCEANUS (OC – 1000) Dust & Gas Particle Detector which include (CO_2, SO_2, NO_2 and CO) in working hours to continuously measure emissions in real time, providing a continuous record of emissions data. The purpose of boiler stack emission measurement is to quantify the types and amounts of pollutants and gases being released into the air from the exhaust stacks of boiler. This information is essential for compliance with environmental regulations and for minimizing the environmental impact.

Figure 4-14 OCEANUS (OC – 1000) Dust & Gas Particle Detector

Table 4-12 Technical Features of OC – 1000

Gas type	Carbon Dioxide (CO_2), Sulfur Dioxide (SO_2), Nitrogen Dioxide (NO_2), Carbon Monoxide (CO)
Working principle	Catalytic combustion sensor for LEL; Electrochemical sensor for NH3, H2S.
Sampling mode	Pump-suction sampling
Measuring range	H2S: 0~100 ppm Ex: 0~100% LEL NH3: 0~100 ppm

Resolution	NH3: 0.01 ppm H2S: 0.01 ppm Ex: 0.01% LEL		
Precision	±3%F.S		
Temp & Humidity testing range	Temperature: -40~120℃; Humidity: 0~100% RH		
Data storage function	With the capacity of the 100000 group of measuring data, by the software could be transmitted to the computer.		
Printer	Optional mini-printer.		
Response time	≤20s(T90)	Recovery time	≤20s
Repeatability	≤±1%	Linearity	≤±1%
Zero drift	≤±1%(F.S/year)	Concentration unit	ppm, %vol, %lel, mg/m3
Display	LCD display the Date, time, Temp& humidity, Gas concentration data, unit, status for the pump, alarm and battery.		
Operation language	Chinese/English	Alarm mode	Audible, visual, vibration
Working temperature	-40~120℃	Working humidity	0-95%RH (non-condensing)
Working pressure	-30Kpa ~ 100Kpa	Explosion-proof grade	Ex ia IIC T4 Ga
Protection grade	IP65	Shell material	ABS+PC
Dimensions	220*88*55mm	Weight	0.5KG
Standard accessory	Particle filter, box, instruction, USB charger, data line, calibration cap.		

The measurement location points are situated at within the project area at latitude 15°51'45.09"N and longitude 95°12'7.38"E. The measurement results were compared with Occupational Safety and Health Association (OSHA) Guidelines and according to the measurement results, stack emission level is acceptable and within the OSHA Guidelines.

Table 4-13 Boiler Stack Emission Measurement Results

No.	Location	Parameter	Measure Value (ppm)	OSHA Guidelines (ppm)
1.	Boiler Stack	CO_2	4530.25	5000
2.		SO_2	0.35	5
3.		NO_2	0.53	5
4.		CO	21.85	50

Figure 4-15 Boiler Stack Emission Measurement Photos

4.3.5. Odor Intensity

The odor intensity is measured by using OCEANUS (OC – 903) Portable Odor Gas Detector for working hours on 19th July 2023. Measurement of odor intensity was conducted by referring to the recommendation of the National Environmental Quality (Emission) Guidelines.

Figure 4-16 OCEANUS (OC – 903) Portable Odor Gas Detector

Table 4-14 Technical Features of OC – 903

Gas type	Odor gas
Measurement range	0~100ppm, 0~500ppm, 0~1000ppm, or Customized
Resolution	1 ppm
Precision	3%FS
Pump flowrate	100~1000ml/ min(adjustable)
Data Storage	About 100,000 group of data capacity
Response time	≤20s/10s
Recovery time	≤20s
Repeatability	≤±1%
Linearity	≤±1%
Display	LCD dot matrix display
Concentration unit	ppm or mg/m^3
Working temperature	-30~60 degree
Working humidity	0~95%RH (non-condensing)
Protection grade	IP65
Dimension	180*80*60 mm
Weight	0.5 kg

The average odor intensity in the project site area is presented in Table 4-15 and compared with NEQEG. The measurement location points are situated at within the project area at latitude 15°51'45.09"N and longitude 95°12'7.38"E. According to the odor Intensity measurement at operation area, the levels of this areas are within the acceptable level of National Environmental Quality (Emission) Guidelines.

Table 4-15 Odor Intensity Measurement Result

Place	Unit	Result	NEQEG Value	Remark
Operation Area	OU	7.47	5 – 10	Normal

*1 odorant unit (OU) = 0.0047 ppm

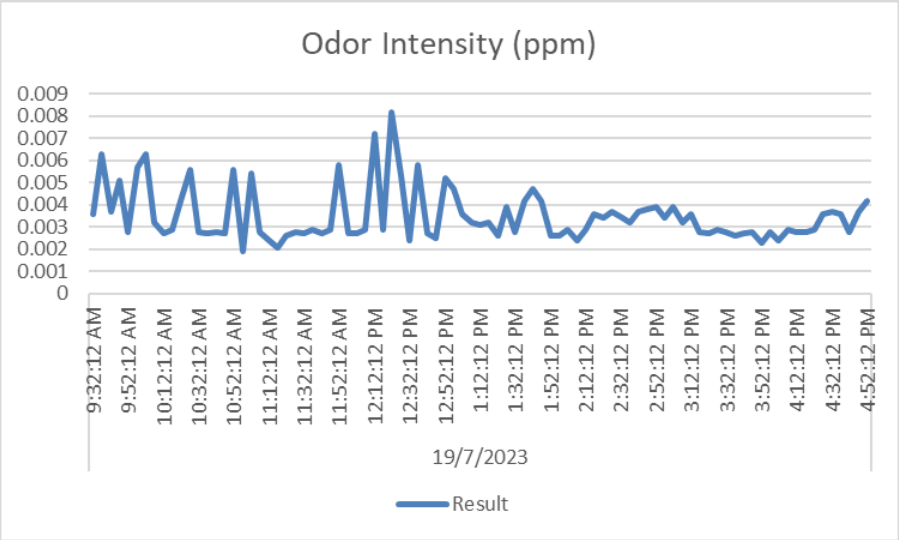


Figure 4-17 Odor Intensity Analysis Graph

4.4. SOCIO-ECONOMIC (SECONDARY DATA)

Secondary data from Myanmar Population and Township Census (MPTC) is collected to describe the socio-economic condition for the project. Bogalay Township's socio-economic characteristics are used to describe the socio-economic condition for Marine Acary Production Company Limited.

4.4.1. Populations

In Bogalay Township, there are more females than males with 98 males per 100 females. The majority of the people in Township live in rural areas with only (13.4 %) living in urban areas. The population density of Bogalay Township is 143 persons per square kilometer. There are 4.2 persons living in each household in Bogaly Township. Table 4-16 is shown the population in Bogalay Township.

Table 4-16 Population in Bogalay Township

Total Population	322,665		
Man	159,296		
Women	163,369		
Sex ratio	98 males per 100 females		
Percentage of urban population	13.4 %		
Area (km^2)	2,250.4		
Population Density (persons per km^2)	143.4 persons		
Number of wards	10		
Number of village tracts	71		
	Total	**Urban**	**Rural**
Population in conventional households	317,128	41,508	375,620
Number of conventional households	75,987	10,115	65,872
Mean household size	4.2 persons		

Source: Township Profiles Census of Bogalay Township (www.mimu.com)

4.4.2. Business Information and Overview Economic Characteristics

Bogalay Township is located in the delta region and is one of the more economically developed townships. The local population primarily engages in agricultural and livestock farming. In addition, many people are involved in the aquaculture industries, contributing to the local economy. Bogalay Township is well-connected to Yangon through both road and water routes, making transportation efficient and convenient. The township's main export is rice, which is primarily sold to Yangon. The area's good transportation infrastructure plays a significant role in facilitating its economic activities.

4.4.2.1. Economic Characteristics

Labor force participation rate for the population aged 15-64 in Bogalay Township is 60.6 percent. The labor force participation rate for females is 39.6 percent and is much lower than that of their male counterparts which is 82.3 percent. In Bogalay Township, labor force participation rate for the population aged 10-14 is 8.4 percent. The unemployment rate for those aged 15-64 in Bogalay Township is 3.0 percent. There is much difference between unemployment rate for males (2.8 %) and for females (3.3 %). The unemployment rate for young females aged 15-24 is 8.8 percent. Among those aged 10 and over who are not in the labor force, 48.7 percent of males are full time students while 61.3 percent of females are household workers.

In Bogalay Township, 49.0 percent of the employed persons aged 15-64 are skilled agricultural, forestry and fishery workers and is the highest population, followed by 23.3 percent in elementary occupations. Analysis by sex shows that 55.5 percent of males and 36.0 percent of females are skilled agricultural, forestry and fishery workers.

In Bogalay Township, the proportion of employed persons working in the industry of “Agriculture, Forestry and Fishing” is the highest with 66.0 percent. The second highest industry is “Wholesale and retail trade, repair of motor vehicles and motorcycles” at 8.1 percent. There are 72.5 percent of males and 53.0 percent of females working in “Agriculture, Forestry and Fishing” industry.

4.4.3. Religious Information

The different kinds of religion present in Bogalay Township are shown in Table 4-17. More than 90% of the people living in the township are Buddhists.

Table 4-17 Religion Bogalay Township (2019)

Township	Buddhist	Christian	Hindu	Muslim	Others	Total
Bogalay	329,254	14,268	868	1,709	143	346,242

Source: Department of Administrative Bogalay Township, Regional data (www.mimu.myanmar.com)

4.4.4. Education

School attendance in Bogalay Township drops after age 12 for both males and females. The literacy rate of those aged 15 and over in Bogalay Township is 93.0 percent. It is slightly lower than the literacy rate of Ayeyarwady Region (93.8%) but higher than the Union (89.5%). Female literacy rate is 90.4 percent and for the males it is 95.8 percent. The literacy rate for youth aged 15-24 is 96.2 percent with 95.4 percent for females and 97.0 percent for males. Some 26.1 percent of the population aged 25 and over have never been to school. Of the rural population aged 25 and over, 28.1 percent have never been to school. There are 24.2 percent of males aged 25 and over who have never attended school as

against 27.9 percent for females. Among those aged 25 and over, 16.8 percent has completed primary school (grade 5) and only 4.2 percent has completed university/college education.

Location of major schools were situated i.e., teacher training college, basic education primary school (B.E.P.S.), basic education middle school (B.E.M.S) and basic education high school (B.E.H.S) in Bogalay Township. The name and the located village tract/ ward of schools are described in Table 4-18.

Table 4-18 List of Major School in Bogalay Township

No.	Name of School	Location
1.	Teacher Training College	No. (5) Ward
2.	B.E.H.S (1)	No. (4) Ward
3.	B.E.H.S (2)	No. (5) Ward
4.	B.E.H.S (3)	No. (10) Ward
5.	B.E.H.S (Myinkakone)	Myinkakone Village
6.	B.E.H.S (Setsan)	Setsan Village
7.	B.E.H.S (Outhlaeseik)	Outhlaeseik Village
8.	B.E.H.S (Phoedikwe)	Phoedikwe Village
9.	B.E.H.S (Haymhan)	Haymhan Village
10.	B.E.H.S (Yotesien)	Paychaunggyi Village
11.	B.E.H.S (Yotesien)	Yotesien Village
12.	B.E.H.S (Yaykyawtoe)	Yaykyawtoe Village
13.	B.E.H.S (Kyunnyogyi)	Kyunnyogyi Village
14.	B.E.H.S (Kamakalu)	Kamakalu Village
15.	B.E.H.S (Ayeyar)	Ayeyar Village
16.	B.E.H.S (Branch) Kyeinchaunggyi	Kyeinchaunggyi Village
17.	B.E.H.S (Branch) Pawein	Pawein Village
18.	B.E.H.S (Branch) Malot	Malot Village
19.	B.E.H.S (Branch) Myapagoe	Myapagoe Village
20.	B.E.H.S (Branch) Minhlasu	Minhlasu Village
21.	B.E.H.S (Branch) Kathamyin	Kathamyin Village
22.	B.E.H.S (Branch) Waechaung	Waechaung Village
23.	B.E.H.S (Branch) Seinhei	Seinhei Village
24.	B.E.H.S (Branch) Ngarpichaung	Ngarpichaung Village
25.	B.E.H.S (Branch) Paiksala	Paiksala Village
26.	B.E.H.S (Branch) Byuusakan	Byuusakan Village
27.	B.E.H.S (Branch) Mingan	Mingan Village
28.	B.H.M.S (1)	No. (1) Ward
29.	B.H.M.S (2)	No. (4) Ward

No.	Name of School	Location
30.	B.H.M.S (Sakangyi)	Sakangyi Village
31.	B.H.M.S (Pakpye)	Pakpye Village
32.	B.H.M.S (Kanyinchaung)	Kanyinchaung Village
33.	B.H.M.S (Kathachaung) Ywarthit	Kathachaung Village
34.	B.H.M.S (Nyinaungwa)	Nyinaungwa Village
35.	B.H.M.S (Malot Myittan)	Malot Myittan Village
36.	B.H.M.S (Zayethla)	Zayethla Village
37.	B.H.M.S (Phayarthonesu)	Phayarthonesu Village
38.	B.H.M.S (Thapyukone)	Thapyukone Village
39.	B.H.M.S (Panbaesu)	Thapyukone Village
40.	B.H.M.S (Kalarownpinsu)	Kalarownpinsu Village
41.	B.H.M.S (Kwingyi)	Kwingyi Village
42.	B.H.M.S (Waegyi)	Waegyi Village
43.	B.H.M.S (Akaechaung)	Akaechaung Village
44.	B.H.M.S (Taungthalae)	Taungthalae Village

4.4.5. Public Infrastructure and Access

There are 7 bus stations about183 vehicles for public transportation on land and 7 ship quays for water travel. There are no airway, airport, railway and railway stations in Bogalay Township. There are 14 bridges above 180 feet and 42 bridges below 180 feet where cars can travel in Bogalay Township. Major transportation route in Bogalay Township are waterways, and roadways as presented in Table 4-19 and Table 4-20.

Table 4-19 Transportation Route for Roadways

Township	Type of Bus	Transportation path	No. of Bus
Bogalay	Hyundai City Bus	Bogalay-Phyapon-Kyaiklat- Maubin- Hlaing Thar Yar	33
	Hyundai City Bus Micro Bus (Custom)	Bogalay-Phyapon-Dala	69
	Micro Bus (Custom)	Bogalay-Pathein	4
	Light Truck	Bogalay-Katon	6
	Tri-cycle	Bogalay-Patamyarkone-Kyeinchaung-Katon-Naung Taw Gyi	25
	Hyundai City Bus	Bogalay-Phyapon-Daydaye-Kyunchankone-Hlaing Thar Yar	33
	Light Truck	Bogalay-Mawkyune-Kyitepi	13

Source: Department of Administrative Bogalay Township, Regional data (www.mimu.myanmar.com)

Table 4-20 Transportation Route for Waterways

No	Name of Waterway	Nautical Miles	No. of Pots
1	Bogalay-Ayeyar	47	1
2	Bogalay-Katon	42	
3	Bogalay-Ahmar	45	1
4	Bogalay-Set San	21	1
5	Bogalay-View Sa khan	35	1
6	Bogalay-Gyun Nyo	14	1
7	Bogalay-Myinkatone	7	1
Total		**211**	**7**

Source: Department of Administrative Bogalay Township, Regional data (www.mimu.myanmar.com)

4.4.6. Energy Usage

In Bogalay Township, the proportion of households using electricity for lighting is 8.4%. In comparison, the proportion of households using electricity for lighting in the Ayeyarwady Region is 12.0%. The most common source of lighting in Bogalay Township is battery-powered lighting, which is used by 40.3% of households. In rural areas, 42.8% of households rely on battery-powered lighting for illumination.

Table 4-21 Percentage of Households using different types of Energy for Illumination

Type of Energy		Total	Urban	Rural
Electricity		8.4	49.9	2.0
Kerosene		19.7	0.6	22.6
Candle		17.7	11.7	18.6
Battery		40.3	23.8	42.8
Generator (Private)		6.5	13.2	5.5
Hydropower (Private)		0.1	0.1	-
Solar Power Panel		6.5	0.1	7.4
Other		0.9	0.5	1.0
Total	**Percent**	**100**	**100**	**100**
	Number	**75 ,987**	**10,115**	**68,872**

4.4.7. Health Status

The diseases of high prevalence reported in 2019 are Tuberculosis (TB), followed by Acute Respiratory Infection (ARI), Diarrhea, TB, and snakebites. With reference to the Township Health Profile 2019 of Bogalay Township, no accidental work injuries reported to the township hospital in 2019. The common diseases are shown in Table 4-22.

Table 4-22 Common Diseases in the Bogalay Township

Disease	Bogalay	
	Morbidity	Mortality
Malaria (Per 100000P)	-	-
Dysentery	260	-
TB (Sputum+) (Per 10000P)	105	13
Diarrhea (Per 100000P)	1162	-
Hepatitis	-	-

Table 4-23 Lists of Hospital in the Bogalay Township

Hospital Name	Beds/Services	Responsible
Bogalay Pyithu Hospital	100	Government
Katonkani Administrative unit Hospital	16	Government
Kamakalu Administrative unit Hospital	16	Government
Setsan Administrative unit Hospital	16	Government
Myinkakone Administrative unit Hospital	16	Government
Kyeinchaunggyi Administrative unit Hospital	16	Government
Kwingyi Administrative unit Hospital	16	Government

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

4.5. BIOLOGICAL COMPONENT (SECONDERY DATA)

4.5.1. Natural Plants

The natural plant species found in Bogalay Township include Lamoo, Thayaw, Kanaso, Mhdama, Myinka, Thame, Thinpaung, Byu Shwewa, Byu Chaytauk, Byu U Tat Lone, Kanpla, Panthaka, Laba, Kyana, Yay Kha Yar, Thakut, Yay Gyi, Sagar Lun, Sea Coconut, and Salat plants.

4.5.2. Wild Animals

The wildlife species found in Bogalay Township include 14 species of mammals such as Brackish water crocodile, Irrawaddy dolphins, Elk, and monkeys, along with 36 species of terrestrial mammals, 35 species of reptiles, 148 species of birds including native birds, coastal birds, migratory winter birds, 51 species of fish, 12 species of shrimp, and 9 species of crabs.

4.5.3. Current Environmental Conditions and Protection Activities

The current environmental condition of Bogalay Township shows a forest cover of 25.68%. Of this, the reserved forest cover accounts for 19.6%, while there is no forest cover for protected forests. Bogalay Township has set aside 10,9235.01 acres of reserved forest; there had been 80 species of mangrove trees for conservation efforts.

4.6. CULTURAL AND VISUAL COMPONENT

Bogalay Township, located in Myanmar's Ayeyarwady Region, is known for its beautiful rural landscapes, rich culture, and traditional practices. The area is surrounded by waterways, rice fields, and fishing villages, creating a calm and scenic environment. Fishing and rice farming are key parts of life here, and the local markets are full of fresh seafood and agricultural products. Buddhist culture is important, with many pagodas and monasteries in the region. People often wear traditional clothing like the longyi, and the food, especially fish-based dishes, is a major part of the culture. The architecture in Bogalay also reflects traditional Burmese styles, with wooden houses and beautiful temples adding to the area's charm.

Notable pagodas and stupas within the Bogalay Township include the Aung Sek Kya Stupa in Ward (6) of Bogalay City, the Aung Taw Mu Pagoda and the Mya Sein Yaung Pagoda in Ward (4), the Taung Lattyar Pagoda in the Pha Yar Chaung Village, the Kankaw Tat Htaung Pagoda in Pay Chaung Village, and the Aung Stupa on Mainmahla Island.

5. RISK ASSESSMENT AND MITIGATION MEASURE PLAN

5.1. IMPACT IDENTIFICATION

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

5.1.1. Positive Impact

During the project implementation, local people can get job opportunities in administrative sectors, office works, transportation sectors, skilled and unskilled workers, etc. Due to the implementation of the project, there will be employment opportunities especially for workers from the local community. Employees will also improve more in their professional knowledge and skills. The net effect of job creation is the improvement of the livelihoods and living standards of the beneficiaries and poverty reduction, development of local people's livelihood. Cause of the proposed project is located in Bogalay Township, Ayeyarwady Region, there may have business opportunities to local people. Local people can have a market by selling foods, snacks, and drinks nearby the factory

5.1.2. Negative Impact

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

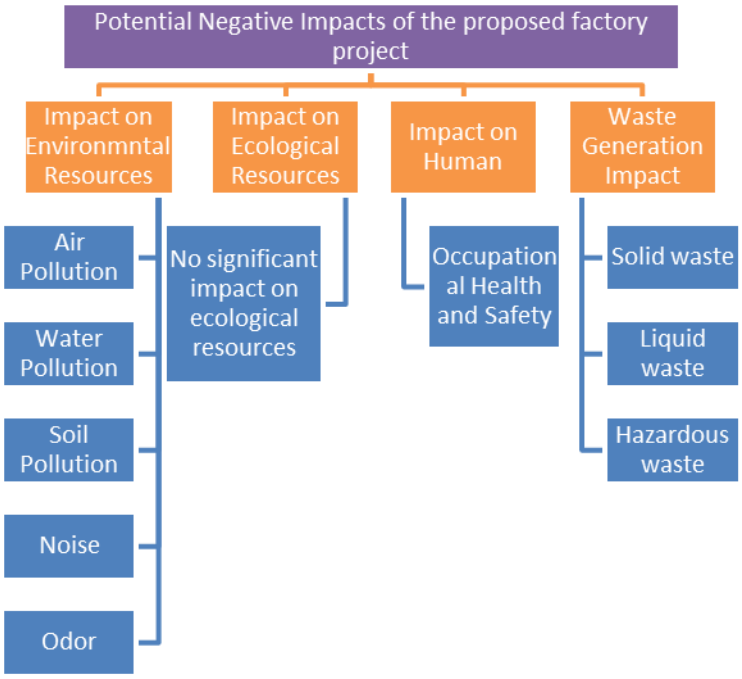


Figure 5-1 Potential Negative Impact Affect from Proposed Project

5.2. METHODOLOGY FOR THE ASSESSMENTS

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

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

Table 5-1 Impact assessment parameters and its scale

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

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

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

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

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

5.3. PROJECT ACTIVITIES AND ITS SIGNIFICANT IMPACTS ASSESSMENT

Construction phase: The project is already constructed during environmental assessment study and site visit. Therefore, this step is no longer considered as construction was completed during the project study period.

Operation phase; During the operation phase of a fish meal and ice factory, several environmental impacts can occur. One of the main concerns is air pollution, which results from emissions from boilers and generators used for energy, as well as strong odors from fish processing. Water consumption is significant, as large amounts of water are needed for fish processing and ice production, putting strain on local water resources. The discharge of untreated or poorly treated wastewater can lead to contamination of nearby water bodies, affecting aquatic life. Solid waste generation, including fish by-products and packaging waste, can also contribute to environmental degradation if not properly managed. Additionally, the energy-intensive processes of fish meal production and ice making can lead to high carbon emissions, contributing to climate change. Noise pollution from machinery can disturb both wildlife and local communities. Overall, the operation of a fish meal and ice factory can have a range of negative environmental impacts, particularly if proper controls are not in place.

5.3.1. Project Activities and Its Significant Impact During Operation Phase

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

Table 5-2 Evaluation and Prediction of Significant Impacts in Operation Phase

Impact	Source of Impact	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
Air	Boilers used for energy generation release pollutants like Carbon Dioxide (CO_2), Nitrogen Oxides (NOx), and Sulfur Dioxide (SO_2), which degrade air quality. Strong odors arise from the breakdown of organic material during fish processing, affecting surrounding areas. Dust is produced during the drying and grinding of fish, which can contribute to particulate matter in the air. Volatile organic compounds (VOCs) may be emitted during the drying process, further polluting the air.	3	4	2	3	27	Low
Noise	Machines such as grinders, dryers, and fish-processing equipment create high levels of noise due to their mechanical operations. The grinding and milling of fish, as well as the drying process, involve large, powerful machines that generate substantial sound. Additionally, the ice-making equipment, including compressors, refrigeration units, and cooling systems, can produce continuous noise during operation. The loading and unloading of raw materials and finished products, along with the movement of fishing boats and forklifts within the factory, also contribute to noise pollution.	3	4	1	3	24	Low
Water	In the fish meal production process, water is used for cleaning and processing fish, which can result in wastewater containing organic matter, oils, fats, and chemicals. If not treated properly, this wastewater can contaminate nearby water bodies, leading to eutrophication and harming aquatic life. The ice production process requires large amounts of water, and the discharge of excess or used water. Chemical cleaners or disinfectants used in maintaining machines and equipment can also contribute to water pollution if released untreated into the environment. Runoff from the factory	3	4	3	3	30	Moderate

Impact		Source of Impact	Significant of Potential Impacts					Impact Significance
			M	D	E	P	SP	
		site, containing residues from the fish meal process, can further degrade water quality in surrounding areas.						
Soil		The sources of soil quality impact are primarily linked to improper waste management and the disposal of by-products. Fish meal production generates organic waste, such as fish remains (bones, scales, and offal), which, if not properly handled or stored, can leach into the surrounding soil, contaminating it with nutrients and organic matter. In addition, solid waste from packaging materials, such as plastics, can accumulate on the factory site and degrade the soil. Runoff from the factory, containing oils, fats, or residues from the processing activities, can also negatively affect soil quality, leading to contamination and erosion.	2	4	2	2	16	Low
Waste Generation	Solid	In fish meal production, large amounts of fish by-products such as bones, scales, and offal are generated. These organic materials can become waste if not processed further or reused. Additionally, packaging materials like plastic used for storing and shipping fish meal contribute to solid waste. The factory operates ice-making machinery, scrap metal and other parts from equipment maintenance or replacement may also contribute to waste. Domestic wastes from employees and dormitory can also be generated.	2	4	1	2	14	Very Low
	Liquid	In the fish meal production process, large quantities of water are used for cleaning and processing fish, leading to the generation of wastewater containing organic materials, oils and fats. This wastewater can be rich in nutrients, which, if not treated, can contribute to water pollution. Additionally, during the ice production process, water is used to freeze and produce ice, and excess or waste water from cooling systems can become liquid waste. Chemicals used for cleaning equipment can also contribute to liquid waste if they end up in the wastewater stream. If not properly managed or treated, these liquid wastes can contaminate local water bodies, affecting both water quality and aquatic life.	3	4	2	4	36	Moderate

Impact		Source of Impact	Significant of Potential Impacts					Impact Significance
			M	D	E	P	SP	
	Hazardous	Hazardous waste in a fish meal and ice factory mainly arises from products used in cleaning, such as strong acids, alkalis, and disinfectants, which can be toxic if not properly disposed of. Spent oils and lubricants from machinery maintenance also contribute to hazardous waste. Heavy metals from equipment, such as boilers and cooling units, can leak and contaminate the surroundings. Used batteries and electrical components may also generate hazardous waste if not managed correctly.	2	4	1	2	14	Very Low
Ecological Resources		One key source is overfishing or unsustainable sourcing of fish, which depletes fish stocks and harms marine biodiversity. The processing of fish can also result in organic waste and nutrient-rich wastewater, which, if not treated properly, can cause eutrophication in nearby water bodies, leading to algal blooms and oxygen depletion that negatively impacts aquatic life. Habitat destruction can occur if fishing methods such as bottom trawling are used to gather raw materials for the factory. The large amount of water consumption for processing and ice production can also strain local freshwater resources, affecting local ecosystems.	3	4	3	3	30	Moderate
Occupational Health and Safety		Airborne dust generated during fish grinding and meal processing can pose respiratory risks to workers, leading to conditions like asthma or other lung diseases if protective measures are not in place. The operation of large and heavy machinery such as grinders, fish dryers, and ice-making equipment presents mechanical hazards, increasing the risk of accidents like cuts, burns, or crushing injuries. The high levels of noise pollution from machinery and equipment can contribute to hearing loss or stress-related issues for factory workers. Slips, trips, and falls are common risks in factories due to wet surfaces from water used in fish processing and ice production.	3	4	1	3	24	Low
Fire Hazard		The presence of electrical equipment, such as machines, compressors, generators, and refrigeration units, can also pose fire risks, especially if there are faults,	3	4	1	3	24	Low

Impact	Source of Impact	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
	overheating, or improper wiring. Dust accumulation from fish meal processing can create an explosive atmosphere if it becomes airborne and comes into contact with a spark or heat source. The boilers and furnaces used in the production of steam also present significant fire risks, especially if maintenance is inadequate and safety systems fail. If the fuels used in boilers are not stored systematically, the risk of fire hazard is high.						
Socio-economic	Employment opportunities are created by providing jobs in various sectors such as fish processing, machinery operation, maintenance, and administrative roles. This can improve the livelihoods of local residents, reducing unemployment rates and fostering economic growth. The factory's operations can stimulate local businesses by creating demand for raw materials, transportation, and other services, thus boosting the regional economy. Furthermore, the factory's presence can promote skills development and training programs, leading to a more skilled workforce. Lastly, if well-managed, the factory can contribute to food security by producing affordable fish meal, which is used as animal feed in the agriculture and aquaculture industries.	3	4	2	4	36	Moderate (Positive Impact)

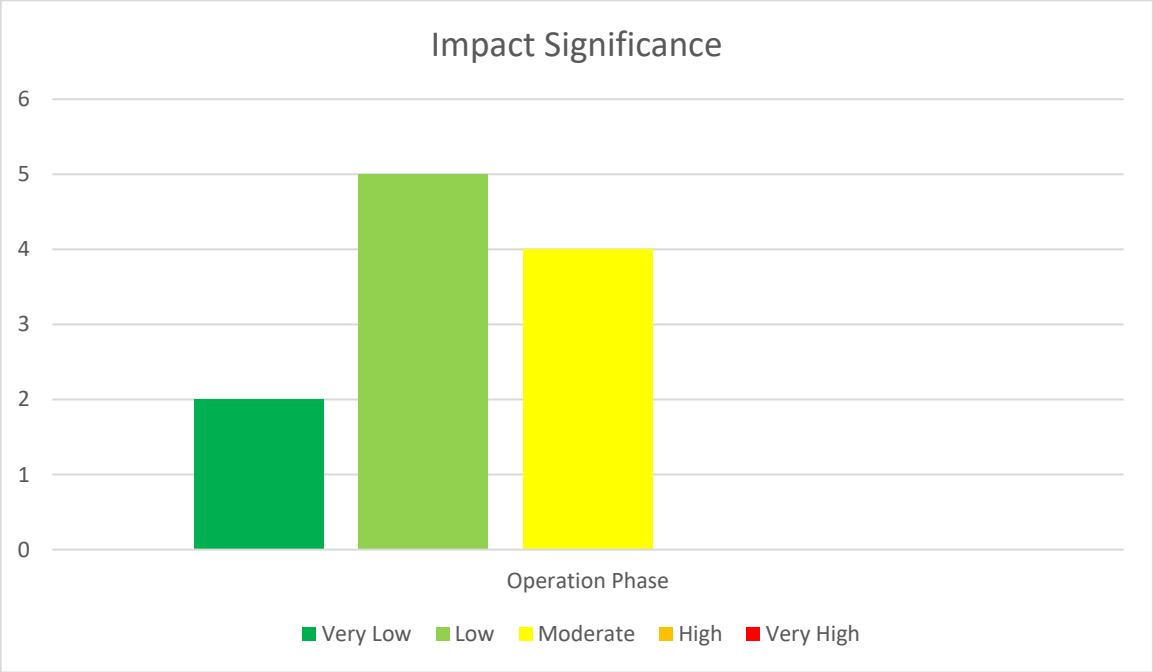


Figure 5-2 Impact Significance During Operation Phase

5.3.1.1. Mitigation Measures for Air Quality Impact

Switching to cleaner fuels and regular maintenance of boiler and boiler chimney to reduce CO_2, NOx, and SO_2 emissions from factory. The boiler chimney is constructed at an adequate height to reduce the dispersion of smoke and dust. In fish processing, odor emission is controlled by using 4-deoidorizing system. Dust control during drying and grinding process is improved with dust collectors, enclosed conveyors, and regular cleaning and factory is regularly improving ventilation systems. Trees with good air purification properties are planted sufficiently within the project area. To protect against smoke, dust, and odor dispersion, dormitories are constructed at a location far from the production buildings.

5.3.1.2. Mitigation Measures for Noise Emission

For grinders, dryers, and fish-processing equipment, factory installed soundproof enclosures that can help reduce noise levels. Regular maintenance of machinery and equipment are carried out systematically to reduce noise. For ice-making equipment, insulating compressors and refrigeration units are installed to minimize noise transmission. The noisy generators and other machinery such as boiler are stored in separate warehouses and placed at a location far from the workplace. The machinery in the project’s fishing boats is regularly maintained to reduce noise levels while docking at the port.

5.3.1.3. Mitigation Measures for Water Quality Impact

The wastewater generated from fish washing and cooking is treated step by step in a wastewater treatment tank, including filtration and cooling, before being discharged into the river. The ice production process is an operational procedure based on the project's requirements (e.g., purchasing fish raw materials), and by reusing the brine used in ice production, so the generation of waste water has been reduced. The water generated from fish washing is stored in ponds within the project's palm plantations for reuse in irrigation.

5.3.1.4. Mitigation Measures for Soil Quality Impact

Organic waste, such as fish remains (bones, scales and offal), are composted, used as fertilizer while inorganic waste like plastics is properly disposed of. To prevent leachate and runoff contamination, facilities such as impermeable liners, drainage systems, and vegetative buffer zones are installed. Concrete is laid in areas where fuel storage tanks are kept to prevent oil leaks.

5.3.1.5. Mitigation Measures for Solid Waste Impact

Shell of snails, shell of crabs, fish bones and other materials were reused in the execution of road construction and land filling process. The factory optimized ice-making machinery for energy efficiency to minimize resource consumption. Scrap metal and equipment parts were recycled. Domestic waste from employees was properly sorted, and organic waste was composted to reduce landfill and use as fertilizer.

5.3.1.6. Mitigation Measures for Liquid Waste Impact

The factory installed wastewater treatment systems to remove organic materials, oils, and fats, preventing water pollution. Water recycling systems were implemented to reuse wastewater for watering plantation, reducing overall consumption. The ice production process was optimized to minimize water wastage. Environmentally friendly cleaning agents were used, and proper disposal methods were followed to prevent chemical contamination. Regular maintenance of equipment was carried out to prevent leaks.

5.3.1.7. Mitigation Measures for Hazardous Waste Impact

Spent oils and lubricants from machinery were collected and disposed of safely through Municipal designated waste disposal site. Regular maintenance and checks were conducted on equipment to prevent leaks of heavy metals from boilers and cooling units. Used batteries and electrical components were properly handled and recycled to avoid hazardous waste buildup.

5.3.1.8. Mitigation Measures for Impact on Ecological Resources

Wastewater from processing was treated to remove organic waste and nutrients, preventing eutrophication and harm to aquatic life. Water conservation measures, such as recycling and optimizing water use in production, were implemented to minimize strain on local freshwater resources. The management of waste and discarded materials is carried out to prevent them from entering the river.

5.3.1.9. Mitigation Measures for Impact on Occupational Health and Safety

The factory implemented dust control measures, such as ventilation systems and protective equipment, to reduce respiratory risks from airborne dust during fish grinding and meal processing. Machinery safety protocols were put in place, including regular maintenance and the use of protective gear, to prevent accidents from heavy equipment. Workers were provided with hearing protection to prevent hearing loss and stress-related issues. To reduce slips, trips, and falls, the factory installed anti-slip flooring and ensured proper cleaning of wet surfaces, enhancing worker safety.

5.3.1.10. Mitigation Measures for Fire Hazard Impact

The factory implemented regular inspection and maintenance of electrical equipment to prevent faults, overheating, and fire risks. Dust accumulation from fish meal processing was controlled through

proper ventilation and dust collection systems to reduce the risk of explosions. Boilers and furnaces were maintained regularly, and safety systems were checked to ensure proper functioning and minimize fire hazards. Fuels for boilers were stored systematically in secure areas to prevent fire risks.

5.3.2. Project Activities and Its Significant Impact During Decommissioning Phase

The project activities, sources of impact and significance of impacts are provided in Table 5-3.

Table 5-3 Evaluation and Prediction of Significant Impacts in Decommissioning Phase

Impact	Source of Impact	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
Air	Dust emissions may occur from the demolition of structures, removal of machinery, and handling of debris. Additionally, if old equipment contains residual chemicals or refrigerants, improper disposal can release harmful substances into the air. Fuel combustion from machinery and transport vehicles used during the process may also contribute to air pollution.	2	5	2	2	18	Low
Noise	Demolition activities, such as breaking down structures and dismantling machinery, generate significant noise. Heavy equipment like excavators, loaders, and trucks used for debris removal also contribute to increased noise levels. Transportation of materials to and from the site can further amplify noise impacts, especially in nearby residential or sensitive areas.	2	5	1	2	16	Low
Water	Wastewater containing oils, chemicals, or residual materials from equipment cleaning and demolition activities can contaminate nearby water bodies if not managed properly. Debris and sediment from demolition can also enter drainage systems, leading to increased turbidity and pollution. Improper disposal of hazardous substances, such as ammonia or refrigerants, can pose risks to water quality.	4	5	2	3	33	Moderate
Soil	Spills or leaks of oils, chemicals, or residual substances from equipment and machinery can contaminate the soil. Improper disposal of debris and hazardous materials, such as refrigerants or cleaning agents, can lead to soil pollution. Heavy machinery used during demolition can also compact the soil, reducing its fertility and permeability.	2	5	1	1	8	Very Low

Impact		Source of Impact	Significant of Potential Impacts					Impact Significance
			M	D	E	P	SP	
Waste Generation	Solid	Demolition activities produce debris such as concrete, metal, wood, and insulation materials. Old machinery, equipment, and packaging materials also contribute to solid waste. If hazardous materials like refrigerants, chemical containers, or contaminated components are not disposed of properly, they can pose environmental and health risks.	3	5	2	2	20	Low
	Liquid	Sources include wastewater from cleaning equipment, demolition activities, and handling of residual chemicals. Leaks or spills of oils, lubricants, or refrigerants from machinery can also contaminate nearby water sources and soil. Improper disposal of liquid waste may lead to pollution and health risks.	4	5	3	3	36	Moderate
	Hazardous	Sources include residual chemicals, refrigerants, oils, and contaminated equipment or materials. Improper handling or disposal of these substances can lead to soil and water pollution, air contamination, and risks to human health.	2	5	1	1	8	Very Low
Ecological Resources		Habitat disturbance may occur due to demolition, waste generation, and increased noise, which can affect local wildlife. Pollution from dust, hazardous waste, or liquid spills can harm nearby vegetation, aquatic life, and ecosystems. Improper waste disposal and sediment runoff can further degrade natural habitats.	3	5	3	3	33	Moderate
Occupational Health and Safety		Workers may face hazards such as exposure to dust, chemicals, and hazardous materials like refrigerants. Risks of injuries from heavy machinery, falling debris, and improper handling of tools are also significant. Noise from demolition equipment can affect hearing, while slips, trips, and falls are common on uneven or debris-laden surfaces.	2	5	1	1	8	Vey Low
Fire Hazard		Residual chemicals, oils, and flammable materials in equipment or storage areas can pose fire hazards. Hot work activities, such as welding or cutting, may ignite	2	5	1	2	16	Low

Impact	Source of Impact	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
	flammable substances if proper precautions are not taken. Accumulation of debris and improper waste handling can also increase fire risks.						
Socio-economic	The closure of the factory may lead to unemployment for staff and reduced business for suppliers and service providers. This can negatively affect the income and livelihood of individuals and family's dependent on the factory. Additionally, if the factory was a significant contributor to local infrastructure or tax revenue, its decommissioning might reduce public services and investment in the area.	3	5	2	3	30	Moderate

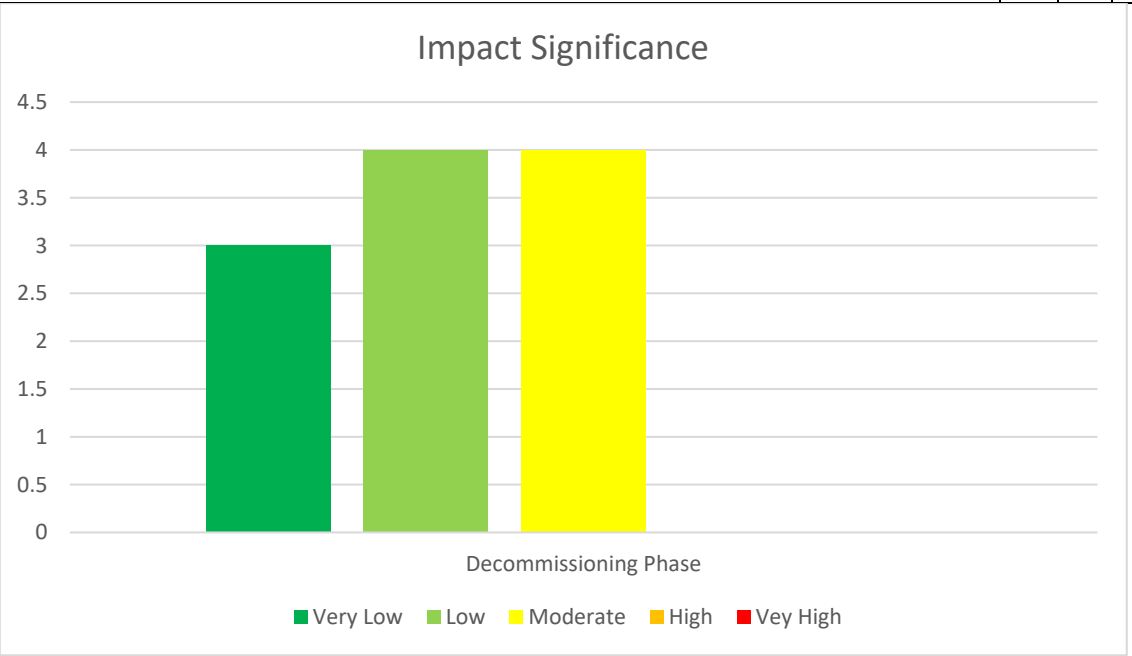


Figure 5-3 Impact Significance During Decommissioning Phase

5.3.2.1. Mitigation Measures for Air Quality Impact

To mitigate air quality impacts, dust suppression systems, such as water sprinklers, dust control barriers, and misting systems, will be employed during demolition and material handling activities. Additionally, proper containment and treatment of volatile organic compounds (VOCs), ammonia, and refrigerants are necessary to prevent their release into the air. Regular air quality monitoring and the use of exhaust ventilation in confined spaces can further help in reducing airborne contaminants.

5.3.2.2. Mitigation Measures for Noise Emission

Noise mitigation can be achieved by scheduling noisy activities during off-peak hours, using quieter machinery, and installing noise barriers around the site. Moreover, regular maintenance and monitoring of equipment, such as generators and crushers, ensure that noise levels stay within acceptable thresholds.

5.3.2.3. Mitigation Measures for Water Quality Impact

To protect water quality, proper management of wastewater is crucial. Wastewater will be treated before disposal, and runoff from demolition or construction should be contained using barriers or drainage systems.

5.3.2.4. Mitigation Measures for Soil Quality Impact

To minimize soil contamination, hazardous substances will be stored and disposed of properly. Spills will be cleaned immediately, and contaminated soil will be removed and using barriers to prevent runoff and erosion can protect the soil during decommission.

5.3.2.5. Mitigation Measures for Solid Waste Impact

The generation of solid waste will be mitigated through waste minimization strategies, including source separation and segregation of recyclable, reusable, and hazardous materials. Non-recyclable waste will be transported to licensed disposal facilities, while recyclable materials like metals, plastics, and concrete can be diverted for recycling.

5.3.2.6. Mitigation Measures for Liquid Waste Impact

Liquid waste will be managed by ensuring proper containment and treatment before disposal. Spills should be prevented through careful handling of liquids, and wastewater from cleaning and demolition will be filtered and safely disposed of. Spill containment systems, including drip trays and bunded areas, will be used to capture any accidental release of oils or chemicals.

5.3.2.7. Mitigation Measures for Hazardous Waste Impact

Hazardous waste will be carefully identified, segregated, and disposed of according to environmental standards. Proper storage containers will be used to prevent leaks, and workers will be trained in safe handling procedures to minimize risks to health and the environment.

5.3.2.8. Mitigation Measures for Impact on Ecological Resources

Mitigation measures for protecting ecological resources include restoring disturbed habitats and ensuring proper waste management to prevent contamination of surrounding ecosystems. Erosion control methods and sediment containment will be implemented to protect local flora and fauna.

5.3.2.9. Mitigation Measures for Impact on Occupational Health and Safety

Occupational health and safety during decommissioning will be enhanced by implementing risk assessments and safety training programs. Workers should be equipped with personal protective equipment (PPE), including respiratory protection, hearing protection, and protective clothing, based on identified hazards. Safe handling of chemicals, and clear emergency protocols can reduce the risk of accidents or health issues. Ensuring proper equipment maintenance also reduces operational hazards.

5.3.2.10. Mitigation Measures for Fire Hazard Impact

Fire safety measures include removing all flammable materials from the site, setting up fire barriers, and ensuring that hot work procedures are strictly followed. Fire extinguishers and suppression systems will be in place, and workers should be trained in fire safety.

5.3.2.11. Mitigation Measures for Socio-economic Condition

As a project proponent, mitigating socio-economic impacts involves offering retraining programs for workers, providing compensation packages, and supporting local businesses. Engaging with the community and creating alternative employment opportunities are essential to reducing the economic strain caused by the decommissioning process.

6. ENVIRONMENTAL MANAGEMENT (ACTION) PLAN

Environment Management Plan is required for ensuring sustainable development. It should not affect the surrounding environment adversely. The management plan presented in this chapter needs to be implemented by the proposed expansion of Marine Acary Production Company Limited. The Environment Management Plan (EMP) aims at controlling pollution at source with available and affordable technology followed by treatment measures. Waste minimization and waste recycling measures are emphasized. In addition to the industry specific control measures, the proposed industry should adopt following guidelines. Proposed project aims to export the fishmeal to other countries. 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) plays an essential part for the improvement of the social welfare of community as well as development of the region.

6.1. AIM OF ENVIRONMENTAL MANAGEMENT PLAN

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

6.2. OBJECTIVE OF ENVIRONMENTAL MANAGEMENT PLAN

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

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

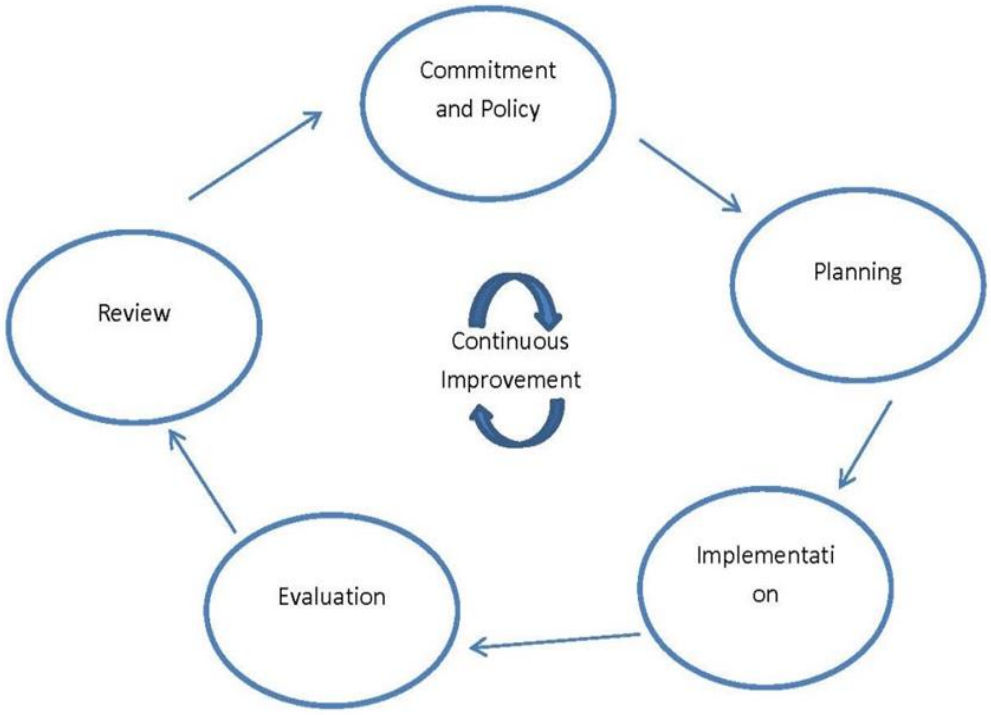


Figure 6-1 Continuous Improvement Circle

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

organization's values. The plan is then revised to optimize the effectiveness of the EMS. The review stage creates a loop of continuous improvement for a company.

6.2.1. Institutional Requirement

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

6.2.2. Responsibilities of the EMP

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

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

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

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

6.2.3. Structure and Responsibilities for the EMP Development and Implementation

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

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

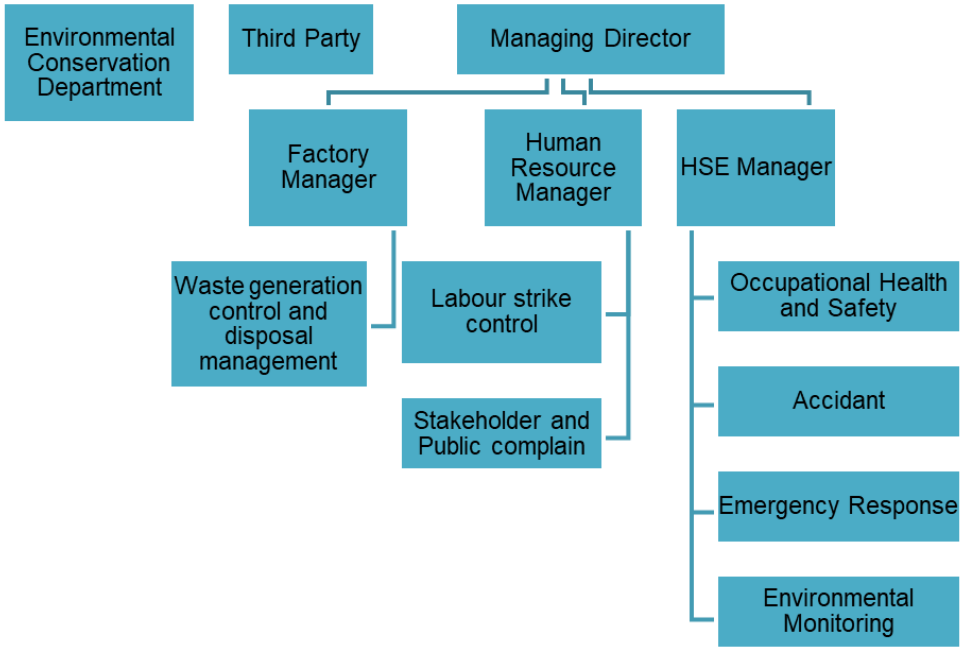


Figure 6-2 Organization Structure of Environmental Management Plan

Table 6-1 Responsible Persons for Environmental Management Plan & Monitoring Plan

No.	Position	Team	Responsibility Field	Members
1.	Factory Manager	Environmental Management Team Waste Management Team	➢ Environmental Monitoring ➢ Waste generation control and disposal management. ➢ Natural Disaster Precaution ➢ Occupational Health and Safety ➢ Preparing Environmental Monitoring Plan (EMoP) contact with third party ➢ Solid waste & Hazardous waste collection ➢ Septic tank inspection ➢ Wastes discharged by contact with municipal	3 members
2.	HSE Manager	HSE Team	➢ Electrical equipment inspection ➢ Maintaining wastewater treatment system ➢ Maintaining factory facilities ➢ Fire fighting equipment ➢ Occupational Health and Safety ➢ Emergency Response.	2 members
3.	HR Manager	HR Team	➢ Labour strike control. ➢ Stakeholder and Public complain. ➢ Waste generation control and disposal management	2 members

6.3. ENVIRONMENTAL MANAGEMENT ACTION (SUB-PLAN)

The EMP for Marine Acary Production Company Limited has been prepared to added potential issues based upon discussion with factory management, workers, local community view, stakeholder consultation and the site visit. The EMP is additional to and compliments the factory's safety management system. The following environmental impact issues which require environmental management plans based upon the potential impact activities of Marine Acary Production Company Limited are as follows:

6.3.1. Air Pollution/Dust Management Plan

6.3.1.1. Objectives

- To manage emissions effectively to minimize negative adverse effects
- To protect occupational and community health and safety
- To comply with environmental regulations to avoid legal penalties and contribute to long-term environmental sustainability.

6.3.1.2. Legal Requirements

The plan will be in line with Environmental Conservation Law (2012), Environmental Conservation Rules (2014), EIA Procedure (2015), Vehicle Safety and Motor Vehicle Management Law (2020), Occupational Safety and Health Law (2019), National Environmental Quality (Emission) Guidelines – relevant standards for air emissions (2015).

6.3.1.3. Overview Maps and Site Layouts Maps, Images, Aerial Photos, Satellite Images

The air quality monitoring was conducted biannually inspections within the project area and parameter are PM $_{2.5}$, PM $_{10}$, SO_2, NO_2, O_3. The air quality monitoring location is shown in Figure 6-3.

Figure 6-3 Air Quality Monitoring Map

6.3.1.4. Implementation Schedule

The plan will be implemented for the operation and decommissioning phases of project.

6.3.1.5. Management Actions

The following mitigation measures will be implemented for reducing the air and dust emissions generated from the operation and decommissioning phases of the project. The project proponent will be encouraged to adopt the following mitigation measures.

- Conduct regular emissions checks and use continuous monitoring systems
- Ensure proper maintenance of ventilation to reduce fugitive emissions
- Regularly maintain equipment and use to rice husk charcoal fuels for boiler combustion process
- Systems for odor control are installed and regularly maintained.

6.3.1.6. Budget

About 1,600,000 Ks per year is budgeted for implementing Environmental Management Plan and Monitoring Plan.

6.3.2. **Noise Management Plan**

6.3.2.1. Objectives

- Minimize noise levels generated by machinery and operations to reduce disturbance to workers and the surrounding community.
- To prevent hearing loss and other health issues associated with prolonged exposure to high noise levels.

6.3.2.2. Legal Requirements

The plan will be in line with Environmental Conservation Law (2012), Environmental Conservation Rules (2014), EIA Procedure (2015), Vehicle Safety and Motor Vehicle Management Law (2020) and National Environmental Quality (Emission) Guidelines – relevant standards for noise emissions (2015).

6.3.2.3. Overview Maps and Site Layouts Maps, Images, Aerial Photos, Satellite Images

The Noise Level monitoring was conducted biannually inspections within the project area. The noise level monitoring location is shown in Figure 6-4.

Figure 6-4 Noise Level Monitoring Map

6.3.2.4. Implementation Schedule

The plan will be implemented for the operation and decommissioning phases of project.

6.3.2.5. Management Actions

The following mitigation measures will be implemented for reducing noise generated from the operation and decommissioning phases of the project. The project proponent will be encouraged to adopt the following mitigation measures.

- Use soundproofing materials and barriers around noisy machinery to reduce noise levels
- Regularly maintain machines to prevent mechanical failures that could increase noise levels.
- Provide workers with ear protection (earplugs, earmuffs) in high-noise areas to prevent hearing damage.
- Educate workers about noise hazards and best practices to reduce noise exposure.

6.3.2.6. Budget

About 1,000,000 Ks per year is budgeted for implementing Environmental Management Plan and Monitoring Plan.

6.3.3. Water Consumption Management Plan

6.3.3.1. Objectives

The water consumption management is aimed at minimizing ground water use.

6.3.3.2. Legal Requirements

The plan will be in line with The Underground Water Act (1930).

6.3.3.3. Overview Maps and Site Layouts Maps, Images, Aerial Photos, Satellite Images

The water consumption monitoring was conducted every month inspection in project's water meter. The water consumption monitoring location is shown in Figure 6-5.

Figure 6-5 Water Consumption Monitoring Map

6.3.3.4. Implementation Schedule

The plan will be implemented for the operation phases of project.

6.3.3.5. Management Actions

The following mitigation measures will be implemented for reducing underground water usage for the operation phases of the project. The project proponent will be encouraged to adopt the following mitigation measures.

- Use water-saving devices such as low-flow nozzles, automated water control systems, and efficient ice-making equipment
- Regularly test and monitor water quality to ensure it meets operational needs and discharge regulations.
- All staff trains and makes aware conservation practices and proper methods of water use must be place in toilets and other areas of water consumption

6.3.3.6. Budget

About 300,000 Ks per year is budgeted for implementing Environmental Management Plan and Monitoring Plan.

6.3.4. Solid Waste Management Plan

6.3.4.1. Objectives

- To manage and dispose of solid waste in a manner that complies with environmental regulations and prevents harm to the environment and public health.
- To minimize the impact of waste on the surrounding community through proper handling and disposal and to maximize recycling and reuse of waste materials to reduce landfill dependency.

6.3.4.2. Legal Requirements

The plan will be in line with National Waste Management Strategy and Action Plan (Draft 2018).

6.3.4.3. Overview Maps and Site Layouts Maps, Images, Aerial Photos, Satellite Images

Solid waste generated from factory and employees are collected and temporarily stored once a month in temporary waste storage area and collected and discharged by factory officials in one time per month. The location of solid waste temporarily storage area is shown in Figure 6-6.

Figure 6-6 Temporary Waste Storage Area

6.3.4.4. Implementation Schedule

The plan will be implemented for the operation phases of project.

6.3.4.5. Management Actions

The following mitigation measures will be implemented for solid waste management in the operation phases of the project. The project proponent will be encouraged to adopt the following mitigation measures.

- Implement systems to separate organic, recyclable, and hazardous waste during operations.
- Treat organic waste from fish meal processing through composting for agricultural use.
- Educate staff on proper waste segregation, handling, and disposal practices.
- Explore options to repurpose waste byproducts, such as using fish meal residues for animal feed or fertilizers.

6.3.4.6. Budget

About 800,000 Ks per year is budgeted for implementing Environmental Management Plan and Monitoring Plan.

6.3.5. **Liquid Waste Management Plan**

6.3.5.1. Objectives

- To reduce wastewater through optimized processes and efficient use of water.
- To ensure safe treatment and disposal and treat liquid waste to meet environmental standards before discharge.

6.3.5.2. Legal Requirements

The plan will be in line with Environmental Conservation Law (2012), Environmental Conservation Rules (2014), National Environmental Quality (Emission) Guidelines (2015), Underground Water Act (1930) and Conservation of Water Resources and River Law (2016).

6.3.5.3. Overview Maps and Site Layouts Maps, Images, Aerial Photos, Satellite Images

Liquid waste generated from factory and employees are collected and treated in wastewater treatment system and sewage are stored in septic tank. The parameters for liquid waste monitoring are pH, Turbidity, Conductivity, Iron, Sulphate, TSS, TDS, Manganese, COD, BOD, Cyanide, Copper, Zinc, Carbonate will be monitored one time per every six months. The location of wastewater treatment system is shown in Figure 6-7.

Figure 6-7 Water Treatment System

6.3.5.4. Implementation Schedule

The plan will be implemented for the operation and decommissioning phases of project.

6.3.5.5. Management Actions

The following mitigation measures will be implemented for wastewater management in the decommissioning and operation phases of the project. The project proponent will be encouraged to adopt the following mitigation measures.

- Install a comprehensive wastewater treatment system to treat liquid waste before discharge
- Effluent quality is regularly monitored once in every six months to ensure that discharged wastewater meets NEQEG standards and does not pose harm to the environment
- Provide education and training to employees on proper waste management practices, including the handling and disposal of liquid waste, to prevent contamination and environmental damage
- Regular inspection and cleaning, oil traps, septic tank and adequate covers for all storage and waste disposal areas can decrease these contaminations.
- Maintain storage tanks, pipelines, and drainage systems to avoid accidental leaks and spills.
- Train workers on proper handling of liquid waste and the operation of wastewater treatment systems.

6.3.5.6. Budget

About 1,200,000 Ks per year is budgeted for implementing Environmental Management Plan and Monitoring Plan.

6.3.6. **Hazardous Waste Management Plan**

6.3.6.1. Objectives

- To ensure proper identification and classification of hazardous waste generated during operations.
- To safely treat and dispose of hazardous waste to avoid pollution of soil, air, and water resources.

6.3.6.2. Legal Requirements

The plan will be in line with Environmental Conservation Law (2012), National Environmental Policy of Myanmar (2019) and Prevention of Hazard from Chemical and Related Substances Law (2013).

6.3.6.3. Overview Maps and Site Layouts Maps, Images, Aerial Photos, Satellite Images

Hazardous waste is separately stored temporarily and then disposed of at the designated location specified by the Bogalay Township Municipal Committee. The location of hazardous waste temporary area is shown in Figure 6-8.

Figure 6-8 Temporary Hazardous Waste Storage Area

6.3.6.4. Implementation Schedule

The plan will be implemented for the operation phases of project.

6.3.6.5. Management Actions

The following mitigation measures will be implemented for hazardous waste management in the operation phases of the project. The project proponent will be encouraged to adopt the following mitigation measures.

- Categorize all hazardous waste (e.g., chemical residues, used oils, and broken light tubes and bulbs, old batteries) and ensure proper labeling.
- Store hazardous waste in leak-proof, labeled, and segregated containers within designated areas to prevent spillage
- Equip workers handling hazardous waste with appropriate PPE to ensure safety.

Provide regular training to workers on hazardous waste identification, handling, and emergency response procedures.

6.3.6.6. Budget

About 500,000 Ks per year is budgeted for implementing Environmental Management Plan and Monitoring Plan.

6.3.7. Fire Hazard Management Plan

6.3.7.1. Objectives

- To implement measures to eliminate potential fire hazards and reduce the risk of ignition.
- To safeguard workers, equipment, and property from fire-related damage or loss.
- To establish effective response procedures to minimize impact in case of a fire.

6.3.7.2. Legal Requirements

The plan will be in line with Occupational Safety and Health Law (2019), Myanmar Fire Force Law (2015), Petroleum and Petroleum Product Law (2017) and The Electricity Law (2014).

6.3.7.3. Overview Maps and Site Layouts Maps, Images, Aerial Photos, Satellite Images

The firefighting facilities are placed all over the project area. Firefighting trainings for employees and firefighting equipment are regularly inspected by fire department of Bogalay township and manager of project.

6.3.7.4. Implementation Schedule

The plan will be implemented for the operation phases of project.

6.3.7.5. Management Actions

The following mitigation measures will be implemented for fire hazard management of the project. The project proponent will be encouraged to adopt the following mitigation measures.

- Regularly identify fire hazards and evaluate fire risks in operations and storage areas.
- Use smoke detectors, fire alarms, and sprinklers in high-risk areas.
- Equip the facility with appropriate extinguishers (e.g., CO2, foam) and ensure they are easily accessible.
- Store flammable materials away from heat sources in properly ventilated and labeled areas.
- Clearly mark and maintain unobstructed fire exits and evacuation pathways.
- Conduct regular fire safety training, including the use of extinguishers and emergency evacuation procedures.

6.3.7.6. Budget

About 800,000 Ks per year is budgeted for implementing Environmental Management Plan and Monitoring Plan.

6.3.8. **Occupational Health and Safety Management Plan**

6.3.8.1. Objectives

- To minimize workplace hazards to protect employees from injuries and illnesses.
- To reduce downtime and costs associated with workplace accidents and health issues.

6.3.8.2. Legal Requirements

The plan will be in line with Occupational Safety and Health Law (2019), Public Health Law (1972), Prevention and Control of Communicable Disease Law (1995 - Amendment in 2011).

6.3.8.3. Implementation Schedule

The plan will be implemented for the operation and decommissioning phases of project.

6.3.8.4. Management Actions

The following mitigation measures will be implemented for occupational safety and health management of the project. The project proponent will be encouraged to adopt the following mitigation measures.

- Identify and assess potential safety and health risks in all operations.
- Supply workers with necessary PPE such as gloves, masks, earplugs, and protective clothing.
- Develop and enforce safety protocols, such as machine handling procedures and chemical usage guidelines.
- Train employees on workplace safety, hazard identification, and emergency response.
- Regularly check air quality, noise levels, and other environmental factors to ensure compliance with NEQEG and safety standards.
- Prepare and communicate plans for fire, spills, injuries, and other emergencies.
- Ensure the availability of first aid kits and trained personnel at project site.

6.3.8.5. Budget

About 1,000,000 Ks per year is budgeted for implementing Environmental Management Plan and Monitoring Plan.

6.3.9. **Energy Management Plan**

6.3.9.1. Objectives

- To minimize energy usage by optimizing processes and equipment.
- To lower energy expenses through efficient management and conservation strategies.

6.3.9.2. Legal Requirements

The plan will be in line with Electricity Law (2014) and Environmental Conservation Law (2012).

6.3.9.3. Implementation Schedule

The plan will be implemented for the operation phases of project.

6.3.9.4. Management Actions

The following mitigation measures will be implemented for energy management of the project. The project proponent will be encouraged to adopt the following mitigation measures.

- Regularly assess energy usage to identify inefficiencies and opportunities for improvement.
- Replace old machinery with energy-efficient models, such as variable speed drives and LED lighting.
- Ensure timely maintenance of machinery to prevent energy losses from wear and tear.
- Improve insulation in storage and cooling areas to reduce energy used for refrigeration.
- Educate staff on energy conservation practices and efficient equipment operation.

6.3.9.5. Budget

About 500,000 Ks per year is budgeted for implementing Environmental Management Plan and Monitoring Plan.

6.3.10. Emergency Respond Plan

6.3.10.1. Objectives

- To enable swift action during emergencies to minimize risks to life and property.
- To reduce the impact of emergencies on production and facility operations.
- To meet local and national standards for emergency preparedness and response.

6.3.10.2. Legal Requirements

The plan will be in line with Myanmar Fire Force Law (2015), Natural Disaster Management Law (2013), Occupational Safety and Health Law (2019), Social Security Law (2012) and Public Health Law (1972).

6.3.10.3. Implementation Schedule

The plan will be implemented for the operation and decommissioning phases of project.

6.3.10.4. Management Actions

The following mitigation measures will be implemented for emergency respond plan of the project. The project proponent will be encouraged to adopt the following mitigation measures.

- Assess risks such as fires, chemical spills, equipment failures, and natural disasters.
- Appoint trained personnel responsible for implementing response actions during emergencies.
- Ensure the availability of fire extinguishers, first aid kits, alarms, and emergency communication systems.
- Provide training on emergency response roles, evacuation processes, and the use of safety equipment.
- Maintain contact with local fire departments, medical services, and environmental agencies for external support.
- Review the emergency response plan periodically and after every incident to incorporate lessons learned and improvements.

6.3.10.5. Budget

About 500,000 Ks per year is budgeted for implementing Environmental Management Plan and Monitoring Plan.

6.3.11. Natural Disaster Management Plan

6.3.11.1. Objectives

- To protect the lives of employees during natural disasters such as floods, earthquakes, or storms.

- To prevent or reduce damage to factory infrastructure, equipment, and raw materials.
- To implement measures to recover quickly and minimize downtime after a disaster.

6.3.11.2. Legal Requirements

The plan will be in line with Natural Disaster Management Law (2013) and Occupational Safety and Health Law (2019).

6.3.11.3. Implementation Schedule

The plan will be implemented for the operation phases of project.

6.3.11.4. Management Actions

The following mitigation measures will be implemented for energy management of the project. The project proponent will be encouraged to adopt the following mitigation measures.

- Identify potential natural disasters (floods, earthquakes, hurricanes) that could impact the facility.
- Ensure the factory and surrounding infrastructure are resilient to natural disasters (e.g., reinforcing buildings for earthquakes, flood barriers).
- Set up backup power, water, and communication systems to maintain essential operations during and after a disaster.
- Maintain emergency kits, including first aid supplies, flashlights, water, and non-perishable food.
- Regularly train employees on disaster response, including evacuation procedures, first aid, and use of emergency equipment.
- Coordinate with local emergency services and government bodies to ensure an integrated disaster response plan and support.

6.3.11.5. Budget

About 500,000 Ks per year is budgeted for implementing Environmental Management Plan and Monitoring Plan.

6.4. ENVIRONMENTAL MONITORING SCHEDULE AND REPORTING

The EMoP cell members responsible may conduct daily, weekly or monthly general inspections of the project area and facilities. The objectives are to identify non-compliances to EMoP. Table 6-2 is provided the environmental monitoring schedule for Marine Acary Production Company Limited. The factory submits monitoring report to the Ministry not less frequently than every six (6) months, as provided in a schedule in the EMP.

Table 6-2 Environmental Monitoring Schedule for Marine Acary Production Company Limited

Issues	Parameter	Frequency	Area to be monitored	Monitoring coast	Responsible Organization
Operation Phase					
Air quality	$PM_{2.5}$, PM_{10}, O_3, SO_2, NO_2	Every six months	Outdoor Area of the factory	1,600,000 Kyats per year	Environmental Management Team's Marine

Issues	Parameter	Frequency	Area to be monitored	Monitoring coast	Responsible Organization
			(15°51'43.32" N 95°12'6.04" E)		Acary Production Company Limited
Noise	Production noise level (dBA)	Every six months	Production Area (15°51'45.09" N 95°12'7.38" E)	1,000,000 Kyats per year	Environmental Management Team's Marine Acary Production Company Limited
Factory Outlet Treated Water Quality	pH, Turbidity, TSS, Total solids, Hardness, Chloride, Free Cyanide, Arsenic, Copper, Iron, Lead, Manganese, Zinc, Oil & Grease	Every six months	Outlet Water Point (15°51'46.29" N 95°12'6.24" E)	1,000,000 Kyats per year	Environmental Management Team's Marine Acary Production Company Limited
Tube well Water Quality	pH, Turbidity, Total Dissolved solids, Chloride, Total Hardness, Iron, Calcium, Magnesium, Electrical Conductivity	Every six months	Tube well at the factory (15°51'42.61" N 95°12'6.71" E)	800,000 Kyats per year	Environmental Management Team's Marine Acary Production Company Limited
Boiler Stack Emission	CO2, SO2, NO2, CO	Every six months	At the boiler chimney (15°51'43.49" N 95°12'6.29" E)	800,000 Kyats per year	Environmental Management Team's Marine Acary Production Company Limited
Odor Intensity	OI	Every six months	Production Area (15°51'45.09" N 95°12'7.38" E)	600,000 Kyats per year	Environmental Management Team's Marine Acary Production Company Limited
Occupational Health and Safety (OHS)	Prohibitions for safety, First Aid Kit, PPE	Monthly regular inspection and Maintenance	Project Area (15°51'44.99" N 95°12'7.40" E)	1,000,000 Kyats per year	Environmental Management Team's Marine Acary Production Company Limited
Waste Generation	Solid waste	Monthly (Record & will be included in monitoring report)	Temporary waste storage area (15°51'44.15"N 95°12'10.86"E)	800,000 Kyats per year	Environmental Management Team's Marine Acary Production Company Limited
	Liquid waste	Weekly regular inspection and Maintenance	Drainages and wastewater treatment tank	1,200,000 Kyats per year	

Issues	Parameter	Frequency	Area to be monitored	Monitoring coast	Responsible Organization
			(15°51'46.20"N 95°12'6.52"E)		
	Hazardous waste	Every six months (Record & will be included in monitoring report)	Temporary hazardous waste storage area (15°51'44.22"N 95°12'7.43"E)	500,000 Kyats per year	
Fire Hazardous	Fire-fighting equipment	Monthly regular inspection and Maintenance	Project Area (15°51'44.99" N 95°12'7.40" E)	800,000 Kyats per year	Environmental Management Team's Marine Acary Production Company Limited
Energy	Visual inspection and Record	Monthly	Project Area (15°51'44.99" N 95°12'7.40" E)	500,000 Kyats per year	Environmental Management Team's Marine Acary Production Company Limited
Emergency Response	Emergency preparedness for natural disaster and emergency plan	Annually	Project Area (15°51'44.99" N 95°12'7.40" E)	1,000,000 Kyats per year	Environmental Management Team's Marine Acary Production Company Limited
Decommissioning Phase					
Air quality	$PM_{2.5}$, PM_{10}, O_3, SO_2, NO_2	One time during this phase	One point in this phase (15°51'43.32" N 95°12'6.04" E)	1,000,000 Kyats	Project Proponent
Noise	Noise level in decibel (dBA)	One time during this phase	One point at this phase (15°51'45.09" N 95°12'7.38" E)	400,000 Kyats	Project Proponent
Tube well Water Quality	pH, Turbidity, Total Dissolved solids, Chloride, Total Hardness, Iron, Calcium, Magnesium, Electrical Conductivity	One time after this phase	Tube well (15°51'42.61" N 95°12'6.71" E)	800,000 Kyats	Project Proponent
Waste Generation	Solid waste (Demolished materials & debris)	One time in this phase	Temporary waste storage area (15°51'44.15"N 95°12'10.86"E)	800,000 Kyats	Project Proponent
	Liquid waste (Treated wastewater)		Drainages (15°51'45.74" N 95°12'6.71" E)	600,000 Kyats	

Issues	Parameter	Frequency	Area to be monitored	Monitoring coast	Responsible Organization
	(pH, Turbidity, TSS, Total solids, Hardness, Chloride, Free Cyanide, Arsenic, Copper, Iron, Lead, Manganese, Zinc, Oil & Grease)				
	Hazardous waste (Empty Oil containers, old batteries, broken glass, light tubes/bulbs)		Temporary hazardous waste storage area (15°51’44.22” N 95°12’7.43” E)	600,000 Kyats	
Occupational Health and Safety (OHS)	Prohibitions for safety, First Aid Kit, PPE	Regular inspection and Maintenance	Decommissioning Area (15°51’44.99” N 95°12’7.40” E)	800,000 Kyats	Project Proponent
Fire Hazard	Fire-fighting equipment	One time in this phase	Decommissioning Area (15°51’44.99” N 95°12’7.40” E)	500,000 Kyats	Project Proponent
Emergency Response	Emergency preparedness for natural disaster and emergency plan	One time in this phase	Decommissioning Area (15°51’44.99” N 95°12’7.40” E)	500,000 Kyats	Project Proponent
Rehabilitation	Recovering and Revegetation	After the decommissioning phase	All decommissioning area	800,000 Kyats	Project Proponent

6.4.1. **Estimated Budget Plan for Environmental Management and Monitoring**

This section describes the estimated budget plans for the environmental management and environmental monitoring by the project proponent. On the other hand, Marine Acary Production Company Limited will take necessary environmental mitigation measures and its expenses for the environmental management not only at the operation phases but also at the closing phase in accordance with their responsibility for the studies of recommendation. If the allocated budget for the Environmental Management Plan (EMP) and Environmental Monitoring Plan (EMoP) is insufficient, the project proponent will provide additional funding as required.

The following table shows the expenditures for the implementation of Environmental Management Plan for operation phase annually. Estimation cost for EMP implementation is presented in Table 6-3.

Table 6-3 Cost Estimation for Environmental Management and Monitoring

No	Item	Frequency/Times	Estimated Cost (MMK)
Monitoring Plan			
1	Air Quality	Every six months	1,600,000 per year
2	Noise Level	Every six months	1,000,000 per year
3	Factory Outlet Treated Water Quality	Every six months	1,000,000 per year
4	Tube Well Water Quality	Every six months	1,000,000 per year
5	Boiler Stack Emission	Every six months	800,000 per year
6	Odor Intensity	Every six months	600,000 per year
Emergency Preparedness			
1	Fire Fighting Equipment	Once per month	800,000 per year
2	Natural Disaster and Emergency Preparedness	Once per year	1,000,000 per year
3	Drills and Trainings	Once per year	1,000,000 per year
4	Occupational Health and Safety (PPE, First Aid Kit, Medical Supply, Warning Signs)	Once per year	1,000,000 per year
Waste Disposal			
1	Solid Waste	Monthly	800,000 per year
2	Liquid Waste	Weekly	50,000 per month
3	Hazardous Waste	Every six months	500,000 per year
4	Maintenance of Wastewater Treatment Tank	Annually	800,000 per year
Environmental Audit			
1	Environmental Compliance Auditing	Once	600,000 Lump Sum

6.5. CAPACITY BUILDING AND TRAINING PLAN

This plan aims to improve employee skills and awareness in compliance with occupational health and safety (OHS) standards, fire safety regulations and natural disaster preparedness at the factory.

6.5.1. Occupational Health and Safety (OHS) Training

Training will also focus on the proper use, maintenance, and storage of personal protective equipment (PPE) like gloves, masks, and boots. Safe equipment operation practices, including emergency stop procedures and regular maintenance, will be emphasized to reduce the risk of accidents. Additionally, hygiene practices will be covered to prevent contamination and health issues, and ergonomic techniques will be taught to minimize physical strain from repetitive tasks.

6.5.2. Fire Safety Training

Fire safety training will cover identifying fire hazards specific to the factory, such as flammable residues and packaging materials, and implementing prevention practices like proper storage and

workspace cleanliness. Employees will learn the correct use of fire extinguishers using the PASS technique (Pull, Aim, Squeeze, Sweep) and participate in regular fire drills to familiarize themselves with evacuation routes and emergency assembly points.

6.5.3. Natural Disaster Preparedness Training

Natural disaster preparedness will focus on educating employees about local risks, including tsunamis, cyclones, and flooding. Training will include recognizing early warning signs, understanding disaster alerts, and practicing evacuation plans through regular drills. Employees will also be trained on the contents and use of emergency kits, basic first aid, and CPR to provide immediate post-disaster assistance.

These training programs will be implemented through a combination of classroom sessions, hands-on demonstrations, and practical drills. Training materials, including manuals, visual aids, and audiovisual tools, will be customized to address the factory's specific risks and operations. Regular assessments will be conducted to evaluate employees' understanding and retention of the training, and refresher courses will be organized to reinforce critical concepts. Feedback from employees and trainers will be collected to identify areas for improvement and to keep the training aligned with regulatory changes and best practices. By continuously monitoring and updating the program, the factory can maintain a culture of safety and preparedness, ensuring long-term effectiveness and compliance.

Table 6-4 Contact Person in Case of Safety and Emergencies

Name	U Zaw Htet Aung General Manager
Email address	marinefighter17@gmail.com
Contact Number	09 262 694 448

6.6. GRIEVANCE REDRESS MECHANISM (GRM)

People who live near the project affected area or stakeholders can complain about the problems and impacts that they suffer; they can complain though Grievance Committee, which includes the responsible persons of Marine Acary Production Company Limited representative from Katonkani Village and representative from General Administration Department (Bogalay Township). Small issues will be solved at the Grievance Committee stage and other unsolved problems will be submitted to higher responsible authorities and finally the responsible person decided by the court in legal terms. The following diagram show steps of Grievance Redress Mechanism of Proposed Factory Project.

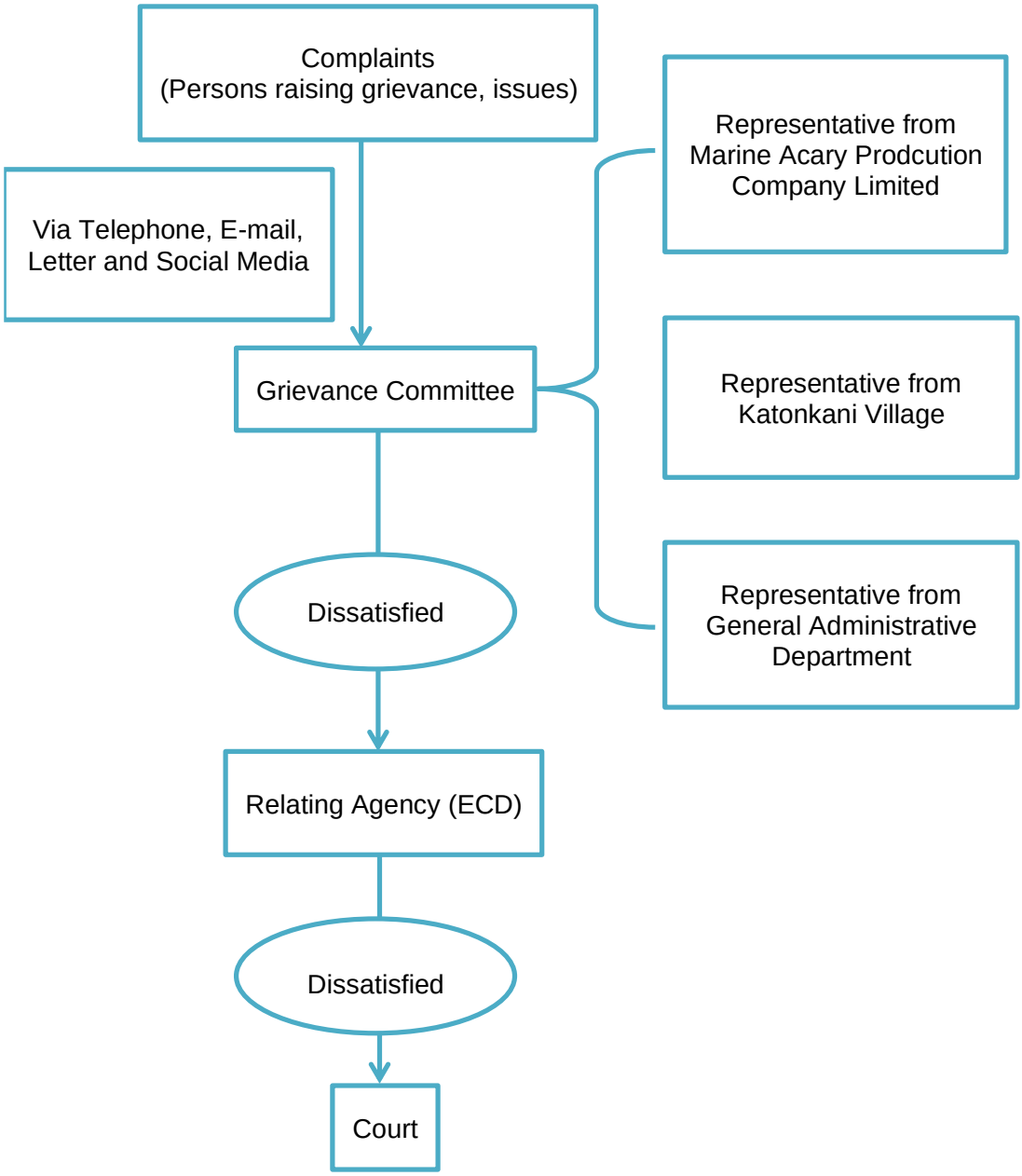


Figure 6-9 Grievance Redress Mechanism Flow Diagram

6.7. CORPORATE SOCIAL RESPONSIBILITY (CSR) PLAN

The CSR activities have the objective to uplift quality of life and gain favorable relations from all communities in the operation area. The CSR program for Marine Acary Production Company Limited consists of three main sectors; Health, Education and Community Development Sector. CSR activities conducted in compliance with MIC's guideline for implementation of CSR program.

Marine Acary Production Company Limited will contribute 2% of our Net Profit to social welfare activities that will help society and country of Myanmar. Our social welfare activities shall include training of our employees such as on job training to be more qualified on weekends with experienced teachers and providing necessary healthcare such as medical checkups and giving proper medical knowledge about deceases and its prevention. Part of our CSR activity such as donations will also contribute to public school around our factory.

Table 6-5 CSR Plan of Marine Acary Production Company Limited

No	Content	Contribution	Estimate Amount (MMK)
1.	Healthcare	0.5 %	2,000,000
2.	Education	0.5 %	2,000,000
3.	Community Development	1 %	3,000,000

6.7.1. Healthcare

One of the project main concerns is the well-being of employees. Project proponent will contribute 0.5% of net profit for the healthcare which includes medical checkup for the employees and providing health education to our workers.

6.7.2. Education

Project will contribute 0.5% of net profit to the local school near the project to be a part of creating the better community. Project will also work together with the school to understand more about the needs and will also ensure that our contributions will be used in the most effective and efficient way for the society.

6.7.3. Community Development

Project will contribute 1% of net profit to community development programs. Project will donate to local charities with a worthy cause and actively participate in community events. Project will encourage staff to participate, and to form a community engagement team to actively support community events.

7. PUBLIC CONSULTATION

7.1. PUBLIC CONSULTATION PROCESS

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

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

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

7.2. PUBLIC CONSULTATION MEETING

Public consultation meeting was conducted on 20th August 2024, following the EIA procedure. The project's stakeholders in this category are key officials or representatives of the regional and local authorities who have direct responsibilities for the administration of the EMP process for environmental and social clearance and issuing operation permits for proposed development projects. For this company, relevant key offices at the national level are Environmental Conservation Department (ECD). Relevant key office at the regional level is General Administrative Department, Fire Department, General Labor Law Inspection Department and, Public Health Department.

Public consultation carried out after the presentation on the project, followed by questions, answers and discussion. U Lynn Than Thaung presented EMP study and findings from Myanwei, after the presentation following questions and answer section. Summary of public consultation meeting is presented Table 7-1.

Table 7-1 Summary of Public Consultation Meeting

Time and Date	Tuesday, 20th August 2024 10:00 AM – 11:30 AM
Venue	Meeting Room of Marine Acary Production Company Limited
Agenda	➢ Introduction of Marine Acary Production Company Limited ➢ Project Activities and its Significant Impacts ➢ Environmental Baseline Study of the proposed project ➢ Risk Assessment and Mitigation Measures ➢ Environmental Management Plan

	➢ Environmental Monitoring Plan and Budget Plan ➢ Corporate Social Responsibilities and factory's activities
Organized by	Myanwei Environmental Solutions Company Limited.

7.3. RECOMMEND SUGGESTION AND COMMENT

Public Consultation Meeting for the EMP of Marine Acary Production Company Limited was held on 20th August 2024. The detailed of the meeting, including the meeting time, venue and names of participated attended the consultation meeting are listed in **APPENDIX S**.

After the presentation, the floor opened for questions and answers. Most of the government stakeholders are suggested for good monitoring measure during operation.

Table 7-2 Summary of Public Consultation Meeting

Name	Description	Photos
U Lynn Than Thaung Environmentalist Myanwei Environmental Solutions Company Limited	Myanwei Environmental Solutions Company Limited မှ Environmentalist ဦးလင်းသန်းသောင်းမှ Marine Acary Production Company Limited ၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်အား Power Point Presentation ဖြင့် ဆွေးနွေးတင်ပြခဲ့ပါသည်။ ရှင်းလင်းဆွေးနွေးတင်ပြခဲ့သော အကြောင်းအရာများမှာ Marine Acary Production Company Limited ၏ လုပ်ငန်းဆောင်ရွက်မှု အခြေအနေများ၊ စီမံကိန်း၏ ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှု ဆန်းစစ်ခြင်းနှင့် ထိခိုက်မှုအဆင့်သတ်မှတ်ချက်များ၊ ၎င်းပတ်ဝန်းကျင်အပေါ်သက်ရောက်မှုများအား ဖြေလျော့ရေး နည်းလမ်းများ၊ စီမံကိန်း၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်များ အကျဉ်းချုပ်၊ ပတ်ဝန်းကျင်ဆိုင်ရာ စောင့်ကြပ်ကြည့်ရှုမှု အစီအစဉ်နှင့် ခန့်မှန်းကုန်ကျစရိတ်နှင့် စက်ရုံ၏ လူထုအကျိုးတူ ပူးပေါင်းဆောင်ရွက်မှုများ၊ စက်ရုံ၏ ဆောင်ရွက်ထားရှိမှုများ ဖြစ်ပါသည်။	 

Name	Description	Photos
Daw Ohnmar Hlaing Assistant Director Environmental Conservation Department (Pyapon District)	ပင်လယ်နှင့် အနီးတွင် တည်ရှိသည့် စီမံကိန်း ဖြစ်သောကြောင့် သဘာဝဘေးအန္တရာယ် ကာကွယ်ရေး စီမံချက် ရေးဆွဲ ထားရှိ ရမည် ဖြစ်ပါကြောင်း၊ ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေးများ တိုင်းတာရာတွင် လုပ်ငန်း လည်ပတ်ဆောင်ရွက်ချိန်မှသာ တိုင်းတာဆောင်ရွက်သွားရမည် ဖြစ်ပါကြောင်း၊ စက်သုံးဆီများ သိုလှောင်ထားရှိရာတွင် မီးဘေးအန္တရာယ် ကင်းရှင်း စေရေး စနစ်တကျ သိုလှောင်ထားရှိရမည် ဖြစ်ပါကြောင်း၊ စွန့်ပစ်ပစ္စည်း များ စွန့်ပစ်ရာတွင် အမှိုက်များအား ခွဲခြား၍ သတ်မှတ်ထားသော နေရာတွင် စနစ်တကျ စွန့်ပစ်ထားရမည် ဖြစ်ပါကြောင်း - အကြံပြုဆွေးနွေးတင်ပြခဲ့ပါသည်။	
Daw Hnin Ei Win Assistant Director Department of Labor and Labor Law Inspection (Pyapon District)	လုပ်ငန်းခွင် ဘေးအန္တရာယ် ကင်းရှင်းရေးအတွက် ဝန်ထမ်းဦးရေ အလိုက် OSH ကော်မတီ ဖွဲ့စည်းထားရှိရမည် ဖြစ်ပါကြောင်း၊ ဆူညံသံ တိုင်းတာဖော်ပြရာတွင် စက်ပစ္စည်းများ လည်ပတ်သည့် နေရာတွင် တိုင်းတာရမည် ဖြစ်ပါကြောင်း၊ ဝန်ထမ်းများအတွက် ကျန်းမာရေး အခြေအနေအား ပုံမှန် စစ်ဆေးပေးသွားရမည် ဖြစ်ပါ ကြောင်း - အကြံပြု ဆွေးနွေးတင်ပြခဲ့ပါသည်။	

Name	Description	Photos
U Htun Aung Staff Officer Bogalay Township Fire Department	စီမံကိန်းတွင် မီးဘေးအန္တရာယ် လုံခြုံရေး စီမံချက် ရေးဆွဲထား ရှိရမည်ဖြစ်ကြောင်း၊ စီမံကိန်းရှိ ဝန်ထမ်းများအား မီးသတ်ပစ္စည်း များ ကိုင်တွယ် အသုံးပြုခြင်းနှင့် စပ်လျဉ်း၍ မီးသတ်ဦးစီးဌာနနှင့် ပူးပေါင်း၍ သင်တန်း သရုပ်ပြမှုများ ဆောင်ရွက်သွားရမည် ဖြစ်ပါ ကြောင်း - အကြံပြု ဆွေးနွေးတင်ပြခဲ့ပါသည်။	
U Lynn Than Thaung Environmentalist Myanwei Environmental Solutions Company Limited	လူကြီးမင်းတို့၏ အကြံပြုဆွေးနွေး တင်ပြချက်များအား လိုက်နာ ဆောင်ရွက်သွားမည်ဖြစ်ကြောင်းနှင့် စီမံကိန်း အဆိုပြုသူအား ဆောင်ရွက်ရန် လိုအပ်ချက်များအား ကူညီဆောင်ရွက် ပေးသွား မည် ဖြစ်ပါကြောင်း နှင့် တက်ရောက်ဆွေးနွေးပေးသည့်အတွက် အထူးကျေးဇူးတင်ရှိပါ ကြောင်း ပြောကြားခဲ့ပါသည်။	

8. CONCLUSION & RECOMMENDATION

8.1. CONCLUSION

Environmental Management Plan (EMP) has been prepared for Marine Acary Production Company Limited is located at No. 917, Ue Pain No. 2/8, Yay Kyaw Gyi Kwinn, Katonkani Kyaye Ywar Oke Suu, Bogalay Township, Ayeyawady Region, Myanmar. The main objective of the study is focused specially on the required environmental management measures or creating environmentally friendly workplace.

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

However, all necessary implementation measures to mitigate adverse environmental, health and safety impacts have already taken to meet National Environmental Quality (Emission) Guidelines (2015). On the other, the factory has positive impacts in terms of environmental in the operation phase. Further, this will indirectly help in boosting up the national economic condition through foreign investment. An outline of EMP 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 project area. Furthermore, the environmental monitoring plan prepared as part of the EMP will provide adequate opportunities to address any residual impacts during the operation phase.

In conclusion, it has been figured out that, the proposed fishmeal & ice 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. CSR plan will be applied according to the Section 6.7 for rural development and employee's healthcare. The study further concluded that positive impacts will be of immense benefit to the local community and national development as well.

There are many positive impacts such as industrial development, social development, job opportunities for the regional people due to project implementation. And environmental management planning for the factory can mitigate the impacts on environment due to project and monitoring plan will also be always check and do for every six months after EMP has been approved.

8.2. RECOMMENDATION

This is recommended that;

- All appropriate environmental management measures detailed in this report, together with any other environmental management commitments should be implemented throughout the entire life of the factory
- Solid wastes and liquid wastes need to dispose according to local municipal development committee rules and regulation
- Workers should be provided proper training and it should be ensured that workers use PPE during factory operation area.

- Daily, monthly and annual action plan shall be formulated based on this EMP and practiced at operation level.
- Keep full records of environmental management activities and present to annual independent third-party environment audit.
- Abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

Finally, the proponent should follow the comments and suggestions made by ECD after reviewing this EMP report. Once concerned authorities approve EMP, effective implementation of EMP by the project proponent is essential. The Project Proponent shall submit monitoring report to the Ministry every six (6) months, as provided in a schedule in the EMP. The proponent should abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

9. REFERENCES

➢ Environmental Conservation Department, (2015). Environmental Impact Assessment Procedure, Notification No. 616/2015, Ministry of Natural Resource and Environmental Conservation, Nay Pyi Taw.

➢ Environmental Conservation Department, (2015). National Environmental Quality (Emission) Guidelines, Notification No. 615/2015, Ministry of Natural Resource and Environmental Conservation, Nay Pyi Taw.

➢ Geological Map of the Socialist Republic of the Union of Burma, (1977)

➢ General Administrative Department (Bogalay Township), Bogalay Township Data (2017).

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

➢ Ministry of Natural Resources and Environmental Conversation (MONREC), “Environmental Impact Assessment Procedure” December 2015.

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

APPENDIX A
Company Documents of Marine Acary Production Company Limited

ကုမ္ပဏီမှတ်ပုံတင်လက်မှတ်

Certificate of Incorporation

ပင်လယ်ကေရီ ထုတ်လုပ်မှု ကုမ္ပဏီ လီမိတက်

MARINE ACARY PRODUCTION COMPANY LIMITED

Company Registration No. 104094090

မြန်မာနိုင်ငံကုမ္ပဏီများအက်ဥပဒေ ၁၉၁၄ ခုနှစ် အရ

ပင်လယ်ကေရီ ထုတ်လုပ်မှု ကုမ္ပဏီ လီမိတက်

အား ၂၀၀၉ ခုနှစ် မတ်လ ၁၆ ရက်နေ့တွင်

အစုရှယ်ယာအားဖြင့် တာဝန်ကန့်သတ်ထား သည့် အများနှင့်မသက်ဆိုင်သောကုမ္ပဏီ

အဖြစ် ဖွဲ့စည်းမှတ်ပုံတင်ခွင့် ပြုလိုက်သည်။

This is to certify that

MARINE ACARY PRODUCTION COMPANY LIMITED

was incorporated under the Myanmar Companies Act 1914 on 16 March 2009 as a Private Company Limited by Shares.

ကုမ္ပဏီမှတ်ပုံတင်အရာရှိ

Registrar of Companies

ရင်းနှီးမြှုပ်နှံမှုနှင့်ကုမ္ပဏီများညွှန်ကြားမှုဦးစီးဌာန

Directorate of Investment and Company Administration

DICA

Directorate of Investment and Company Administration

Former Registration No. 1545/2008-2009

မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှုကော်မရှင်

ခွင့် ပြု မိန့်

ခွင့်ပြုမိန့် အမှတ်၊ မနသ - ၇၄၁ / ၂၀၂၀ ။ ၂၀၂၀ ခုနှစ်၊ ဧပြီ လ ၃ ရက်။

မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှု ကော်မရှင်သည် မြန်မာနိုင်ငံသားများ ရင်းနှီးမြှုပ်နှံမှု ဥပဒေပုဒ်မ ၁၀ အရ ဤခွင့်ပြုမိန့်ကို ထုတ်ပေးလိုက်သည်။

(က) ရင်းနှီးမြှုပ်နှံသူ၏ အမည် ဒေါ်နန်းအောင်လှ

(ခ) အဘ အမည် ဦးအိုက်စော

(ဂ) နိုင်ငံသား/ အမျိုးသားမှတ်ပုံတင်အမှတ် ၁၃ /လရန (နိုင်) ၁၁၆၄၀၉

(ဃ) နေရပ်လိပ်စာ အမှတ် (၁၀၂)၊ နဝဒေးရှပ်ရှင်ရုံဥယျာဉ်အိမ်ရာ၊ ကမ္ဘာအေးဘုရားလမ်း၊ (၅)ရပ်ကွက်၊ မရမ်းကုန်းမြို့နယ်၊ ရန်ကုန်တိုင်း။

(င) ဖွဲ့စည်းထားသည့် သို့မဟုတ် ဖွဲ့စည်းမည့်အဖွဲ့အစည်း ပင်လယ်ဧကရီထုတ်လုပ်မှု ကုမ္ပဏီလီမိတက် (Marine Acary Production Co., Ltd.)

(စ) ရင်းနှီးမြှုပ်နှံမှုပြုလုပ်မည့် လုပ်ငန်းအမျိုးအစား ငါးအမှုန့် (တိရစ္ဆာန်အစားအစာ) နှင့် ရေခဲထုတ်လုပ်ခြင်းလုပ်ငန်း

(ဆ) ရင်းနှီးမြှုပ်နှံမှုပြုလုပ်သည့် အရပ်ဒေသ (များ) အမှတ် (၉၁၇) ၊ ရေကျော်ကြီးကွင်း၊ ဦးပိုင်အမှတ် (၂/ ၈)၊ ကဒုံကျေးရွာအုပ်စု၊ ဘိုကလေးမြို့နယ်၊ ဖျာပုံခရိုင်၊ ဧရာဝတီတိုင်း။

(ဇ) မတည်ငွေရင်းပမာဏ (ကျပ်) ၅၁၄.၀၄ (သန်း) (ကျပ်သန်း ငါးရာ၊ တစ်ဆယ့်လေးနှင့် လေးသောင်းခန့်)

ဥက္ကဋ္ဌ

မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်

၂၀၁၀ ခုနှစ်၊ ဧပြီလ ၅ ရက်စွဲပါ ခွင့်ပြုမိန့်၊ အမှတ်၊ မနသ-၀၄၅ / ၂၀၁၀ တွင်ပြင်ဆင်ချက်

၂၀၁၉ ခုနှစ် စက်တင်ဘာလ ၂၇ ရက်နေ့တွင် ကျင်းပပြုလုပ်ခဲ့သော မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ (၁၆/၂၀၁၉) ကြိမ်မြောက် အစည်းအဝေး ဆုံးဖြတ်ချက်အရ ငါးအမှုနှံ့ (တိရစ္ဆာန်အစားအစာ) နှင့် ရေခဲထုတ်လုပ်ခြင်းလုပ်ငန်း ဆောင်ရွက်လျက်ရှိသော ပင်လယ်ကေရီ ထုတ်လုပ်မှုကုမ္ပဏီလီမိတက်၏ မတည်ငွေရင်းပမာဏကို ကျပ် ၅၁၄,၀၄ သန်း မှ ကျပ် ၁၈၈၆.၀၅ သန်း (အမေရိကန်ဒေါ်လာ ၀.၄၅ သန်းအပါအဝင်) သို့ တိုးမြှင့်ပြင်ဆင်လိုက်သည်။

(၈) **မတည်ငွေရင်းပမာဏ(ကျပ်)** ၁၈၈၆.၀၅ သန်း (အမေရိကန်ဒေါ်လာ ၀.၄၅ သန်း အပါအဝင်)

ဥက္ကဋ္ဌ(ကိုယ်စား)
(သန့်စင်လွင်၊ အတွင်းရေးမှူး)

ရက်စွဲ၊ ၂၀၁၉ ခုနှစ် အောက်တိုဘာလ ၂၀ ရက်
နေရာ၊ ရန်ကုန်မြို့

APPENDIX B
Environmental Impact Assessment Licenses (Organization)

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ

The Government of the Republic of the Union of Myanmar

သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာန

Ministry of Natural Resources and Environmental Conservation

ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန

Environmental Conservation Department

ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ငန်းလိုင်စင် (အဖွဲ့အစည်း)

Environmental Impact Assessment License (Organization)

Myanwei Environmental Solutions Co., Ltd. ကုမ္ပဏီမှတ်ပုံတင်အမှတ်- ၁၂၆၀၂၄၃၁၂ အား **အကြံပေးအဖွဲ့အမျိုးအစား**(ခ) အဖြစ် လုပ်ကိုင်ဆောင်ရွက်ရန် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ငန်းလိုင်စင်ကို ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းနှင့် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းပြုလုပ်သည့် တတိယပုဂ္ဂိုလ် သို့မဟုတ် အဖွဲ့အစည်းလုပ်ငန်းလိုင်စင်ဆိုင်ရာ လုပ်ထုံးလုပ်နည်းနှင့်အညီ ဤဝန်ကြီးဌာန၏ အတည်ပြုချက်ဖြင့် ထုတ်ပေးလိုက်သည်။

It is hereby issued that **Myanwei Environmental Solutions Co., Ltd.**, Registration No. 126024312 has fulfilled the requirements for an Environmental Impact Assessment License to conduct as an **Consulting Organization** (B) under the Licensing Procedure for the Third Persons or Organizations Undertaking Initial Environmental Examination and Environmental Impact Assessment, approved by the Ministry of Natural Resources and Environmental Conservation.

လိုင်စင်နံပါတ် License Number	: EIA-CO(B)001/2024
ထုတ်ပေးသည့် ရက်စွဲ Date of Issue	: 30-7-2024
ကုန်ဆုံးသည့် ရက်စွဲ Date of Expiry	: 29-7-2027

(သိန်းတိုး)

ညွှန်ကြားရေးမှူးချုပ်

Myanwei Environmental Solutions Co., Ltd.

လိုင်စင်နံပါတ် License Number : EIA-CO(B)001/2024

(က) အဓိကအကြံပေးပုဂ္ဂိုလ်များ

စဉ်	အမည်	လုပ်ငန်းလိုင်စင်အမှတ်	မှတ်ချက်
၁	၂	၃	၄
(က) အကြံပေးပုဂ္ဂိုလ်			
၁	မရှိပါ	-	
(ခ) တွဲဖက်အကြံပေးပုဂ္ဂိုလ်			
၁	ဦးလင်းထက်စိန်	EIA – AC 053/2023	
၂	ဒေါက်တာဟိန်းလင်းအောင်	EIA – AC 052/2023	
၃	ဦးထွန်းလင်းကျော်	EIA – AC 051/2023	
၄	ဦးကောင်းဆက်လွင်	EIA – AC 055/2023	
၅	ဦးစောရန်နောင်	EIA - AC 054/2023	

(ခ) အဓိကမဟုတ်သော အကြံပေးပုဂ္ဂိုလ်များ

စဉ်	အမည်	လုပ်ငန်းလိုင်စင်အမှတ်	မှတ်ချက်
၁	၂	၃	၄
(က) အကြံပေးပုဂ္ဂိုလ်			
၁	မရှိပါ	-	
(ခ) တွဲဖက်အကြံပေးပုဂ္ဂိုလ်			
၁	မရှိပါ	EIA-AC 022/2023	

Myanwei Environmental Solutions Co., Ltd.

လိုင်စင်နံပါတ် License Number : EIA-CO(B)001/2024

အဖွဲ့အစည်းက လေ့လာဆန်းစစ်ခွင့်ရှိသော စီမံကိန်းလုပ်ငန်းအုပ်စုများ

စဉ်	လုပ်ငန်းလိုင်စင်ဆိုင်ရာလုပ်ထုံးလုပ်နည်း ပုံစံ (ခ) ပါ စီမံကိန်းလုပ်ငန်းအုပ်စုများ	မှတ်ချက်
၁။	အကြံပေးအဖွဲ့အမျိုးအစား(ခ)အတွက် လုပ်ငန်းလိုင်စင်သာခွင့်ပြုသော်လည်း ကျွမ်းကျင်မှု နယ်ပယ်များလိုအပ်သည့်အတွက် လေ့လာဆန်းစစ်ခွင့်ရှိသည့် စီမံကိန်းလုပ်ငန်းအုပ်စုများမရှိသေးပါ။	

Myanwei Environmental Solutions Co., Ltd.

လိုင်စင်နံပါတ် License Number : EIA-CO(B)001/2024

Eligible Categories of Projects to be conducted by the Organization

Sr. No.	Categories of Projects as per [illegible] of Licensing Procedure	Note
1.	Although the license for the Consulting Organization Type(B) is allowed, there are no project groups that have the right to conduct for the requirement of expertise areas.	

APPENDIX C
Environmental Impact Assessment Licenses (Individual)

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ
The Government of the Republic of the Union of Myanmar
သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာန
Ministry of Natural Resources and Environmental Conservation
ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန
Environmental Conservation Department

ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ငန်းလိုင်စင် (ပုဂ္ဂိုလ်)
Environmental Impact Assessment License (Individual)

ဦးလင်းထက်စိန်၊ ဂ/သကန(နိုင်)၁၀၁၃၇၇ အား တွဲဖက်အကြံပေးပုဂ္ဂိုလ် အဖြစ် လုပ်ကိုင်ဆောင်ရွက်ရန် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ငန်းလိုင်စင်ကို ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းနှင့် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း ပြုလုပ်သည့် တတိယပုဂ္ဂိုလ် သို့မဟုတ် အဖွဲ့အစည်း လုပ်ငန်းလိုင်စင်ဆိုင်ရာလုပ်ထုံးလုပ်နည်းနှင့် အညီ ဤဝန်ကြီးဌာန၏ အာဏာပြုချက်ဖြင့် ထုတ်ပေးလိုက်သည်။

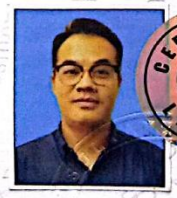
It is hereby issued that **U Lin Htet Sein, 7/ThaKaNa(N)101377** has fulfilled the requirements for obtaining an Environmental Impact Assessment License to conduct as an **Associate Consultant** under the Licensing Procedure for the Third Persons or Organizations Undertaking Initial Environmental Examination and Environmental Impact Assessment, approved by the Ministry of Natural Resources and Environmental Conservation.

လေ့လာဆန်းစစ်ခွင့်ရှိသည့် ကျွမ်းကျင်မှုနယ်ပယ်များမှာ အောက်ပါအတိုင်းဖြစ်သည်-

The areas of expertise, eligible to be conducted, are as follows:

1. **အထွေထွေပတ်ဝန်းကျင်စီမံခန့်ခွဲခြင်း (General Environmental Management)**
2.
3.
4.
5.

လိုင်စင်နံပါတ် License Number	: EIA-AC 053/2023
ထုတ်ပေးသည့် ရက်စွဲ Date of Issue	: 1-12-2023
ကုန်ဆုံးသည့် ရက်စွဲ Date of Expiry	: 30-11-2026



(သိန်းတိုး)
ညွှန်ကြားရေးမှူးချုပ်

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ

The Government of the Republic of the Union of Myanmar

သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာန

Ministry of Natural Resources and Environmental Conservation

ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန

Environmental Conservation Department

ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ငန်းလိုင်စင် (ပုဂ္ဂိုလ်)

Environmental Impact Assessment License (Individual)

ဒေါက်တာဟိန်းလင်းအောင်၊ ၁၂/စခန(နိုင်)၀၆၄၈၈၁ အား တွဲဖက်အကြံပေးပုဂ္ဂိုလ် အဖြစ် လုပ်ကိုင်ဆောင်ရွက်ရန် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ငန်းလိုင်စင်ကို ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းနှင့် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း ပြုလုပ်သည့် တတိယပုဂ္ဂိုလ် သို့မဟုတ် အဖွဲ့အစည်း လုပ်ငန်းလိုင်စင်ဆိုင်ရာလုပ်ထုံးလုပ်နည်းနှင့်အညီ ဤဝန်ကြီးဌာန၏ အတည်ပြုချက်ဖြင့် ထုတ်ပေးလိုက်သည်။

It is hereby issued that **Dr.Hein Lin Aung, 12/SaKhaNa(N)064881** has fulfilled the requirements for obtaining an Environmental Impact Assessment License to conduct as an **Associate Consultant** under the Licensing Procedure for the Third Persons or Organizations Undertaking Initial Environmental Examination and Environmental Impact Assessment, approved by the Ministry of Natural Resources and Environmental Conservation.

လေ့လာဆန်းစစ်ခွင့်ရှိသည့် ကျွမ်းကျင်မှုနယ်ပယ်များမှာ အောက်ပါအတိုင်းဖြစ်သည်-

The areas of expertise, eligible to be conducted, are as follows:

1. ကျန်းမာရေး (Health (Impact Studies and Analysis))
2.
3.
4.
5.

လိုင်စင်နံပါတ် License Number	: EIA-AC 052/2023
ထုတ်ပေးသည့် ရက်စွဲ Date of Issue	: 1-12-2023
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(သိန်းတိုး)

ညွှန်ကြားရေးမှူးချုပ်

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ

The Government of the Republic of the Union of Myanmar

သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာန

Ministry of Natural Resources and Environmental Conservation

ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန

Environmental Conservation Department

ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ငန်းလိုင်စင် (ပုဂ္ဂိုလ်)

Environmental Impact Assessment License (Individual)

ဦးထွန်းလင်းကျော်၊ ၈/ပဖန(နိုင်)၁၀၃၉၅၅ အား တွဲဖက်အကြံပေးပုဂ္ဂိုလ် အဖြစ် လုပ်ကိုင်ဆောင်ရွက်ရန် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ငန်းလိုင်စင်ကို ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းနှင့် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း ပြုလုပ်သည့် တတိယပုဂ္ဂိုလ် သို့မဟုတ် အဖွဲ့အစည်း လုပ်ငန်းလိုင်စင်ဆိုင်ရာ လုပ်ထုံးလုပ်နည်းနှင့် အညီ ဤဝန်ကြီးဌာန၏ အတည်ပြုချက်ဖြင့် ထုတ်ပေးလိုက်သည်။

It is hereby issued that **U Tun Lin Kyaw, 8/PaPhaNa(N)103955** has fulfilled the requirements for obtaining an Environmental Impact Assessment License to conduct as an **Associate Consultant** under the Licensing Procedure for the Third Persons or Organizations Undertaking Initial Environmental Examination and Environmental Impact Assessment, approved by the Ministry of Natural Resources and Environmental Conservation.

လေ့လာဆန်းစစ်ခွင့်ရှိသည့် ကျွမ်းကျင်မှုနယ်ပယ်များမှာ အောက်ပါအတိုင်းဖြစ်သည်-

The areas of expertise, eligible to be conducted, are as follows:

1. **လူမှုရေးဆိုင်ရာ လေ့လာခြင်းနှင့် သရုပ်ခွဲဆန်းစစ်ခြင်း (Social Study and Analysis)**
2.
3.
4.
5.

လိုင်စင်နံပါတ် License Number	: EIA-AC 051/2023
ထုတ်ပေးသည့် ရက်စွဲ Date of Issue	: 1-12-2023
ကုန်ဆုံးသည့် ရက်စွဲ Date of Expiry	: 30-11-2026

(သိန်းတိုး)

ညွှန်ကြားရေးမှူးချုပ်

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ

The Government of the Republic of the Union of Myanmar

သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာန

Ministry of Natural Resources and Environmental Conservation

ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန

Environmental Conservation Department

ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ငန်းလိုင်စင် (ပုဂ္ဂိုလ်)

Environmental Impact Assessment License (Individual)

ဦးစောရန်နောင်၊ ၁၂/အစန(နိုင်)၂၂၂၂၅၀ အား တွဲဖက်အကြံပေးပုဂ္ဂိုလ် အဖြစ် လုပ်ကိုင်ဆောင်ရွက်ရန် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ငန်းလိုင်စင်ကို ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းနှင့် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း ပြုလုပ်သည့် တတိယပုဂ္ဂိုလ် သို့မဟုတ် အဖွဲ့အစည်း လုပ်ငန်းလိုင်စင်ဆိုင်ရာ လုပ်ထုံးလုပ်နည်းနှင့် အညီ ဤဝန်ကြီးဌာန၏ အာဏာပြုချက်ဖြင့် ထုတ်ပေးလိုက်သည်။

It is hereby issued that **U Saw Yan Naung, 12/AhSaNa(N)222250** has fulfilled the requirements for obtaining an Environmental Impact Assessment License to conduct as an **Associate Consultant** under the Licensing Procedure for the Third Persons or Organizations Undertaking Initial Environmental Examination and Environmental Impact Assessment, approved by the Ministry of Natural Resources and Environmental Conservation.

လေ့လာဆန်းစစ်ခွင့်ရှိသည့် ကျွမ်းကျင်မှုနယ်ပယ်များမှာ အောက်ပါအတိုင်းဖြစ်သည်–

The areas of expertise, eligible to be conducted, are as follows:

1. **လူမှုရေးဆိုင်ရာ လေ့လာခြင်းနှင့် သရုပ်ခွဲဆန်းစစ်ခြင်း (Social Study and Analysis)**
2.
3.
4.
5.

လိုင်စင်နံပါတ် License Number	: EIA-AC 054/2023
ထုတ်ပေးသည့် ရက်စွဲ Date of Issue	: 1-12-2023
ကုန်ဆုံးသည့် ရက်စွဲ Date of Expiry	: 30-11-2026

(သိန်းတိုး)

ညွှန်ကြားရေးမှူးချုပ်

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ

The Government of the Republic of the Union of Myanmar

သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာန

Ministry of Natural Resources and Environmental Conservation

ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန

Environmental Conservation Department

ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ငန်းလိုင်စင် (ပုဂ္ဂိုလ်)

Environmental Impact Assessment License (Individual)

ဒေါ်ဆုမြတ်လှိုင်၊ ၁၂/ဥကတ(နိုင်)၁၇၉၇၀၁ အား **တွဲဖက်အကြံပေးပုဂ္ဂိုလ်** အဖြစ် လုပ်ကိုင်ဆောင်ရွက်ရန် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ငန်းလိုင်စင်ကို ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းနှင့် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း ပြုလုပ်သည့် တတိယပုဂ္ဂိုလ် သို့မဟုတ် အဖွဲ့အစည်း လုပ်ငန်းလိုင်စင်ဆိုင်ရာ လုပ်ထုံးလုပ်နည်းနှင့် အညီ ဤဝန်ကြီးဌာန၏ အတည်ပြုချက်ဖြင့် ထုတ်ပေးလိုက်သည်။

It is hereby issued that **Daw Su Myat Hlaing, 12/OuKaTa(N)179701** has fulfilled the requirements for obtaining an Environmental Impact Assessment License to conduct as an **Associate Consultant** under the Licensing Procedure for the Third Persons or Organizations Undertaking Initial Environmental Examination and Environmental Impact Assessment, approved by the Ministry of Natural Resources and Environmental Conservation.

လေ့လာဆန်းစစ်ခွင့်ရှိသည့် ကျွမ်းကျင်မှုနယ်ပယ်များမှာ အောက်ပါအတိုင်းဖြစ်သည်-

The areas of expertise, eligible to be conducted, are as follows:

1. **လေထုညစ်ညမ်းမှုစောင့်ကြပ်ကြည့်ရှုခြင်း (Air Pollution Monitoring)**
2.
3.
4.
5.

လိုင်စင်နံပါတ် License Number : EIA-AC 101/2024

ထုတ်ပေးသည့် ရက်စွဲ Date of Issue : 30-6-2024

ကုန်ဆုံးသည့် ရက်စွဲ Date of Expiry : 29-6-2027

(သိန်းတိုး)

ညွှန်ကြားရေးမှူးချုပ်

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ

The Government of the Republic of the Union of Myanmar

သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာန

Ministry of Natural Resources and Environmental Conservation

ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန

Environmental Conservation Department

ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ငန်းလိုင်စင် (ပုဂ္ဂိုလ်)

Environmental Impact Assessment License (Individual)

ဦးကောင်းဆက်လွင်၊ ၁၄/ဘကလ(နိုင်)၂၃၉၂၉၁ အား တွဲဖက်အကြံပေးပုဂ္ဂိုလ် အဖြစ် လုပ်ကိုင်ဆောင်ရွက်ရန် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ငန်းလိုင်စင်ကို ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းနှင့် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း ပြုလုပ်သည့် တတိယပုဂ္ဂိုလ် သို့မဟုတ် အဖွဲ့အစည်း လုပ်ငန်းလိုင်စင်ဆိုင်ရာ လုပ်ထုံးလုပ်နည်းနှင့်အညီ ဤဝန်ကြီးဌာန၏ အတည်ပြုချက်ဖြင့် ထုတ်ပေးလိုက်သည်။

It is hereby issued that **U Kaung Sett Lwin, 14/BaKaLa(N)239291** has fulfilled the requirements for obtaining an Environmental Impact Assessment License to conduct as an **Associate Consultant** under the Licensing Procedure for the Third Persons or Organizations Undertaking Initial Environmental Examination and Environmental Impact Assessment, approved by the Ministry of Natural Resources and Environmental Conservation.

လေ့လာဆန်းစစ်ခွင့်ရှိသည့် ကျွမ်းကျင်မှုနယ်ပယ်များမှာ အောက်ပါအတိုင်းဖြစ်သည်-

The areas of expertise, eligible to be conducted, are as follows:

1. ဘူမိဆိုင်ရာ ဆန်းစစ်လေ့လာခြင်း (Geological Assessment)
2.
3.
4.
5.

လိုင်စင်နံပါတ် License Number	: EIA-AC 055/2023
ထုတ်ပေးသည့် ရက်စွဲ Date of Issue	: 1-12-2023
ကုန်ဆုံးသည့် ရက်စွဲ Date of Expiry	: 30-11-2026

(သိန်းတိုး)

ညွှန်ကြားရေးမှူးချုပ်

APPENDIX D
Information About Supporting Staff

NO NO SHEE SHO

B.A (MYANMAR)

No No Shee Sho was graduated a Bachelor of Myanmar from Maubin University(MUB). I joined Environmental Conservation Department over one years. I took the responsibilities of field inspections to various development projects, reviewing EMP reports presented by project developers, raising awareness of environmental conservation to local communities, and facilitating group events to achieve the goals of workships.

Education

B.A (Myanmar)

Experience

2022 March – 2023 December (1years and 9 months) in Environmental Conservation Deparment. MINISTRY OF NATURAL RESOURCES AND ENVIRONMENTAL CONSERVATION.

2023 January- Present, Environmental Department, Myanwei Environmental Solutions Co.,Ltd.

Contact

no1709314@gmail.com
env@myanweiconsulting.com

+959 254800652

I am currently working at MYANWEI ENVIRONMENTAL SOLUTIONS CO.,LTD. as junior environmental specialist. My responsibilities at Myanwei are as follows:

- Collecting environmental baseline data in project area to write an EIA/ IEE/ EMP report.
- Assessing Environmental and social Impacts regarding a development project, and ways to mitigate about these negative environmental and social impacts.
- Reviewing literature related to the type of development project.
- Communicating with stakeholders in project area.
- Presenting project-related environmental and social impact assessment study and findings to stakeholders.
- Writing the EIA/ IEE/ EMP/EMoP reports.
- Participating in Public Consultation Meeting.

I'm representing as a Junior Environmentalist of Myanwei Environmental Solutions Company Limited at Environmental sector. Since, January 2024 to present, MYANWEI services for environmental management of industrial sector is described in following table;

No	Client	Responsibilities	Project
1	Ellie (Myanmar) Garments Company Limited	Primary/Secondary data surveying, geological mapping, report writing, planning of environment management, impact assessment and mitigation measurement.	Environmental Management Plan
2	Myanmar HLP Enterprise Company Limited	Primary/Secondary data surveying, geological mapping, report writing, planning of environment management, impact assessment and mitigation measurement.	Environmental Management Plan
3	Myanmar Cotton Spinning Garment Accessories Company Limited	Primary/Secondary data surveying, geological mapping, report writing, planning of environment management, impact assessment and mitigation measurement.	Environmental Management Plan

ရန်ကုန်အဝေးသင်တက္ကသိုလ်

ဝိဇ္ဇာဘွဲ့

Bachelor of Arts

.....၂၀၁၇..... ပညာသင်နှစ် ရန်ကုန်အဝေးသင်တက္ကသိုလ်မှ .....မြန်မာစာ.....
အထူးပြုဖြင့် အောင်မြင်ခဲ့သော (အဘ .....ဦးရီးရှီ.....) ၏ ~~သား~~/သမီး
~~မောင်~~/မ .....နိုနိုရီးရှီ..... အား
ဝိဇ္ဇာဘွဲ့ကို အပ်နှင်းလိုက်သည်။

This is to certify that ...Ma No No Shee Sho...
~~son~~/daughter of ...U Shee Sho... has been admitted
to the Degree of Bachelor of Arts with ...Myanmar...
Specialization in the Academic Year ...2017...

ပါမောက္ခချုပ်
ရန်ကုန်အဝေးသင်တက္ကသိုလ်
Rector
Yangon University of Distance Education
Yangon, Myanmar

ဘွဲ့ရသူ၏

ဌာနခွဲ .... မအူပင် (၀၂၉) ....

ခုံအမှတ် .... ၄.မ.၁၈၈ .... ဘွဲ့ရမှတ်ပုံတင်အမှတ် .... ၇၂၀၂၀၂ ....

နိုင်ငံသားစိစစ်ရေးကတ်အမှတ် / အမျိုးသားမှတ်ပုံတင်အမှတ် } .... ၁၄/ဘကလ(နိုင်) ၃၀၃၄၁၄ ....

နိုင်ငံခြားသားမှတ်ပုံတင်အမှတ် .... - ....

Degree holder's

Regional Centre .... Maubin (029) ....

Roll No 4.myan.188 .... Registered Graduate No. .... 720202 ....

National /Foreigner Registration No. 14/Ba Ka La (Naing) 303414 ....

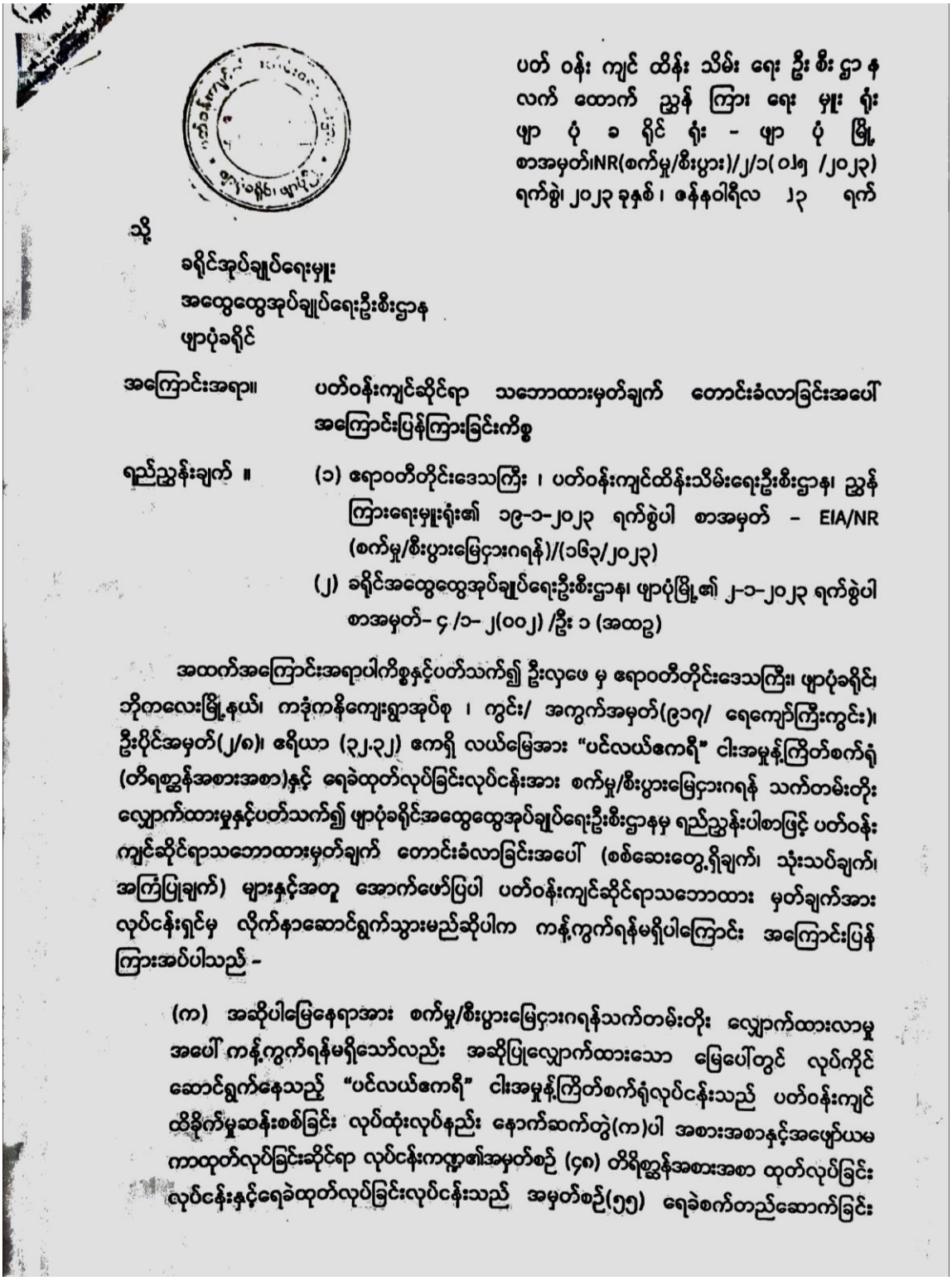
မော်ကွန်းထိန်း
ရန်ကုန်အဝေးသင်တက္ကသိုလ်

Registrar
Yangon University of Distance Education
Yangon, Myanmar

Date ....

နေ့စွဲ ....

APPENDIX E
EMP Recommendation of Environmental Conservation Department



ပတ် ဝန်း ကျင် ထိန်း သိမ်း ရေး ဦး စီး ဌာ န
လက် ထောက် ညွှန် ကြား ရေး မှူး ရုံး
ဖျာ ပုံ ခ ရိုင် ရုံး - ဖျာ ပုံ မြို့
စာအမှတ်၊NR(စက်မှု/စီးပွား)/၂/၁(၀၂၅ /၂၀၂၃)
ရက်စွဲ၊ ၂၀၂၃ ခုနှစ် ၊ ဧန်နဝါရီလ ၂၃ ရက်

သို့

ခရိုင်အုပ်ချုပ်ရေးမှူး
အထွေထွေအုပ်ချုပ်ရေးဦးစီးဌာန
ဖျာပုံခရိုင်

အကြောင်းအရာ။ ပတ်ဝန်းကျင်ဆိုင်ရာ သဘောထားမှတ်ချက် တောင်းခံလာခြင်းအပေါ် အကြောင်းပြန်ကြားခြင်းကိစ္စ

ရည်ညွှန်းချက် ။ (၁) ဧရာဝတီတိုင်းဒေသကြီး ၊ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန၊ ညွှန်ကြားရေးမှူးရုံး၏ ၁၉-၁-၂၀၂၃ ရက်စွဲပါ စာအမှတ် - EIA/NR (စက်မှု/စီးပွားမြေငှားဂရန်)/(၁၆၃/၂၀၂၃)

(၂) ခရိုင်အထွေထွေအုပ်ချုပ်ရေးဦးစီးဌာန၊ ဖျာပုံမြို့၏ ၂-၁-၂၀၂၃ ရက်စွဲပါ စာအမှတ်- ၄ /၁- ၂(၀၀၂) /ဦး ၁ (အထူး)

အထက်အကြောင်းအရာပါကိစ္စနှင့်ပတ်သက်၍ ဦးလှဖေ မှ ဧရာဝတီတိုင်းဒေသကြီး၊ ဖျာပုံခရိုင်၊ ဘိုကလေးမြို့နယ်၊ ကခုံကနိကျေးရွာအုပ်စု ၊ ကွင်း/ အကွက်အမှတ်(၉၁၇/ ရေကျော်ကြီးကွင်း)၊ ဦးပိုင်အမှတ်(၂/၈)၊ ဧရိယာ (၃၂.၃၂) ကေရှိ လယ်မြေအား "ပင်လယ်ကေရီ" ငါးအမွှန့်ကြိတ်စက်ရုံ (တီရစ္ဆန်အစားအစာ)နှင့် ရေခဲထုတ်လုပ်ခြင်းလုပ်ငန်းအား စက်မှု/စီးပွားမြေငှားဂရန် သက်တမ်းတိုး လျှောက်ထားမှုနှင့်ပတ်သက်၍ ဖျာပုံခရိုင်အထွေထွေအုပ်ချုပ်ရေးဦးစီးဌာနမှ ရည်ညွှန်းပါစာဖြင့် ပတ်ဝန်းကျင်ဆိုင်ရာသဘောထားမှတ်ချက် တောင်းခံလာခြင်းအပေါ် (စစ်ဆေးတွေ့ရှိချက်၊ သုံးသပ်ချက်၊ အကြံပြုချက်) များနှင့်အတူ အောက်ဖော်ပြပါ ပတ်ဝန်းကျင်ဆိုင်ရာသဘောထား မှတ်ချက်အား လုပ်ငန်းရှင်မှ လိုက်နာဆောင်ရွက်သွားမည်ဆိုပါက ကန့်ကွက်ရန်မရှိပါကြောင်း အကြောင်းပြန်ကြားအပ်ပါသည် -

(က) အဆိုပါမြေနေရာအား စက်မှု/စီးပွားမြေငှားဂရန်သက်တမ်းတိုး လျှောက်ထားလာမှုအပေါ် ကန့်ကွက်ရန်မရှိသော်လည်း အဆိုပြုလျှောက်ထားသော မြေပေါ်တွင် လုပ်ကိုင်ဆောင်ရွက်နေသည့် "ပင်လယ်ကေရီ" ငါးအမွှန့်ကြိတ်စက်ရုံလုပ်ငန်းသည် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း လုပ်ထုံးလုပ်နည်း နောက်ဆက်တွဲ(က)ပါ အစားအစာနှင့်အဖျော်ယမကာထုတ်လုပ်ခြင်းဆိုင်ရာ လုပ်ငန်းကဏ္ဍ၏အမှတ်စဉ် (၄၈) တိရိစ္ဆာန်အစားအစာ ထုတ်လုပ်ခြင်း လုပ်ငန်းနှင့်ရေခဲထုတ်လုပ်ခြင်းလုပ်ငန်းသည် အမှတ်စဉ်(၅၅) ရေခဲစက်တည်ဆောက်ခြင်း

လုပ်ငန်းတွင်ပါဝင်နေသော်လည်း ငါးအမှုန့်ကြိတ်စက်လုပ်ငန်းမှာ (၁)ရက်လျှင် တန်(၅၀)ခန့် ထုတ်လုပ်နိုင်ခြင်းနှင့်ရေခဲထုတ်လုပ်ခြင်းလုပ်ငန်းမှာ (၁)ရက်လျှင် တန်(၆၀)ခန့်ထုတ်လုပ်နိုင်ခြင်းဖြစ်ပါ၍ အဆိုပါလုပ်ငန်းများကြောင့် ပတ်ဝန်းကျင်ထိခိုက်မှု ဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်းအပိုဒ်-၂၄ အရ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်(Environmental Management Plan - EMP)အား ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာအပုဒ်- ၆၃(၈) ပါ အချက်အလက်များအတိုင်း ပြုစု ရေးဆွဲ၍ ဤသဘောထားမှတ်ချက်ပြန်ကြားပြီးသည့်ရက်နေ့မှစ၍(၆)လအတွင်း ဧရာဝတီတိုင်းဒေသကြီး၊ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာနသို့ ပြန်လည်ပေးပို့တင်ပြရန်၊

၂၁/၁/၂၀၂၁

(ဥမ္မာလှိုင်)

လက်ထောက်ညွှန်ကြားရေးမှူး

မိတ္တူကို

တိုင်းဒေသကြီးတာဝန်ခံ၊ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန၊ ဧရာဝတီတိုင်းဒေသကြီး။
လုပ်ငန်းရှင် (ဦးလှဖေ၊ ဘိုကလေးမြို့နယ်၊ ကဒုံကနိကျေးရွာအုပ်စု၊ ဦးပိုင်အမှတ် (၂/၈)၊ ရေကျော်ကြီးကွင်း၊ အမှတ်(၉၁၇)
ရုံးလက်ခံ
မျှောစာတွဲ

APPENDIX F
Certificate of Exporter/Importer Registration

041697

The Government of The Republic of the Union of Myanmar
Ministry of Commerce
Department of Trade

CERTIFICATE OF EXPORTER/IMPORTER REGISTRATION

1. Enterprise Name (မြန်မာ/အင်္ဂလိပ်) MARINE ACARY PRODUCTION COMPANY LIMITED.

2. Registration No: 104094090 (28-04-09)

3. Registration Term: FIVE YEAR

4. Start Date : 03-04-2018

5. End Date : 15-03-2023

6. Address : (မြန်မာ/အင်္ဂလိပ်) Yay Kyaw Gyi Kwinn, No.917,Ue Pain No.2/8, Katonkani Kyaye Ywar Oke Suu, Bogalaye Tsp, Ayeyarwaddy Region,Myanmar

7. Business Registration No : 104094090

8. Type of Business : (မြန်မာ/အင်္ဂလိပ်)
- ☐ Sole Proprietorship(တစ်ဦးတည်းပိုင်)
- ☑ Partnership(ဆုံးအစေ)
- ☑ Limited Company(လီမိတက်ကုမ္ပဏီ)(Myanmar/~~Foreign~~)
- ☐ Co-operative Society(သမဝါယမအသင်း)
- ☐ Others(Please specify)အခြား(ဖော်ပြရန်) သင်းဖွဲ့မှတ်တမ်းပါလုပ်ငန်း( )မျိုး ဆောင်ရွက်နိုင်ပို့သည်။

9. Type of Service : ○ New ○ Extension ☑ Amendment

10. Contact No :
09250530586, 09787332541 (Telephone No.) — (Fax No.) — marineacaryfishmealyangon@gmail.com (e-mail)

11. Remarks :
MIC Permit No.MaNaTha-745/2010 Date (5-4-2010)

12. Terms and Conditions : ဦးကမ်းချက်များ
I hereby register the above mentioned enterprise as Exporter/Importer subject to the following terms and conditions: (အောက်ဖော်ပြပါဦးကမ်းချက်များဖြင့် ပို့ကုန်သွင်းကုန် လုပ်ငန်းရှင်အဖြစ် မှတ်တမ်းတင်ခွင့်ပြုသည်)
(a) Line of goods permitted - all items except prohibited and restricted items.
ခွင့်ပြုသည့်ကုန်ပစ္စည်းအမျိုးအမည် - တားမြစ်ကန့်သတ်ထားသော ကုန်ပစ္စည်းအမယ်များမှလွဲ၍ ကုန်ကုန်ပစ္စည်းများအားလုံး
(b) The enterprise must abide by the Export/Import rules and Regulations prescribed for the registered Exporters/Importers.(လုပ်ငန်းရှင်သည် မှတ်ပုံတင် ပို့ကုန်သွင်းကုန်လုပ်ငန်းလုပ်ကိုင်သူများ လိုက်နာရမည့်စည်းကမ်းချက်များကို လိုက်နာရမည်)

176
16.1.2020
Stamp

16.1.2020
For Director General
(စိုးနိုင်ဦးစီးအရာရှိ)

EIREGEX12130012

APPENDIX G

ဘေးအန္တရာယ်နှင့် ကူးသန်းရောင်းဝယ်ရေးဆိုင်ရာ လုပ်ငန်းလိုင်စင်

ဘိုကလေးမြို့နယ်စည်ပင်သာယာရေးကော်မတီ

(ဘေးအန္တရာယ်နှင့်ကူးသန်းရောင်းဝယ်ရေးဆိုင်ရာလုပ်ငန်းလိုင်စင်)

(၂၀၂၄ - ၂၀၂၅)ဘဏ္ဍာရေးနှစ်

မှတ်ပုံတင်စာရင်းနံပါတ်

လိုင်စင်အမှတ် ဘေးအန္တရာယ်နှင့်ကူးသန်းရောင်းဝယ်ရေးလုပ်ငန်းလိုင်စင်

ဧရာဝတီတိုင်းဒေသကြီးစည်ပင်သာယာရေးအဖွဲ့များဥပဒေ ပုဒ်မ ၁၄၊ ပုဒ်မခွဲ (ဋ)၊ ပုဒ်မ ၂၆၊ ပုဒ်မခွဲ(င)နှင့် ပုဒ်မ ၆၈၊ ပုဒ်မခွဲ(က)၊(ခ)တို့အရဘိုကလေးမြို့နယ်စည်ပင်သာယာရေး နယ်နိမိတ်အတွင်းဘေးအန္တရာယ်ဖြစ်စေနိုင်သောလုပ်ငန်းနှင့်သက်ဆိုင်သော ပစ္စည်းများကို ရောင်းချခြင်း၊ သိုလှောင်ခြင်း၊ လုပ်ကိုင်ခြင်းနှင့် ကူးသန်းရောင်းဝယ်ခြင်း လုပ်ငန်းများဆိုင်ရာ စည်းကမ်းများအရ ထုတ်ပေးသည့်လိုင်စင်

(က)	ခွင့်ပြုသည့်လုပ်ငန်းအမည်နှင့် အမျိုးအစား	-	[illegible]
(ခ)	လိုင်စင်ရရှိသူအမည်	-	[illegible]
(ဂ)	နိုင်ငံသားစိစစ်ရေးကတ်ပြားအမှတ်	-	[illegible]
(ဃ)	နေရပ်လိပ်စာ	-	[illegible]
(င)	လုပ်ငန်းလုပ်ကိုင်သည့်နေရာအကျယ်အဝန်း ဥပစာပိုင်နက်၊ အဆောက်အဦတည်နေရာ	-	
(စ)	ခွင့်ပြုသည့်အချိန်ကာလအပိုင်းအခြား	-	၁-၄-၂၀၂၄ မှ ၃၁-၃-၂၀၂၅
(ဆ)	ငွေသွင်းချလံအမှတ်နှင့်ရက်စွဲ	-	၅၃၃၊ ၁၀-၆-၂၀၂၄
(ဇ)	လိုင်စင်ထုတ်ပေးသည့်ရက်စွဲ	-	၁၂-၆-၂၀၂၄

စာအမှတ်၊ ၂၈၉ /ဃ-၁/ [illegible] (၀၀၁)

ရက်စွဲ၊ ၂၀၂၄ ခုနှစ်၊ ဇွန် လ၊ ၁၂ ရက်

အတွင်းရေးမှူး

APPENDIX H
ရေထွက်ပစ္စည်းပြုပြင်စက်ရုံလိုင်စင်

စိုက်ပျိုးရေး၊ မွေးမြူရေး နှင့် ဆည်မြောင်းဝန်ကြီးဌာန
ငါးလုပ်ငန်းဦးစီးဌာန
ရေထွက်ပစ္စည်းပြုပြင်စက်ရုံလိုင်စင် (FM)

စိုက်ပျိုးရေး၊ မွေးမြူရေး နှင့် ဆည်မြောင်းဝန်ကြီးဌာန၊ ငါးလုပ်ငန်းဦးစီးဌာန၊ ညွှန်ကြားရေးမှူးချုပ်သည် ငါးလုပ်ငန်းဦးစီးဌာန၏တည်ဆဲဥပဒေနှင့်အညီ **"ရေထွက်ပစ္စည်းပြုပြင်စက်ရုံလိုင်စင်"** ကိုပူးတွဲပါစည်းကမ်းချက်များဖြင့် ထုတ်ပေးလိုက်သည် -

၁။ (က) လိုင်စင်ရရှိသူအမည် DAW NANG AUNG LU

(ခ) နိုင်ငံသားစိစစ်ရေးကဒ်ပြားအမှတ် 13/ La Ya Na (Naing) 116409

၂။ (က) စက်ရုံအမည် MARINE ACARY PRODUCTION COMPANY LTD. (FISH MEAL)

(ခ) စက်ရုံတည်နေရာ Yay Kyaw Gyi Kwinn, No.917, Ue Pain No.2/8, Katonkani Kyaye Ywar Oke Suu, Bogalaye Tsp, Ayeyarwaddy Region, Myanmar.

၃။ စက်ရုံတွင်တပ်ဆင်ထားသည့် စက်ပစ္စည်းအမျိုးအစားနှင့် အေးခဲနိုင်သည့်ပမာဏ

(က) Contact Freezer -

(ခ) Air Blast Freezer -

၄။ အအေးခန်းသိုလှောင်နိုင်မှု -

၅။ ခွင့်ပြုသည့် ရေထွက်ပစ္စည်းအမျိုးအစားနှင့် တန်ချိန်

1	Other (Fish Meal)	5000 MT

၆။ စက်ရုံလိုင်စင်အမှတ် BGL/001(FM)/MAP/DOF

၇။ လိုင်စင်သက်တမ်း (01.04.2024) to (31.03.2025)

ငွေသွင်းရက် 5.4.2024
ချလန်နံပါတ် 92
လိုင်စင်ကြေး 375000/-

ညွှန်ကြားရေးမှူးချုပ် (ကိုယ်စား)
ညွှန့်ဝင်း၊ ညွှန်ကြားရေးမှူး

စည်းကမ်းချက်များ

၁။ လိုင်စင်ကို ရေထွက်ပစ္စည်းပြုပြင်စက်ရုံတွင် မြင်သာသောနေရာတွင် ပြသထားရှိရမည်။

၂။ သက်ဆိုင်ရာ စစ်ဆေးရေးမှူးက စစ်ဆေးသောအခါ ပြသနိုင်ရမည်။

၃။ နိုင်ငံတော်၏ တည်ဆဲဥပဒေများနှင့် ငါးလုပ်ငန်းဦးစီးဌာနကအခါအားလျော်စွာ ထုတ်ပြန်သည့်စည်းမျဉ်း၊ အမိန့်၊ ညွှန်ကြားချက်များ လိုက်နာကျင့်သုံးရမည်။

၄။ လိုင်စင်ရရှိသူသည် ငါးလုပ်ငန်းဦးစီးဌာနမှ လိုအပ်ပါကတောင်းခံသည့်စာရင်းဇယားနှင့် အချက်အလက်များကိုပြည့်စုံစွာတင်ပြရမည်။

၅။ ငါးလုပ်ငန်းဦးစီးဌာန၏ခွင့်ပြုချက်မရရှိဘဲ၊ လိုင်စင်ပါအချက်အလက်များကိုတစ်စုံတစ်ရာပြောင်းလဲခြင်းမပြုရ။

၆။ လိုင်စင်ပါခွင့်ပြုထားသည့် ရေထွက်ပစ္စည်းအမျိုးအစားကိုသာ ပြုပြင်လုပ်ကိုင်ခွင့်ရှိသည်။

၇။ ငါးလုပ်ငန်းဦးစီးဌာနမှ ထုတ်ပြန်ထားသည့် ညွှန်ကြားချက်များနှင့်အညီ ပြုပြင်ထုတ်လုပ်ရုံနှင့် လိုအပ်ပါက နိုင်ငံတကာစွေးကွက်သတ်မှတ်ချက်၊ သတ်မှတ်ထားသောစံချိန်စံညွှန်းများနှင့်အညီဆောင်ရွက်ရပါမည်။

၈။ လုပ်ငန်းယာယီရပ်နားခြင်း၊ ဖျက်သိမ်းခြင်းပြုပါက ငါးလုပ်ငန်းဦးစီးဌာနသို့ အကြောင်းကြားရန်နှင့် လုပ်ငန်းဖျက်သိမ်းရပ်နားပါက စက်ရုံလိုင်စင်အား ငါးလုပ်ငန်းဦးစီးဌာနသို့ ပြန်လည်အပ်နှံရမည်။

၉။ စက်ရုံ၏လစဉ်ကုန်တက်စာရင်းအားလကုန်ပြီး(၇)ရက်အတွင်းငါးလုပ်ငန်းဦးစီးဌာနသို့မပျက်မကွက်ပေးပို့ရမည်။

၁၀။ ခွင့်ပြုထားသောရေထွက်ပစ္စည်းများမှအပ အခြားသောပစ္စည်းများ ပြုပြင်မွမ်းမံ၊ အေးခဲ၊ သိုလှောင်ခြင်း မပြုရ။

၁၁။ ရေထွက်ပစ္စည်းများအား GMP / HACCP စသည့် ဘေးအန္တရာယ်ကင်းရှင်းရေးဆိုင်ရာ စနစ်များနှင့်အညီ ပြုပြင်ထုတ်လုပ်ရမည်။

၁၂။ အတည်ပြုချက် (Approval) နှင့် မှတ်ပုံတင်ခြင်း (Registration) ဆောင်ရွက်ထားသည့် သက်ဆိုင်ရာနိုင်ငံအလိုက် ခွင့်ပြုထားသည့်ရေထွက်ပစ္စည်းများကိုသာ တင်ပို့ခွင့်ပြုပါသည်။

၁၃။ အထူးသဖြင့် ငါးပေါင်းမှုန့်(Fishmeal)ထုတ်လုပ်သည့်စက်ရုံများအနေဖြင့် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိစေရေးအတွက် သက်ဆိုင်ရာတာဝန်ရှိဌာနကြီးကြပ်မှုအဖွဲ့များမှချမှတ်ထားသည့်စည်းမျဉ်း၊ အမိန့်၊ ညွှန်ကြားချက်များ အပြည့်အစုံ လိုက်နာဆောင်ရွက်ရပါမည်။

၁၄။ ငါးလုပ်ငန်းဦးစီးဌာနသို့လုပ်ငန်းလိုင်စင်လျှောက်ထားသည့်အခါငါးပေါင်းမှုန့်(Fishmeal)စက်ရုံလုပ်ငန်း ဆောင်ရွက်ခြင်းအတွက် ကန့်ကွက်ရန်မရှိကြောင်း သက်ဆိုင်ရာတာဝန်ရှိဌာန/ မြို့နယ်/ ခရိုင် အထွေထွေအုပ်ချုပ်ရေး/ ဒုန်ကြီးကြပ်မှုကော်မတီ စသည့်တို့၏ ထောက်ခံစာတစ်ပါတည်းပူးတွဲတင်ပြရမည်။

Technical Regulations အားလိုက်နာကျင့်သုံးရမည်

APPENDIX I
ရေထွက်ပစ္စည်းရောင်းဝယ်စုဆောင်းခွင့် လိုင်စင်

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ
စိုက်ပျိုးရေး ၊ မွေးမြူရေး နှင့် ဆည်မြောင်းဝန်ကြီးဌာန
ငါးလုပ်ငန်းဦးစီးဌာန

လိုင်စင်အမှတ် ၂/၂၀၂၄-၂၀၂၅

014225

ရေထွက်ပစ္စည်းရောင်းဝယ်စုဆောင်းခွင့်လိုင်စင်

စိုက်ပျိုးရေး ၊ မွေးမြူရေး နှင့် ဆည်မြောင်းဝန်ကြီးဌာန၊ ငါးလုပ်ငန်းဦးစီးဌာန၊ ညွှန်ကြားရေးမှူးချုပ်သည် မြန်မာနိုင်ငံ၏ တည်ဆဲငါးလုပ်ငန်းဆိုင်ရာ ဥပဒေများနှင့်အညီ ပူတွဲပါ စည်းကမ်းချက်များနှင့်အညီ ဤလိုင်စင်ကို ထုတ်ပေးလိုက်သည်။

၁။ (က) လုပ်ငန်းရှင်အမည် ---- ဦးလှမြေ ([illegible])

(ခ) အမျိုးသားမှတ်ပုံတင်အမှတ် ----
နိုင်ငံသားစိစစ်ရေးကတ်ပြားအမှတ် ---- ၁၂/မရက(နိုင်) ၁၄၆၈၉၄

(ဂ) နေရပ်လိပ်စာ ---- အမှတ်(၉၁၃)၊ ၂/ရေကျော်ကြီးကျေးရွာ
---- [illegible]

၂။ (က) ရောင်းဝယ်စုဆောင်းခွင့်ပြုသည့်
ဒေသ ---- အမှတ်(၉၁၃)၊ ၂/ရေကျော်ကြီးကျေးရွာ

(ခ) ဝယ်ယူစုဆောင်းခွင့်ပြုသည့်
ရေထွက်ပစ္စည်းအမျိုးအမည် ---- [illegible]

(ဂ) ပမာဏ ---- (၁၀၀၀) တန်

၃။ ဤလိုင်စင်သက်တမ်းမှာ ၂၀၂၄ ခုနှစ်၊ ---- ဇွန်လ (၁၁)ရက် ---- နေ့မှ စတင်၍ ၂၀၂၅ ခုနှစ်၊ ---- [illegible] (၁၀)ရက် ---- နေ့တွင် သက်တမ်းကုန်ဆုံးမည်။

လိုင်စင်ထုတ်ပေးသည့်နေ့စွဲ ၁၁-၆-၂၀၂၄

ငါးလုပ်ငန်းဦးစီးဌာန
ထွန်းထွန်းဝင်း
ညွှန်ကြားရေးမှူး

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ

စိုက်ပျိုးရေး ၊ မွေးမြူရေး နှင့် ဆည်မြောင်းဝန်ကြီးဌာန

ငါးလုပ်ငန်းဦးစီးဌာန

လိုင်စင်အမှတ် ၁၂၀၄-၂၀၁၅

ငါးလုပ်ငန်းဦးစီးဌာန

014224

ရေထွက်ပစ္စည်းရောင်းဝယ်စုဆောင်းခွင့်လိုင်စင်

စိုက်ပျိုးရေး ၊ မွေးမြူရေး နှင့် ဆည်မြောင်းဝန်ကြီးဌာန၊ ငါးလုပ်ငန်းဦးစီးဌာန၊ ညွှန်ကြားရေးမှူးချုပ်သည် မြန်မာနိုင်ငံ၏ တည်ဆဲငါးလုပ်ငန်းဆိုင်ရာ ဥပဒေများနှင့်အညီ ပူတွဲပါ စည်းကမ်းချက်များနှင့်အညီ ဤလိုင်စင်ကို ထုတ်ပေးလိုက်သည်။

၁။ (က) လုပ်ငန်းရှင်အမည် ---- ဦးဘုမေ (ဝင်းလယ်ကော်ရှီ)

(ခ) အမျိုးသားမှတ်ပုံတင်အမှတ် ----

နိုင်ငံသားစိစစ်ရေးကတ်ပြားအမှတ် ---- ၁၂ / မရက (နိုင်) ၁၄၆၀၉၄

(ဂ) နေရပ်လိပ်စာ ---- အမှတ်(၉၁၇) ၂/စ ရွေကျော်ကြီးကျေးရွာ

---- ကန့်ကနီကျေးရွာအုပ်စု၊ ဘိုကလေးမြို့

၂။ (က) ရောင်းဝယ်စုဆောင်းခွင့်ပြုသည့်

ဒေသ ---- အမှတ်(၉၁၇) ၂/စ ရွေကျော်ကြီးကျေးရွာ

(ခ) ဝယ်ယူစုဆောင်းခွင့်ပြုသည့်

ရေထွက်ပစ္စည်းအမျိုးအမည် ---- ကြက်တော (ငါးမှန်)

(ဂ) ပမာဏ ---- (၁၀၀၀) တန်

၃။ ဤလိုင်စင်သက်တမ်းမှာ ၂၀၁၄ ခုနှစ်၊ ---- ဧပြီလ (၁) ရက် ---- နေ့မှ စတင်၍

၂၀၁၅ ခုနှစ်၊ ---- မတ်လ (၃၁)ရက် ---- နေ့တွင် သက်တမ်းကုန်ဆုံးမည်။

လိုင်စင်ထုတ်ပေးသည့်နေ့စွဲ ၁၁ · ၆ · ၂၀၁၄

ငါးလုပ်ငန်းဦးစီးဌာန

APPENDIX J

ပုဂ္ဂလိကစက်မှုလုပ်ငန်း မှတ်ပုံတင်လက်မှတ် (ငါးပေါင်းမှုန့် စက်ရုံ)


ပြည်ထောင်စုမြန်မာနိုင်ငံတော်အစိုးရ
အမှတ် (၁) စက်မှုဝန်ကြီးဌာန
စက်မှုကြီးကြပ်ရေးနှင့် စစ်ဆေးရေးဦးစီးဌာန

ပုဂ္ဂလိကစက်မှုလုပ်ငန်း မှတ်ပုံတင်လက်မှတ်

စက်မှုမှတ်ပုံတင်အမှတ်.. ....ရက်စွဲ..........................
လုပ်ငန်းအရွယ်အစား.......................................ပြည်နယ်/တိုင်း..........................

အောက်ပါလုပ်ငန်းသည် ပုဂ္ဂလိကစက်မှုလုပ်ငန်း ဥပဒေ ပုဒ်မ ၇ ပုဒ်မခွဲ (   ) အရ မှတ်ပုံတင်ပြီးဖြစ်ပါသည်။

၁။ လုပ်ငန်းအမည်.......................................
၂။ လုပ်ငန်းအမျိုးအမည်.......................................
၃။ အဓိကကုန်ချောပစ္စည်းအမျိုးအမည်.......................................
၄။ တည်နေရာလိပ်စာ.......................................
၅။ ပိုင်ဆိုင်မှုအမျိုးအစား.......................................
၆။ လုပ်ငန်းရှင်အမည်.......................................
၇။ ကိုင်ဆောင်သည့်မှတ်ပုံတင်အမှတ်.......................................
၈။ ရင်းနှီးမြှုပ်နှံမှုတန်ဖိုး(ကျပ်).................တည်ထောင်သည့်ခုနှစ်.................
၉။ အသုံးပြုသည့်အားအမျိုးအစား.................မြင်းကောင်ရေ.................
၁၀။ အလုပ်သမားဦးရေ.......................................
၁၁။ မှတ်ပုံတင်သက်တမ်းကုန်ဆုံးသည့်နေ့ရက်.......................................

ညွှန်ကြားရေးမှူးချုပ်

လုပ်ငန်းရှင်များလိုက်နာရန် စည်းကမ်းချက်များ

၁။ ဤမှတ်ပုံတင်လက်မှတ်ကို အများမြင်သာသည့်နေရာတွင်ချိတ်ဆွဲထားရမည်။

၂။ ဤမှတ်ပုံတင်လက်မှတ်ကို မသက်ဆိုင်သူအား လွှဲအပ်ခြင်း သို့မဟုတ် လွှဲပြောင်းပေးခြင်းမပြုရ။

၃။ ဤမှတ်ပုံတင်လက်မှတ်ပါ အချက်အလက်များကို ပြင်ဆင်ခြင်း သို့မဟုတ် ဖြည့်စွက်ခြင်းမပြုလုပ်ရ။

၄။ ဤမှတ်ပုံတင်လက်မှတ် ပျောက်ဆုံးလျှင် မှတ်ပုံတင်လက်မှတ်မိတ္တူကို ထုတ်ပေးရန် ပြည်နယ် သို့မဟုတ် တိုင်းဦးစီးဌာနမှူးထံ ခိုင်လုံသောအထောက်အထားနှင့်အတူ လျှောက်ထားရမည်။

၅။ မှတ်ပုံတင်လက်မှတ်ပျက်စီးလျှင် သို့မဟုတ် မထင်မရှားဖြစ်လျှင်၊ သို့မဟုတ် မှတ်ပုံတင်လက်မှတ်ပါ အချက်အလက်များပြောင်းလဲရန်လိုအပ်လျှင် ပြည်နယ် သို့မဟုတ် တိုင်းဦးစီးဌာနမှူးထံ မှတ်ပုံတင်လက်မှတ် နှင့် ပူးတွဲတင်ပြလျှောက်ထားရမည်။

၆။ ဤမှတ်ပုံတင်လက်မှတ်ကို စက်မှုလုပ်ငန်းနှင့်စပ်လျဉ်းသည့်ကိစ္စမှအပ မည်သည့်ကိစ္စတွင်မျှ အသုံးမပြုရ။

၇။ မှတ်ပုံတင်သက်တမ်းမကုန်ဆုံးမီ သက်တမ်းတိုးမြှင့်ပေးရန် လျှောက်ထားရာတွင် ဤမှတ်ပုံတင်လက်မှတ်ကိုပူးတွဲတင်ပြရမည်။

၈။ သက်တမ်းကုန်ဆုံးပြီး ရက်ပေါင်း (၆၀) အတွင်း သက်တမ်းတိုးမြှင့် လျှောက်ထားပါက သတ်မှတ်သည့် ဒဏ်ကြေးကို ပေးဆောင်ရမည်။

၉။ သက်တမ်းတိုးမြှင့်ရန် လျှောက်ထားခြင်းမရှိပါက မှတ်ပုံတင်ပျက်ပြယ်ပြီးဖြစ်သည်။

မှတ်ပုံတင်သက်တမ်းတိုးမြှင့်ခြင်း

စဉ်	ချလံအမှတ် / ရက်စွဲ	မှတ်ပုံတင်သက်တမ်း ကုန်ဆုံးမည့်နေ့ရက်	ခွင့်ပြုသူလက်မှတ်
၁	[illegible]	[illegible]	
၂	[illegible]	[illegible]	
၃	[illegible]	[illegible]	
၄	[illegible]	[illegible]	
၅	[illegible]	[illegible]	
၆	[illegible]	[illegible]	
၇	[illegible]	[illegible]	
၈	[illegible]	[illegible]	
၉	[illegible]	[illegible]	
၁၀	[illegible]	[illegible]	
၁၁	[illegible]	[illegible]	
၁၂	[illegible]	[illegible]	
၁၃	[illegible]	[illegible]	

APPENDIX K

ပုဂ္ဂလိကစက်မှုလုပ်ငန်း မှတ်ပုံတင်လက်မှတ် (ရေခဲ စက်ရုံ)

ပြည်ထောင်စုမြန်မာနိုင်ငံတော်အစိုးရ

အမှတ် (၁) စက်မှုဝန်ကြီးဌာန

စက်မှုကြီးကြပ်ရေးနှင့် စစ်ဆေးရေးဦးစီးဌာန

ပုဂ္ဂလိကစက်မှုလုပ်ငန်း မှတ်ပုံတင်လက်မှတ်

စက်မှုမှတ်ပုံတင်အမှတ် ၉၇/ကြီး/၅၅၅ ရက်စွဲ ၂၁-၁-၂၀၁၁

လုပ်ငန်းအရွယ်အစား အကြီးစား ပြည်နယ်/တိုင်း

အောက်ပါလုပ်ငန်းသည် ပုဂ္ဂလိကစက်မှုလုပ်ငန်း ဥပဒေ ပုဒ်မ ၇ ပုဒ်မခွဲ (ဂ) အရ မှတ်ပုံတင်ပြီးဖြစ်ပါသည်။

၁။ လုပ်ငန်းအမည် .... ရေခဲလုပ်ငန်း

၂။ လုပ်ငန်းအမျိုးအမည် ....

၃။ အဓိကကုန်ချောပစ္စည်းအမျိုးအမည် ရေခဲ

၄။ တည်နေရာလိပ်စာ ....

၅။ ပိုင်ဆိုင်မှုအမျိုးအစား တစ်ဦးတည်း

၆။ လုပ်ငန်းရှင်အမည် ....

၇။ ကိုင်ဆောင်သည့်မှတ်ပုံတင်အမှတ် ၁၃/လရန(နိုင်)၁၁၆၄၀၉

၈။ ရင်းနှီးမြှုပ်နှံမှုတန်ဖိုး(ကျပ်) .... တည်ထောင်သည့်ခုနှစ် ၂၀၁၀

၉။ အသုံးပြုသည့်အားအမျိုးအစား .... မြင်းကောင်ရေ ....

၁၀။ အလုပ်သမားဦးရေ ၂၂

၁၁။ မှတ်ပုံတင်သက်တမ်းကုန်ဆုံးသည့်နေ့ရက် ၂၁-၁-၂၀၁၂

ညွှန်ကြားရေးမှူးချုပ်

လုပ်ငန်းရှင်များလိုက်နာရန် စည်းကမ်းချက်များ

၁။ ဤမှတ်ပုံတင်လက်မှတ်ကို အများမြင်သာသည့်နေရာတွင် ချိတ်ဆွဲထားရမည်။
၂။ ဤမှတ်ပုံတင်လက်မှတ်ကို မသက်ဆိုင်သူအား လွှဲအပ်ခြင်း သို့မဟုတ် လွှဲပြောင်းပေးခြင်းမပြုရ။
၃။ ဤမှတ်ပုံတင်လက်မှတ်ပါ အချက်အလက်များကို ပြင်ဆင်ခြင်း သို့မဟုတ် ဖြည့်စွက်ခြင်းမပြုလုပ်ရ။
၄။ ဤမှတ်ပုံတင်လက်မှတ် ပျောက်ဆုံးလျှင် မှတ်ပုံတင်လက်မှတ်မိတ္တူကို ထုတ်ပေးရန် ပြည်နယ် သို့မဟုတ် တိုင်းဦးစီးဌာနမှူးထံ ခိုင်လုံသောအထောက်အထားနှင့်အတူ လျှောက်ထားရမည်။
၅။ မှတ်ပုံတင်လက်မှတ်ပျက်စီးလျှင် သို့မဟုတ် မထင်မရှားဖြစ်လျှင်၊ သို့မဟုတ် မှတ်ပုံတင်လက်မှတ်ပါ အချက်အလက်များပြောင်းလဲရန်လိုအပ်လျှင် ပြည်နယ် သို့မဟုတ် တိုင်းဦးစီးဌာနမှူးထံ မှတ်ပုံတင်လက်မှတ် နှင့် ပူးတွဲတင်ပြ လျှောက်ထားရမည်။
၆။ ဤမှတ်ပုံတင်လက်မှတ်ကို စက်မှုလုပ်ငန်းနှင့်စပ်လျဉ်းသည့်ကိစ္စမှအပ မည်သည့်ကိစ္စတွင်မျှ အသုံးမပြုရ။
၇။ မှတ်ပုံတင်သက်တမ်းမကုန်ဆုံးမီ သက်တမ်းတိုးမြှင့်ပေးရန် လျှောက်ထားရာတွင် ဤမှတ်ပုံတင်လက်မှတ်ကိုပူးတွဲတင်ပြရမည်။
၈။ သက်တမ်းကုန်ဆုံးပြီး ရက်ပေါင်း (၆၀) အတွင်း သက်တမ်းတိုးမြှင့် လျှောက်ထားပါက သတ်မှတ်သည့် ဒဏ်ကြေးကို ပေးဆောင်ရမည်။
၉။ သက်တမ်းတိုးမြှင့်ရန် လျှောက်ထားခြင်းမရှိပါက မှတ်ပုံတင်ပျက်ပြယ်ပြီးဖြစ်သည်။

မှတ်ပုံတင်သက်တမ်းတိုးမြှင့်ခြင်း

စဉ်	ချလံအမှတ် / ရက်စွဲ	မှတ်ပုံတင်သက်တမ်း ကုန်ဆုံးမည့်နေရက်	ခွင့်ပြုသူလက်မှတ်
၁	၁၄/၁၈.၁၂.၂၀၁၂	၃၁.၁၂.၂၀၁၃	
၂	၇/၁၈.၁၂.၂၀၁၃	၃၁.၁၂.၂၀၁၄	
၃	၁၁၆/၃၇.၁၂.၂၀၁၄	၃၁.၁၂.၂၀၁၅	
၄	၁၀/၁၄.၁၂.၂၀၁၅	၃၁.၁၂.၂၀၁၆	
၅	၁၈/၂၅.၁၂.၂၀၁၆	၃၁.၁၂.၂၀၁၇	
၆	၄/၉.၁၂.၂၀၁၇	၃၁.၁၂.၂၀၁၈	
၇	၄၁/၂.၁၂.၂၀၁၈	၃၁.၁၂.၂၀၁၉	
၈	၁၀/၉.၁၂.၂၀၁၉	၃၁.၁၂.၂၀၂၀	
၉	၇/၂၂.၁၂.၂၀၂၀	၃၁.၁၂.၂၀၂၁	
၁၀	၂၀/၈.၁၂.၂၀၂၁	၃၁.၁၂.၂၀၂၂	
၁၁	၂/၁၄.၁၂.၂၀၂၂	၃၁.၁၂.၂၀၂၃	
၁၂	၂/၁၀.၁၂.၂၀၂၃	၃၁.၁၂.၂၀၂၄	
၁၃	၄၀/၁၆.၁၂.၂၀၂၄	၃၁.၁၂.၂၀၂၅	

APPENDIX L
ငါးလုပ်ငန်းဦးစီးဌာန လိုင်စင်

MINISTRY OF AGRICULTURE, LIVESTOCK AND IRRIGATION
DEPARTMENT OF FISHERIES

HACCP CERTIFICATE

For Fishery and Aquaculture Products Originating In Myanmar

Country of dispatch : Myanmar
Competent Authority : Department of Fisheries
Inspection Department : Quality Control and Research Section

I. Name and official approval number of establishment approved by the Department Of Fisheries

Marine Acary Production Company limited

Factory Registration No. BGL/001(FM)/MAP /DOF

Yay Kyaw Gyi Kwinn, No.917, Ue Pain No.2/8, Katonkani Kyaye Ywar Oke Suu, Bogalaye Township, Ayeyarwaddy Region, Myanmar.

II. Type of Operation

1. Fish Meal

III. Attestation

1. This is to confirm that the above mentioned processor is an approved establishment of Department of Fisheries.
2. The Department regularly inspects manufacturing practices and hygiene control and HACCP program implementation.
3. The Department has verified that the processor is operating under the Department's Sanitary Standard Requirements and CODEX Alimentarius's General Principles of Feed Hygiene. The Processor is also operating HACCP based Control program in accordance with the Department of Fisheries requirements.

Done at Yangon, Myanmar

Issue Date: 1. 04 . 2024
Valid Date: 31 . 03 . 2025

HACCP No. 58-ICS/DOF

Nyunt Win
Director
(Research and Development Division)

QCRS-ICU/HACCP V2. 20.11.19

APPENDIX M
ဘွိုင်လာယာယီအသုံးပြုခွင့် လက်မှတ်

ဘွိုင်လာယာယီအသုံးပြုခွင့်လက်မှတ်

{ လုပ်ထုံးလုပ်နည်း အပိုဒ် ၆ အပိုဒ်ခွဲ (ဆ) }

စာအမှတ် [illegible]

.........[illegible]........................

....

....အား ....

....ကုမ္ပဏီ၊...နိုင်ငံမှ

ထုတ်လုပ်သည့်ဘွိုင်လာအမှတ်..ပါသော

သို့မဟုတ်ဘွိုင်လာမှတ်ပုံတင်အမှတ် မ.စ..[illegible]..........ဖြစ်သော..[illegible]......ဘွိုင်လာကို

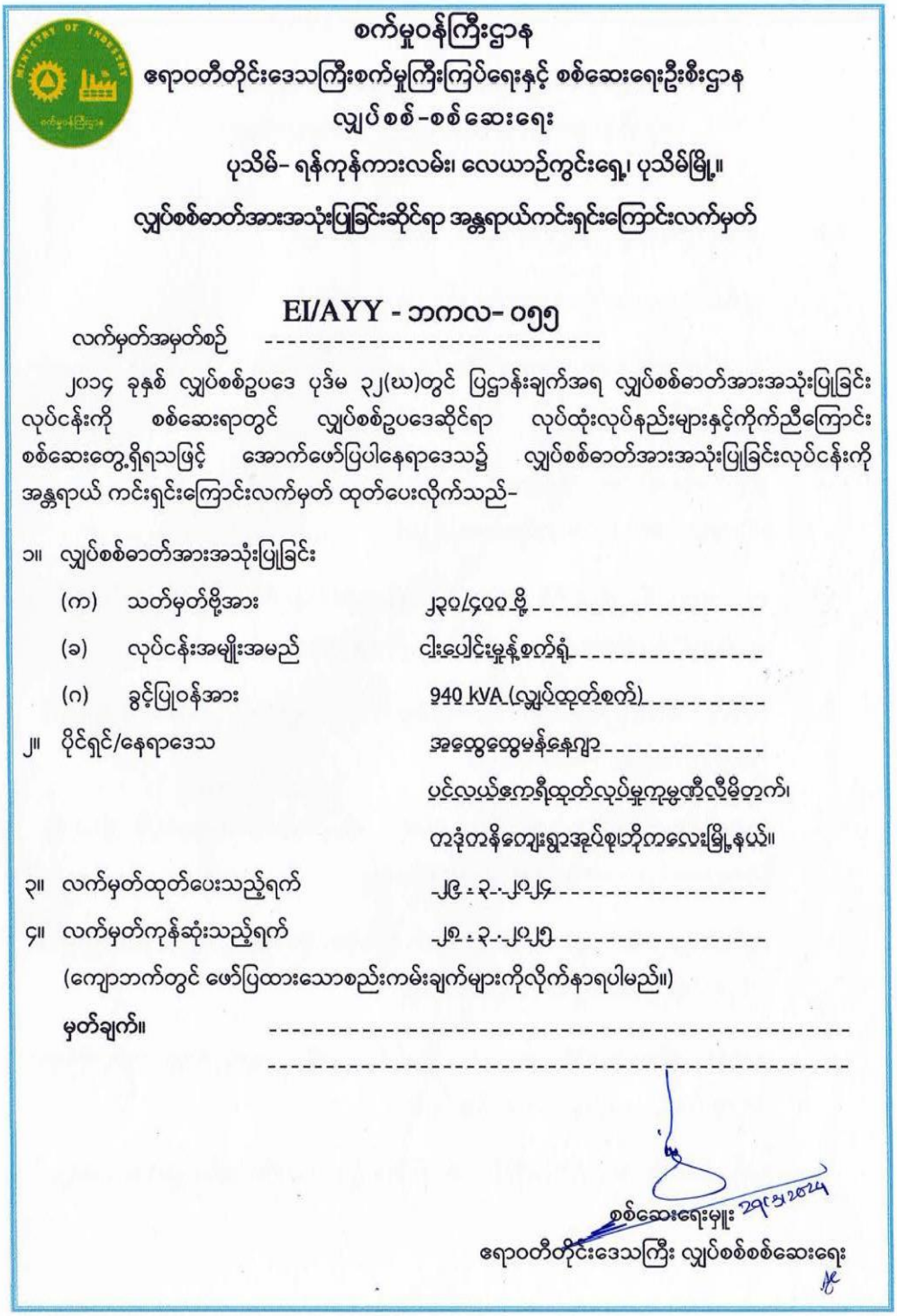
ခွင့်ပြုဖိအား......10 kg/cm²..........ဖြင့်လက်မှတ်ထုတ်ပေးသည့်နေ့မှ (၆)လအသုံးပြုခွင့်ရှိသည်။ ယင်းကာလအပိုင်းအခြားကျော်လွန်သည့်အခါ ထုတ်ပေးထားသည့် ဤယာယီအသုံးပြုခွင့်လက်မှတ် ပျက်ပြယ်စေရမည်။

([illegible])
ဘွိုင်လာစစ်ဆေးရေးမှူး
ဌာနခွဲမှူး
(ဘွိုင်လာစစ်ဆေးရေး)
ဧရာဝတီတိုင်းဒေသကြီး စက်မှုကြီးကြပ်ရေးနှင့်
စစ်ဆေးရေးဦးစီးဌာန၊ပုသိမ်မြို့

ရက်စွဲ။ [illegible]..................

မှတ်ချက် ။ ။ ဘွိုင်လာဥပဒေပုဒ်မ ၁၅ ပါပြဋ္ဌာန်းထားသည့် သက်ဆိုင်ရာအစိုးရဌာန အဖွဲ့အစည်းက လိုအပ်၍တောင်းဆိုသည့်အခါ ဤလက်မှတ်ကို တင်ပြရမည်။

APPENDIX N
လျှပ်စစ်အန္တရာယ်ကင်းရှင်းကြောင်း လက်မှတ် (ငါးပေါင်းမှုန့်စက်ရုံ)



စက်မှုဝန်ကြီးဌာန

ရောဝတီတိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့် စစ်ဆေးရေးဦးစီးဌာန

လျှပ်စစ်-စစ်ဆေးရေး

ပုသိမ်- ရန်ကုန်ကားလမ်း၊ လေယာဉ်ကွင်းရှေ့၊ ပုသိမ်မြို့။

လျှပ်စစ်ဓာတ်အားအသုံးပြုခြင်းဆိုင်ရာ အန္တရာယ်ကင်းရှင်းကြောင်းလက်မှတ်

EI/AYY - ဘကလ- ၀၅၅

လက်မှတ်အမှတ်စဉ် ----------

၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေ ပုဒ်မ ၃၂(ဃ)တွင် ပြဋ္ဌာန်းချက်အရ လျှပ်စစ်ဓာတ်အားအသုံးပြုခြင်း လုပ်ငန်းကို စစ်ဆေးရာတွင် လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများနှင့်ကိုက်ညီကြောင်း စစ်ဆေးတွေ့ရှိရသဖြင့် အောက်ဖော်ပြပါနေရာဒေသ၌ လျှပ်စစ်ဓာတ်အားအသုံးပြုခြင်းလုပ်ငန်းကို အန္တရာယ် ကင်းရှင်းကြောင်းလက်မှတ် ထုတ်ပေးလိုက်သည်-

၁။ လျှပ်စစ်ဓာတ်အားအသုံးပြုခြင်း

(က) သတ်မှတ်ဖို့အား ၂၃၀/၄၀၀ ဗို့ ----------

(ခ) လုပ်ငန်းအမျိုးအမည် ငါးပေါင်းမှုန့်စက်ရုံ ----------

(ဂ) ခွင့်ပြုဝန်အား 940 kVA (လျှပ်ထုတ်စက်) ----------

၂။ ပိုင်ရှင်/နေရာဒေသ အဇ္ဈတ္ထမန်နေဂျာ ----------

ပင်လယ်ဧကရီထုတ်လုပ်မှုကုမ္ပဏီလီမိတက်၊

ကဒုံကနိဂျေးရွာအုပ်စု၊ဘိုကလေးမြို့နယ်။

၃။ လက်မှတ်ထုတ်ပေးသည့်ရက် ၂၉ ၊ ၃ ၊ ၂၀၂၄ ----------

၄။ လက်မှတ်ကုန်ဆုံးသည့်ရက် ၂၈ ၊ ၃ ၊ ၂၀၂၅ ----------

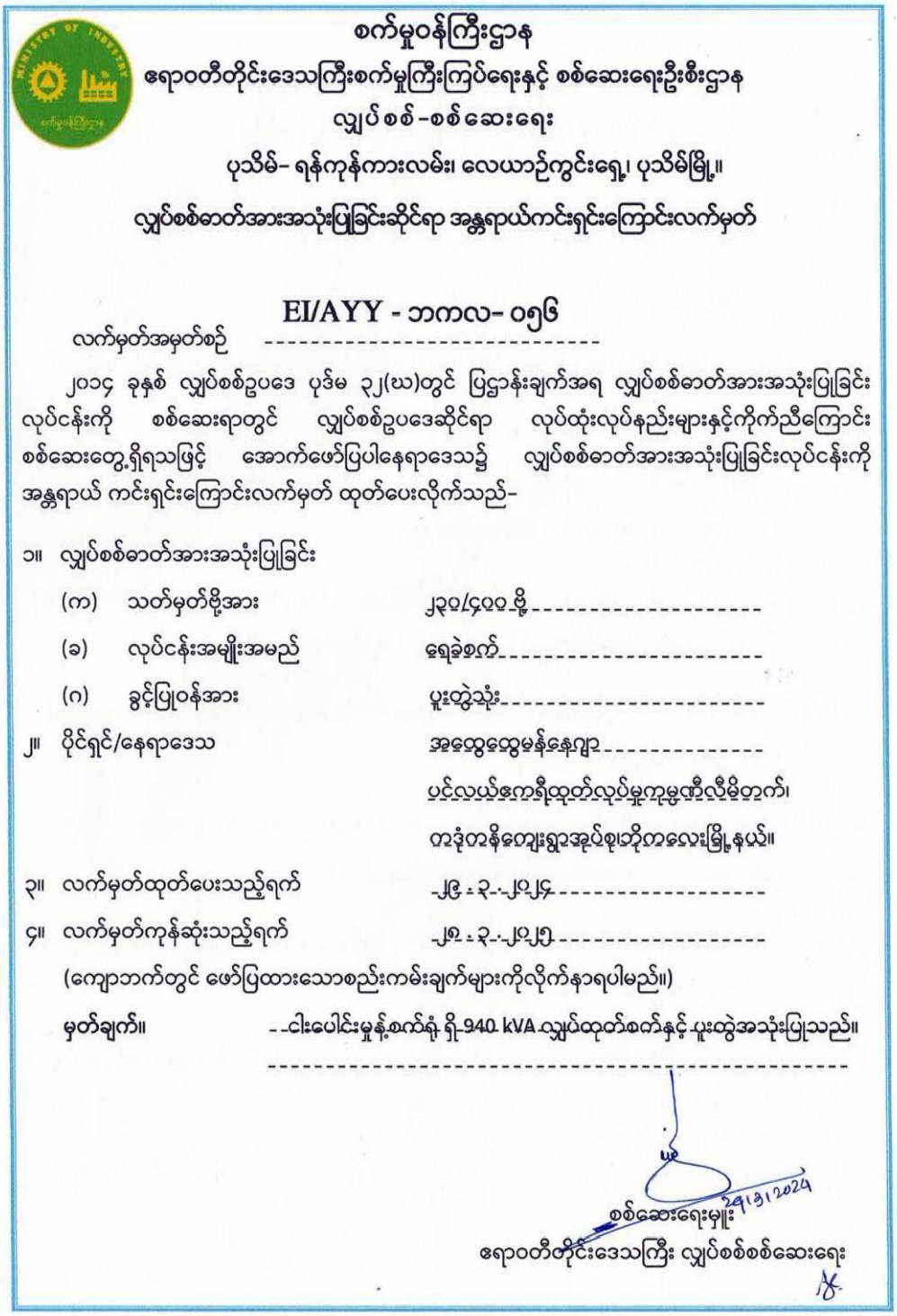
(ကျောဘက်တွင် ဖော်ပြထားသောစည်းကမ်းချက်များကိုလိုက်နာရပါမည်။)

မှတ်ချက်။ ----------

စစ်ဆေးရေးမှူး 29/3/2024

ရောဝတီတိုင်းဒေသကြီး လျှပ်စစ်စစ်ဆေးရေး

APPENDIX O
လျှပ်စစ်အန္တရာယ်ကင်းရှင်းကြောင်း လက်မှတ် (ရေခဲစက်ရုံ)



စက်မှုဝန်ကြီးဌာန

ရောဝတီတိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့် စစ်ဆေးရေးဦးစီးဌာန

လျှပ်စစ်-စစ်ဆေးရေး

ပုသိမ်- ရန်ကုန်ကားလမ်း၊ လေယာဉ်ကွင်းရှေ့၊ ပုသိမ်မြို့။

လျှပ်စစ်ဓာတ်အားအသုံးပြုခြင်းဆိုင်ရာ အန္တရာယ်ကင်းရှင်းကြောင်းလက်မှတ်

EI/AYY - ဘကလ- ၀၅၆

လက်မှတ်အမှတ်စဉ် ----------

၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေ ပုဒ်မ ၃၂(ဃ)တွင် ပြဋ္ဌာန်းချက်အရ လျှပ်စစ်ဓာတ်အားအသုံးပြုခြင်း လုပ်ငန်းကို စစ်ဆေးရာတွင် လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများနှင့်ကိုက်ညီကြောင်း စစ်ဆေးတွေ့ရှိရသဖြင့် အောက်ဖော်ပြပါနေရာဒေသ၌ လျှပ်စစ်ဓာတ်အားအသုံးပြုခြင်းလုပ်ငန်းကို အန္တရာယ် ကင်းရှင်းကြောင်းလက်မှတ် ထုတ်ပေးလိုက်သည်-

၁။ လျှပ်စစ်ဓာတ်အားအသုံးပြုခြင်း

(က) သတ်မှတ်ဖို့အား ၂၃၀/၄၀၀ ဗို့----------

(ခ) လုပ်ငန်းအမျိုးအမည် ရေခဲစက်----------

(ဂ) ခွင့်ပြုဝန်အား ပူးတွဲသုံး----------

၂။ ပိုင်ရှင်/နေရာဒေသ အုတ်ထွေထွေမန်နေဂျာ----------

ပင်လယ်ဧကရှိထုတ်လုပ်မှုကုမ္ပဏီလီမိုတက်၊

ကဒုံကနိကျေးရွာအုပ်စုဘိုကလေးမြို့နယ်။

၃။ လက်မှတ်ထုတ်ပေးသည့်ရက် ၂၉ ၊ ၃ ၊ ၂၀၂၄----------

၄။ လက်မှတ်ကုန်ဆုံးသည့်ရက် ၂၈ ၊ ၃ ၊ ၂၀၂၅----------

(ကျောဘက်တွင် ဖော်ပြထားသောစည်းကမ်းချက်များကိုလိုက်နာရပါမည်။)

မှတ်ချက်။ --ငါးပေါင်းမှုန့်စက်ရုံ ရှိ 940 kVA လျှပ်ထုတ်စက်နှင့် ပူးတွဲအသုံးပြုသည်။

29/3/2024

စစ်ဆေးရေးမှူး

ရောဝတီတိုင်းဒေသကြီး လျှပ်စစ်စစ်ဆေးရေး

APPENDIX P
Environmental Monitoring Results

Air Quality Result

MYANWEI
ENVIRONMENTAL SOLUTIONS
No. (28), Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.
Office: (+95) 9777922169, (+95) 9777929885 Mobile: (+95) 9421137569; Website: www.myanweiconsulting.com

Project Name:	Marine Acary Production Co., Ltd.
Project Location:	Yay Kyaw Gyi Kwin, No. 917, Ue Pain No. 2/8, Katonkani Kyaye Ywar Oke Suu, Bogalay Township, Ayeyarwaddy Region, Myanmar.
Sampling Date:	19,20 July, 2023
Sampling Time:	24 Hours
Sampling Condition:	
Sampling By:	Environmental Team Represented By Myanwei Environmental Solutions Company Limited

Instrument	Type	Sampling Rate	Location
OCEANUS-AQM-09	PM, O_3, NO_2, SO_2, CO Detector	0-999.9 (µg/M^3)	Project Site (Outdoor Area) (15°51'45.74"N 95°12'6.84"E)

National Environmental Quality (Emission) Guideline

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

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

Monitoring Result

Parameters	Observed value	Guideline value	Unit	Guideline
Outdoor Air Quality Measurement				
PM_{10}	19.03	50	µg/m^3	NEQG
$PM_{2.5}$	12.97	25	µg/m^3	NEQG
SO_2	0.28	500	µg/m^3	NEQG
NO_2	22.4	200	µg/m^3	NEQG
O_3	17.32	100	µg/m^3	NEQG

LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS
COMPANY LIMITED.

Noise Quality Results

MYANWEI
ENVIRONMENTAL SOLUTIONS
No. (28), Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.
Office: (+95) 9777922169, (+95) 9777929885 Mobile: (+95) 9421137569; Website: www.myanweiconsulting.com

Project Name:	Marine Acary Production Co., Ltd.
Project Location:	Yay Kyaw Gyi Kwinn, No. 917, Ue Pain No. 2/8, Katonkani Kyaye Ywar Oke Suu, Bogalay Township, Ayeyarwaddy Region, Myanmar
Sampling Date:	19,20 July, 2023
Sampling Time:	24 Hours
Sampling Condition:	
Sampling By:	Environmental Team Represented By Myanwei Environmental Solutions Company Limited

Instrument	Type	Sampling Rate	Location
Digital Sound Level Meter	GM 1356 USB	30 -130 dB	15°51'45.09"N 95°12'7.38"E (Production Area)

No	Place	Unit	Result	Standard	Remark
1	Production Area	dBA	62.33 dBA	70 dBA	Normal

National Environmental Quality (Emission) Guideline

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

LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS
COMPANY LIMITED.

Noise Graph

Odor Intensity Result

MYANWEI
ENVIRONMENTAL SOLUTIONS
No. (28), Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.
Office: (+95) 9777922169, (+95) 9777929885 Mobile: (+95) 9421137569; Website: www.myanweiconsulting .com

Project Name:	Marine Acary Production Company Limited
Project Location:	Yay Kyaw Gyi Kwinn, No. 917, Ue Pain No. 2/8, Katonkani Kyaye Ywar Oke Suu, Bogalay Township, Ayeyarwaddy Region
Sampling Date:	19th July 2023
Sampling Time:	Working Hours
Sampling By:	Environmental Team Represented by Myanwei Environmental Solutions Company Limited

Instrument	Type	Sampling Rate	Location
Oceanus (OC 903)	Multi-Gas Detector	0 – 100 ppm	15°51'45.09"N 95°12'7.38"E

National Environmental Quality (Emission) Guidelines (NEQEG)

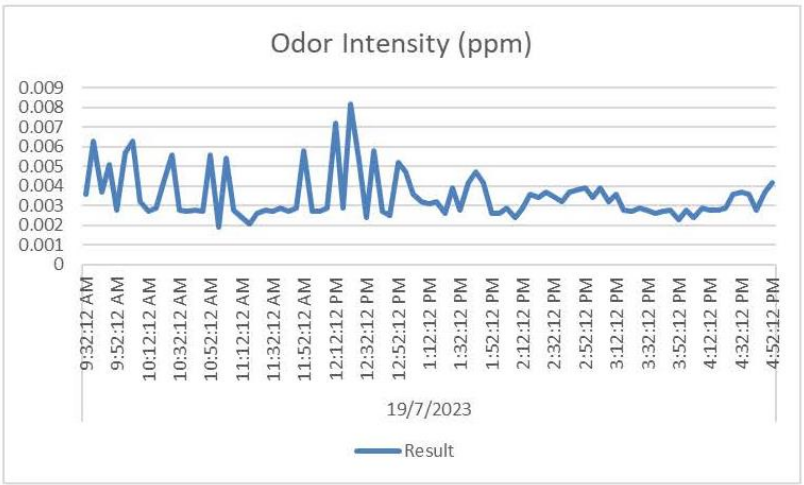
Odorant Assessment Criteria	5 – 10 odorant unit (OU)

*1odorant unit (OU)= 0.00047 ppm

Measurement Result

No	Place	Unit	Result	Standard	Remark
1	Operation Area	OU	**7.47**	5 – 10	Normal

LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS
COMPANY LIMITED.



Boiler Stack Emission Result

MYANWEI
ENVIRONMENTAL SOLUTIONS
No. (28), Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.
Office: (+95) 9777922169, (+95) 9777929885 Mobile: (+95) 9421137569; Website: www.myanweiconsulting .com

Project Name:	Marine Acary Production Co., Ltd.
Project Location:	Yay Kyaw Gyi Kwinn, No. 917, Ue Pain No. 2/8, Katonkani Kyaye Ywar Oke Suu, Bogalay Township, Ayeyarwaddy Region, Myanmar.
Sampling Date:	20th July 2023
Sampling Time:	24 Hours
Sampling By:	Environmental Team Represented by Myanwei Environmental Solutions Company Limited

Instrument	Parameter	Sampling Rate	Location
OC-1000 Dust & Gas Particle Detector	**Gas Data:** Carbon Dioxide (CO_2), Carbon Monoxide (CO), Nitrogen Dioxide (NO_2), Sulfur Dioxide (SO_2)	0-999.9 ($\mu g/m^3$)	Boiler Chimney 15° 51'43.49"N 95°12'6.29"E

Occupational Safety and Health Administration (OSHA) Stack Emission Standard

Item	OSHA Guideline	Unit	Averaging Period
CO2	5000	ppm	8 Hours
SO2	5	ppm	8 Hours
NO2	5	ppm	8 Hours
CO	50	ppm	8 Hours

Source: Occupational Safety and Health Administration

Monitoring Result

Parameters	Observed Value	Guideline Value	Unit	Guideline	Period
SO_2	**0.35**	5	ppm	OSHA	24 hours
NO_2	**0.53**	5	ppm	OSHA	24 hours
CO	**21.85**	50	ppm	OSHA	24 hours
CO_2	**4530.25**	5000	ppm	OSHA	24 hours

OSHA – Occupational Safety and Health Administration
NG – No Guideline

LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS
COMPANY LIMITED.

APPENDIX Q
Water Quality Results

Factory Outlet Water Testing Result

ALARM Ecological Laboratory

Water Testing Result Report

Report Number: EL-WR-23-01784 Date : August 3, 2023

Client Information

Client Name	:	Marine Acary Co., Ltd
Organization	:	Myanwei Environmental Solution Co., Ltd
Client ID	:	-
Registration Date & Time	:	26.7.2023 ; 4:00 PM
Contact	:	09-766077658
Email	:	env@myanweiconsulting.com
Testing Purpose	:	For Monitoring

Sample Information

Sample ID	:	9933
Sample Name	:	Outlet Water
Sample Type / Source	:	Treated
Sampling Date & Time	:	21.7.23; 11:00 AM
Sample Location	:	ရေကျော်ကြီးကျေးရွာဇိုကလေးဖြို့နယ်
Latitude	:	-
Longitude	:	-

Testing Results

This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service.
This report shall not be reproduced except in full, without written approval of the laboratory

Sr.	Quality Parameters	Results	Units	Emission Standards	Remarks
1	pH[1]	6.3	S.U	6.0 – 9.0[d]	Normal
2	Turbidity[3]	12	FAU	-	-
3	TSS[3]	9	mg/L	≤50[d]	Normal
4	Total Solids[34]	1576	mg/L	-	-
5	Hardness[3]	46	mg/L	-	-
6	Chloride[3]	164	mg/L	-	-
7	Free Cyanide[3]	< 0.01	mg/L	≤ 0.1[d]	Normal
8	Arsenic[8]	0.005	mg/L	≤ 0.1[d]	Normal
9	Copper[7]	ND	mg/L	≤ 0.5[d]	LOD = 0.02 mg/L
10	Iron[7]	0.24	mg/L	≤ 3.5[d]	Normal
11	Lead[7]	ND	mg/L	≤ 0.1[d]	LOD = 0.1 mg/L
12	Manganese[3]	0.2	mg/L	≤ 2[d]	Normal
13	Zinc[3]	< 0.02	mg/L	≤ 2[d]	Normal
14	Oil & Grease[9]	6	mg/L	≤ 10[d]	Normal

"ND" = Not Detected "LOD" = Lower limit of detection " - " = No Reference Standard

Tested by	Checked by	Approved by
Daw May Myat Khine Lab. Technician II Ecological Laboratory ALARM	Daw Lin Myat Myat Aung Lab. Technician I Ecological Laboratory ALARM	Dr. Aye Aye Win Laboratory In-Charge Ecological Laboratory (ALARM)

No.237,Corner of Shu Khin Thar Street & 7 Street, (3) Block, South Oakkalapa Township,Yangon.
Tel: 09-407496078, Email: aelab.2022@gmail.com

River Water Testing

ALARM Ecological Laboratory

Water Testing Result Report

Report Number: EL-WR-23-01783 Date : August 3, 2023

Client Information

Client Name	:	**Marine Acary Co., Ltd**
Organization	:	Myanwei Environmental Solution Co., Ltd
Client ID	:	-
Registration Date & Time	:	**26.7.2023 ; 4:00 PM**
Contact	:	**09-766077658**
Email	:	**env@myanweiconsulting.com**
Testing Purpose	:	**For Monitoring**

Sample Information

Sample ID	:	**9932**
Sample Name	:	**River Water**
Sample Type / Source	:	**Raw**
Sampling Date & Time	:	**21.7.23; 9:00 AM**
Sample Location	:	ရေကျော်ကြီးကျေးရွာဘိုကလေးဖြို့နယ်
Latitude	:	-
Longitude	:	-

Testing Results

This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service.

This report shall not be reproduced except in full, without written approval of the laboratory

Sr.	Quality Parameters	Results	Units	Drinking Standards	Remarks
1	pH[1]	**6**	**S.U**	6.5 – 8.5[c]	Nearly Acid Range
2	Turbidity[3]	**81**	**FAU**	≤5 [c]	Turbid
3	Total Solids[34]	**1391**	**mg/L**	-	-
4	Hardness[3]	**65**	**mg/L**	≤500 [c]	Normal
5	Chloride[3]	**69**	**mg/L**	≤250 [c]	Normal
6	Free Cyanide[3]	**< 0.01**	**mg/L**	-	-
7	Arsenic[8]	**0.005**	**mg/L**	≤0.05[a]	Normal
8	Copper[7]	**ND**	**mg/L**	≤2[b]	LOD = 0.02 mg/L
9	Iron[7]	**0.32**	**mg/L**	≤1[c]	Normal
10	Lead[7]	**ND**	**mg/L**	≤0.01 [c]	LOD = 0.1 mg/L
11	Manganese[3]	**< 0.1**	**mg/L**	≤0.4 [c]	Normal
12	Zinc[3]	**< 0.02**	**mg/L**	≤3 [c]	Normal

"ND" = Not Detected "LOD" = Lower limit of detection " - " = No Reference Standard

Tested by	Checked by	Approved by
Daw May Myat Khine Lab. Technician II Ecological Laboratory ALARM	Daw Lin Myat Myat Aung Lab. Technician I Ecological Laboratory ALARM	Dr. Aye Aye Win Laboratory In-Charge Ecological Laboratory (ALARM)

No.237,Corner of Shu Khin Thar Street & 7 Street, (3) Block, South Oakkalapa Township,Yangon.
Tel: 09-407496078, Email: aelab.2022@gmail.com

Ground Water Testing Result

MINISTRY OF AGRICULTURE, LIVESTOCK AND IRRIGATION

DEPARTMENT OF FISHERIES

AQUACULTURE DIVISION

FRESHWATER AQUACULTURE RESEARCH

WATER AND SOIL EXAMINATION LABORATORY

RESULT ON CHEMICAL EXAMINATION OF WATER

Sender's reference : Marine Acary Production Co,.Ltd. Reg No : 002

Location : Hlaing Thar yar,Yangon Report Date & Time : .6.7.2023

Parameter	Unit	Tube well Result	Maximum Permissible Limit
pH		6.6	6.5-8.5
Turbidity	NTU	1	5
Total Dissolved Solids	mg/l	40	1000
Chloride	mg/l	14.997	250
Total Hardness (as Ca CO_3)	mg/l	60	500
Iron	mg/l	0.35	1
Calcium	mg/l	50	200
Magnesium	mg/l	41	150
Electrical conductivity	µs/cm	110	1500

Analyzed by San San Soe , Thin Thin Aye

Note: (Revised)

- Freshwater Aquaculture Research, Water and Soil Examination Laboratory measures only the quality of water that is permissible for the survival of aquatic animals; it does not measure water quality related to food safety.
- These experimental results are released only the result of receiving water sample.

Approved by

Myat Khine Mar

Deputy Director

Head of Water Quality Examination and Freshwater Research Section

MINISTRY OF AGRICULTURE, LIVESTOCK AND IRRIGATION

DEPARTMENT OF FISHERIES

AQUACULTURE DIVISION

FRESHWATER AQUACULTURE RESEARCH

WATER AND SOIL EXAMINATION LABORATORY

RESULT ON CHEMICAL EXAMINATION OF WATER

စစ်ဆေးတွေ့ရှိချက်

ဓါတ်ခွဲတိုင်းတာစစ်ဆေးချက်များအရ Marine Acary Production Co,.Ltd. မှ အဝိစိရေ နမူနာ၏ pH (ရေချဉ်ဖန်နှုန်း)၊Turbidity (ရေနောက်ကျိမှုနှုန်း) ၊Total Dissolved Solids ပါဝင်မှုနှုန်း ၊ Chloride ပါဝင်မှုနှုန်း၊ Total Hardness (ရေစေးနှုန်း)၊ Iron (သံဓါတ်ပါဝင်မှုနှုန်း) ၊ Calcium ပါဝင်မှုနှုန်း ၊ Magnesium ပါဝင်မှုနှုန်း Electrical conductivity (ပါဝင်မှုနှုန်း) တို့မှာ သတ်မှတ်စံနှုန်း အတွင်းတွင် ရှိသည်ကို တွေ့ရှိရပါသည်။

သုံးသပ်အကြံပြုချက်

ရေ၏အရည်အသွေးမှာ သင့်တင့်ကောင်းမွန်မှုရှိသည်ဟု သုံးသပ်တင်ပြအပ်ပါသည်။

Note :

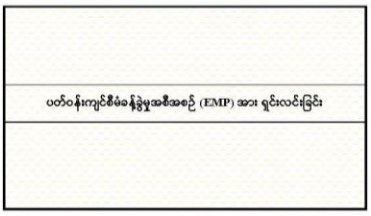
- ရေချိုသုတေသနဌာန၊ ရေ, မြေ စမ်းသပ်စစ်ဆေးသည့်ဓါတ်ခွဲခန်းအနေဖြင့် ရေနေသတ္တဝါများ၏ အသက်ရှင်နေထိုင်မှုအတွက်ခွင့်ပြုနိုင်သည့် ရေအရည်အသွေးကိုသာ တိုင်းတာစစ်ဆေးပေးခြင်းဖြစ်ပြီး Food Safetyနှင့်ဆက်စပ်သည့် ရေအရည်အသွေးအား တိုင်းတာစစ်ဆေးပေးခြင်းမဟုတ်ပါ။
- လက်ခံရရှိသော ရေနမူနာ၏ စမ်းသပ်မှုမှ ရရှိလာသည့် ရလဒ်အား ထုတ်ပြန်ပေးခြင်း ဖြစ်ပါသည်။

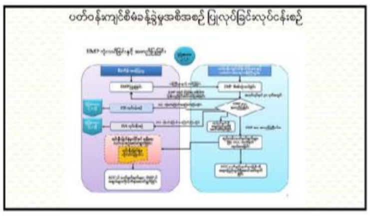
မြတ်ခိုင်မာ
ဒုတိယညွှန်ကြားရေးမှူး
ရေအရည်အသွေးစစ်ဆေးရေးနှင့်
ရေချိုသုတေသနဌာန

APPENDIX R
Public Disclose Power Point Presentation


MARINE ACARY PRODUCTION COMPANY LIMITED


MARINE ACARY PRODUCTION COMPANY LIMITED


ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (EMP) အား ရှင်းလင်းခြင်း



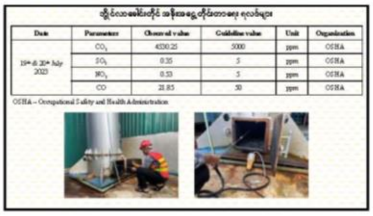

ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေးတိုင်းတာမှုများ


Plastic Beaker & Glass Sample Bottle

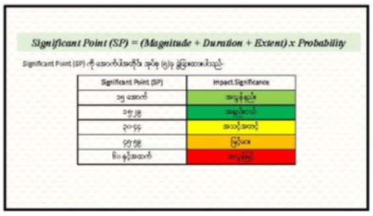

Date
Parameters
Observed value
Guideline value
Unit
Organization
Period
19th & 20th July 2023
PM2.5 12.97 25 µg/m³ NEQG 24 hours
PM10 19.03 50 µg/m³ NEQG 24 hours
SO2 0.28 20 µg/m³ NEQG 24 hours
NO2 22.4 200 µg/m³ NEQG 1 hour
O3 17.32 100 µg/m³ NEQG 8 hours
NEQEG – National Environmental Quality (Emission) Guidelines


Date/Time
Measurement Area
Measurement Result
NEQ Guideline
19th & 20th July 2023
Production Area
62.33 dBA
70 dBA


Date/Time
Measurement Area
Measurement Result
NEQ Guideline
19th July 2023
Production Area
0.93 ppm


Date
Parameters
Observed value
Guideline value
Unit
Organization
19th & 20th July 2023
CO2 4530.25 5000 ppm OSHA
SO2 0.35 5 ppm OSHA
NO2 0.53 5 ppm OSHA
CO 21.85 50 ppm OSHA
OSHA – Occupational Safety and Health Administration


ပတ်ဝန်းကျင်ဆိုင်ရာ သက်ရောက်မှုဆန်းစစ်ခြင်း


Significant Point (SP) = (Magnitude + Duration + Extent) x Probability
Significant Point (SP)
Impact Significance

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်များ

လေထုညစ်ညမ်းမှုဆိုင်ရာ စီမံခန့်ခွဲမှု

ရေထုညစ်ညမ်းမှုဆိုင်ရာ စီမံခန့်ခွဲမှု

မြေဆီလွှာ ညစ်ညမ်းမှုဆိုင်ရာ စီမံခန့်ခွဲမှု

ဆူညံသံထွက်ရှိမှုဆိုင်ရာ စီမံခန့်ခွဲမှု

မီးဘေးအန္တရာယ်ဆိုင်ရာ စီမံခန့်ခွဲမှု

လုပ်ငန်းခွင်ကျန်းမာရေးနှင့် ဘေးကင်းလုံခြုံရေးဆိုင်ရာ စီမံခန့်ခွဲမှု

စွန့်ပစ်အမှိုက်ဆိုင်ရာ စီမံခန့်ခွဲမှု

စွန့်ပစ်အရည်ဆိုင်ရာ စီမံခန့်ခွဲမှု

အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်းဆိုင်ရာ စီမံခန့်ခွဲမှု

ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်မှုအစီအစဉ်

လူမှုအကျိုးတူပူးပေါင်း ပါဝင်မှု

ကျန်းမာရေး	ဝန်ထမ်းများနှင့် ၎င်းတို့၏ မိသားစုများအတွက် ကျန်းမာရေး စောင့်ရှောက်မှု	၀.၅ %
ပညာရေး	ပညာရေးကဏ္ဍ မြှင့်တင်ခြင်း	၀.၅ %
ဒေသဖွံ့ဖြိုးတိုးတက်ရေး	ဒေသတွင်း လိုအပ်သည့် နေရာများသို့ လှူဒါန်းခြင်း	၁ %

MARINE ACARY PRODUCTION COMPANY LIMITED မှ လူမှုအကျိုးတူပူးပေါင်းဆောင်ရွက်မှုများအတွက် အသားတင်အမြတ်ငွေ၏ ၂% ကို ကျန်းမာရေး၊ ပညာရေးနှင့် ဒေသဖွံ့ဖြိုးတိုးတက်ရေးတို့တွင် အသုံးပြုသွားမည် ဖြစ်ပါသည်။

စက်ရုံ၏ဆောင်ရွက်ချက်များ

ရေသန့်စနစ်ထားရှိမှု

လျှပ်စစ်စွမ်းအင်ရရှိသုံးစွဲနိုင်ရန်အတွက် ပြင်ဆင်ထားရှိမှု


မီးဘေးအန္တရာယ်ကာကွယ်ရေးပစ္စည်းများ အရံသင့်ထားရှိမှု


စက်ရုံရှိ ဝန်ထမ်းများအတွက် စီမံထားရှိမှုများ


စွန့်ပစ်ပစ္စည်းဆိုင်ရာ စီမံထားရှိမှုများ


အနံ့ထွက်ရှိမှု လျှော့နည်းစေရေး စီမံထားရှိမှုများ


ပြန်လည်အသုံးပြုရှိရသော စွန့်ပစ်ရေ သိုလှောင်ကန်၊ အုန်းဖြို နှင့်
စီမံကိန်းဧရိယာအတွင်း သစ်ပင်ပန်းမန်စိုက်ပျိုးထားရှိမှုများ


Thank for Your
Consideration!

APPENDIX S
Attendance List of Public Consultation Meeting

Marine Acary Production Company Limited

အများပြည်သူနှင့်တွေ့ဆုံဆွေးနွေးပွဲသို့ တက်ရောက်အကြံပြုဆွေးနွေးသူများစာရင်း

ရက်စွဲ။ ၂၀၂၄ ခုနှစ်၊ ဩဂုတ်လ၊ (၂၀) ရက်

စဉ်	အမည်	ရာထူး	ဌာန/အဖွဲ့အစည်း	ဖုန်းနံပါတ်	လက်မှတ်
၁။	[illegible]		[illegible]	09.666754553	[signature]
၂။	[illegible]		"	09.6999683298	[signature]
၃။	[illegible]			09.679640968	[signature]
၄။	[illegible]				[signature]
၅။	[illegible]				[signature]
၆။	[illegible]	AD	[illegible]		[signature]
၇။	[illegible]	AD	[illegible]	09-43202888	[signature]
၈။	[illegible]	[illegible]	[illegible]	09-779005910	[signature]
၉။	[illegible]	AD	[illegible]	09-431645900	[signature]
၁၀။	[illegible]	[illegible]	[illegible]	09.254366770	[signature]

Marine Acary Production Company Limited

အများပြည်သူနှင့်တွေ့ဆုံဆွေးနွေးပွဲသို့ တက်ရောက်အကြံပြုဆွေးနွေးသူများစာရင်း

ရက်စွဲ။ ၂၀၂၄ ခုနှစ်၊ ဩဂုတ်လ၊ (၂၀) ရက်

စဉ်	အမည်	ရာထူး	ဌာန/အဖွဲ့အစည်း	ဖုန်းနံပါတ်	လက်မှတ်
၁၁	[illegible]			09684830024	[signature]
၁၂	[illegible]	[illegible]	[illegible]	09,[illegible]	[signature]
၁၃	[illegible]	[illegible]	[illegible]	09693899911	[signature]
၁၄	[illegible]	[illegible]	[illegible]	09693676831	[signature]
၁၅	[illegible]	Technician	Myanwei Environmental Solutions	09-979780197	[signature]
၁၆	[illegible]	Manager	Myanwei Environmental Solutions	09-47355664	[signature]
၁၇	[illegible]	G.M	Marine Acary Co.Ltd	09.262694448	[signature]
၁၈	ဦးလင်းသန့်အောင်	Environmentalist	Myanwei Environmental Solutions. Co., Ltd.	09.760077638	[signature]

APPENDIX T
CSR Activities of Marine Acary Production Company Limited

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်

စိုက်ပျိုးရေး၊ မွေးမြူရေးနှင့် ဆည်မြောင်းဝန်ကြီးဌာန

ငါးလုပ်ငန်းဦးစီးဌာန

ဂုဏ်ပြုမှတ်တမ်းလွှာ

ငါးလုပ်ငန်းဦးစီးဌာန၏ နှစ်(၅၀)ပြည့် ရွှေရတုအခမ်းအနားအတွက် ရွှေရတုမဂ္ဂဇင်းတွင်
ကြော်ငြာထည့်သွင်းရန် " Marine Acary Co., Ltd. မှ ငွေကျပ် (၁,၅၀၀,၀၀၀/-)
(တစ်ဆယ့်ငါးသိန်း/-) ပေးအပ်လှူဒါန်းခဲ့သဖြင့်" ငါးလုပ်ငန်းဦးစီးဌာနမှ
မှတ်တမ်းတင် ဂုဏ်ပြုအပ်ပါသည်။

လေးစားစွာဖြင့်

ဝေလင်းမောင်
ညွှန်ကြားရေးမှူးချုပ်

ရက်စွဲ။ ၂၀၂၂ ခုနှစ်၊ မတ်လ ၁၅ ရက်

ရောဝတီတိုင်းဒေသကြီး
ဖျာပုံခရိုင် - ဘိုကလေးမြို့။

Coronavious Disease 2019 (COVID-19)

ကာကွယ်၊ ထိန်းချုပ်၊ ကုသရေး မြို့နယ်ကော်မတီ

ဂုဏ်ပြု မှတ်တမ်းလွှာ

ရောဝတီတိုင်းဒေသကြီး၊ ဖျာပုံခရိုင်၊ ဘိုကလေးမြို့နယ်၊ ကဒုံကနီတိုက်နယ်ဆေးရုံတွင်
Coronavious Disease 2019 (COVID-19) ကာကွယ်၊ ထိန်းချုပ်၊ ကုသရေး
လုပ်ငန်းများဆောင်ရွက်နိုင်ရန်အတွက် ဦးဆန်းမင်း + ဒေါ်အေး မိသ[illegible]
" ပင်လယ်ကေရီထုတ်လုပ်မှုကုမ္ပဏီလီမိတက် "
ဘိုကလေးမြို့နယ်၊ ကဒုံကနီကျေးရွာအုပ်စု၊ ရေကျော်ကျေးရွာ မှ
ကဒုံကနီတိုက်နယ်ဆေးရုံသို့ ကျပ် (၉၆) သိန်းတန်ဖိုးရှိ ဆေးရုံသုံးပစ္စည်းများ
ပေးအပ်လှူဒါန်းပေးပါသဖြင့် ဘိုကလေးမြို့နယ်ကော်မတီက
အထူးကျေးဇူးတင်ရှိပါသောကြောင့် ဤမှတ်တမ်းလွှာဖြင့် မှတ်တမ်းတင်အပ်ပါသည်။

ဥက္ကဋ္ဌ
Coronavious Disease 2019 (COVID-19)
ကာကွယ်၊ ထိန်းချုပ်၊ ကုသရေးမြို့နယ်ကော်မတီ
ဘိုကလေးမြို့

ရက်စွဲ၊ ၂၀၂၀ပြည့်နှစ်၊ ဧပြီလ (၄)ရက်။

ကျန်းမာရေး နှင့် အားကစားဝန်ကြီးဌာန

ကုသရေးဦးစီးဌာန

အထွေထွေရောဂါကုဆေးရုံကြီး ၊ ဘိုကလေးမြို့

ဂုဏ်ပြုမှတ်တမ်းလွှာ

ဘိုကလေးမြို့ အထွေထွေရောဂါကုဆေးရုံကြီး COVID – 19 ရောဂါ ကုသရေးလုပ်ငန်းများတွင် အသုံးပြုနိုင်ရန် အောက်ပါပစ္စည်းများကို လှူဒါန်းသည့်အတွက် ဤမှတ်တမ်းလွှာဖြင့် မှတ်တမ်းတင် ဂုဏ်ပြုအပ်ပါသည်။

အလှူရှင်အမည် - MARINE ACARY PRODUCTION CO.LTD

လှူဒါန်းပစ္စည်း - Oxygen Concentrator (၂) ခု၊ Syringe Pump (၁) ခု၊
Nebulizer Essence Compressor System (၂) ခု ၊
ECG Machine 3 Channel (၁) ခု နှင့် ECG paper (၂၀) လိပ်

တန်ဖိုးငွေ - လေးဆယ့် ခုနစ်သိန်း သုံးသောင်းကျပ် (၄,၇၃၀,၀၀၀ ကျပ်တိတိ)

ဒေါက်တာစုစုလှိုင်
ဆေးရုံအုပ်
ပြည်သူ့ဆေးရုံ-ဘိုကလေးမြို့

ရက်စွဲ၊ ၂၀၂၀ ပြည့်နှစ်၊ ဧပြီလ၊(၃)ရက်

ရာဝတီတိုင်းဒေသကြီး - ဖျာပုံခရိုင်

ဘိုကလေးမြို့နယ်အောက်စီဂျင်စက်ရုံ ဖြစ်မြောက်ရေးကော်မတီ

ဂုဏ်ပြုမှတ်တမ်းလွှာ

ဘိုကလေးမြို့သူ၊ မြို့သားအပေါင်းတို့၏ အသက်ရှည် ကျန်းမာစေရေး လွန်စွာအရေးပါလှသည့် အောက်စီဂျင်စက်ရုံဖြစ်မြောက်ရေးအတွက် စေတနာသဒ္ဓါတရားထက်သန်စွာဖြင့်

အလှူရှင် ဦးဆန်းမင်း + ဒေါ်အေး မိသားစု

ပင်လယ်ကေရီကုမ္ပဏီနှင့် ငါးအမှုန့်ကြိတ်စက်ရုံ

နေရပ် ရေကျော်ကြီးကျေးရွာ၊ ချောင်းဖြဲကြီးကျေးရွာအုပ်စု

ဘိုကလေးမြို့နယ်၊ ဧရာဝတီတိုင်း။

အလှူငွေ/အလှူပစ္စည်း (၁၀၀၀၀၀၀၀ိ/–)၊ ကျပ်သိန်းတစ်ရာတိတိ အား

လှူဒါန်းပေးပါသဖြင့် မြို့နယ်အောက်စီဂျင်စက်ရုံဖြစ်မြောက်ရေးကော်မတီမှ ဝမ်းမြောက်ဝမ်းသာစွာဖြင့် ကျေးဇူးဥပကာရ အထူးတင်ရှိပါကြောင်း ဤဂုဏ်ပြုမှတ်တမ်းလွှာဖြင့် မှတ်တမ်းတင်အပ်ပါသည်။

မြို့နယ်အောက်စီဂျင်စက်ရုံဖြစ်မြောက်ရေးကော်မတီ
ဘိုကလေးမြို့

ရက်စွဲ၊ ၂၀၂၁ ခုနှစ်၊ ဇူလိုင်လ (၁၉) ရက်။

APPENDIX U
List of Commitments

Marine Acary Production Company Limited ၏ လုပ်ငန်းလည်ပတ်ဆောင်ရွက်ခြင်းကြောင့် ဖြစ်ပေါ်လာနိုင်သော သဘာဝပတ်ဝန်းကျင်၊ လူမှုဘဝ နှင့် ကျန်းမာရေး ထိခိုက်မှုများရှိခဲ့ပါက လျော့ချရေး၊ စီမံခန့်ခွဲရေးနှင့် တားဆီးရေး အစီအစဉ်များကို ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan – EMP) တွင် ပါဝင်ရမည့် အချက်များကို အကောင်အထည်ဖော် စီမံဆောင်ရွက်သွားမည် ဖြစ်ကြောင်း။ အောက်ဖော်ပြပါ ဇယားဖြင့် အကျဉ်းချုပ် စာရင်းပြုစု ဖော်ပြထားပါသည်။

ကတိကဝတ်၏ အတိုချုပ်အမည်	အမှတ် စဉ်	ကတိကဝတ်အားရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါရည်ညွှန်းချက်အခန်း
နိဒါန်း	၁	➢ စီမံကိန်းအဆိုပြုသူ၏ ကိုယ်ရေးအချက်အလက် ➢ ဒါရိုက်တာစာရင်း ➢ ရင်းနှီးမြှုပ်နှံမှု အချက်အလက်များ ➢ အစီရင်ခံစာရေးဆွဲသည့်တတိယအဖွဲ့အစည်း၏ အချက်အလက်များ	အခန်း (၁)
မူဝါဒ၊ ဥပဒေနှင့် အဖွဲ့အစည်း ဆိုင်ရာမူဘောင်များ	၂	➢ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ (၂၀၁၂) ➢ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနည်းဥပဒေ (၂၀၁၄) ➢ ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်း(၂၀၁၅) ➢ မြန်မာနိုင်ငံမှ ချမှတ်ထားသော စီမံကိန်းနှင့်သက်ဆိုင်သည့် လိုက်နာဆောင်ရွက်ရမည့် လုပ်ထုံးလုပ်နည်း၊ ဥပဒေ၊ နည်းဥပဒေနှင့် မူဝါဒများ ➢ အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅) နှင့် နိုင်ငံတကာပတ်ဝန်းကျင်ဆိုင်ရာ	အခန်း (၂)

ကတိကဝတ်၏ အတိုချုပ်အမည်	**အမှတ် စဉ်**	**ကတိကဝတ်အားရှင်းလင်းဖော်ပြချက်**	**အစီရင်ခံစာပါရည်ညွှန်းချက်အခန်း**
		စံသတ်မှတ်ချက်များနှင့် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုဆိုင်ရာ လမ်းညွှန်ချက်များ	
စီမံကိန်းအကြောင်းအရာ ဖော်ပြချက်	၃	➢ စီမံကိန်း၏ တည်နေရာ၊ တည်နေရာပြမြေပုံများ၊ စီမံကိန်းလုပ်ငန်းဆောင်ရွက်ပုံအဆင့်ဆင့်၊ စက်ရုံတွင် အသုံးပြုသည့် အရင်းအမြစ်များ၊ စီမံကိန်းမှ ထွက်ရှိသည့် စွန့်ပစ်ပစ္စည်းများအား အသေးစိတ် ဖော်ပြထား ရှိပါသည်။	အခန်း (၃)
ပတ်ဝန်းကျင်အရည်အသွေး တိုင်းတာမှု	၄	➢ အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅) နှင့် နိုင်ငံတကာ ပတ်ဝန်းကျင်ဆိုင်ရာ စံသက်မှတ်ချက်များနှင့် ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုဆိုင်ရာ လမ်းညွှန်ချက်များကို အခြေခံ၍ လေ့လာ တိုင်းတာထားပါသည်။	အခန်း (၄)
ရှုပဝန်းကျင်ဆိုင်ရာ အချက်အလက်များ	၄.၁	➢ စီမံကိန်းနှင့် သက်ဆိုင်သည့် ရှုပဝန်းကျင်ဆိုင်ရာ အချက်အလက်များအား Secondary Data ဖြင့် ဆန်းစစ်ဖော်ပြထားပါသည်။	အပိုဒ် (၄.၂)
ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး တိုင်းတာမှုများ	၄.၂	➢ စီမံကိန်းဧရိယာအတွင်း တိုင်းတာထားရှိခဲ့သည့် ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေးများအား ဆန်းစစ်ဖော်ပြထားပါသည်။	အပိုဒ် (၄.၃)
လေအရည်အသွေး	၄.၃	➢ အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅) ၏ ထုတ်လွှတ်အခိုးအငွေ့ (Air emissions) လမ်းညွှန်သတ်မှတ်ချက်ဖြင့် နှိုင်းယှဉ် ဖော်ပြထားပါသည်။	အပိုဒ်ခွဲ (၄.၃.၁)

ကတိကဝတ်၏ အတိုချုပ်အမည်	**အမှတ် စဉ်**	**ကတိကဝတ်အားရှင်းလင်းဖော်ပြချက်**	**အစီရင်ခံစာပါရည်ညွှန်းချက်အခန်း**
ဆူညံသံ	၄.၄	➢ အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅) ၏ အမြင့်ဆုံးလက်ခံနိုင်သည့် ဆူညံသံအဆင့် (Noise level) လမ်းညွှန်သက်မှတ်ချက် စီမံကိန်း ဧရိယာတွင် (70 One-hour LAeq (dBA)) ဖြင့် နှိုင်းယှဉ် ဖော်ပြထားပါသည်။	အပိုဒ်ခွဲ (၄.၃.၂)
ရေအရည်အသွေး	၄.၅	➢ အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန် ချက် (၂၀၁၅)၊ WHO Drinking Water Quality Standard တို့ဖြင့် စီမံကိန်း၏ စွန့်ထုတ်ရေ အရည်အသွေး၊ မြစ်ရေအရည်အသွေး နှင့် မြေအောက်ရေအရည်အသွေးတို့အား တိုင်းတာဖော်ပြထားပါသည်။	အပိုဒ်ခွဲ (၄.၃.၃)
ဘွိုင်လာမီးခိုး အရည်အသွေး	၄.၆	➢ Occupational Safety and Health Administration ၏ Stack Emission Guidelines ကို အသုံးပြု၍ တိုင်းတာဖော်ပြထားပါသည်။	အပိုဒ်ခွဲ (၄.၃.၄)
အနှံ့ထွက်ရှိမှု	၄.၇	➢ စီမံကိန်းဧရိယာအတွင်း အနှံ့ထွက်ရှိမှု အခြေအနေအား အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅) ဖြင့် နှိုင်းယှဉ်၍ တိုင်းတာဆန်းစစ် ဖော်ပြထားပါသည်။	အပိုဒ်ခွဲ (၄.၃.၅)
လူမှုစီးပွားဆိုင်ရာ အချက်အလက်များ	၄.၈	➢ စီမံကိန်းတည်ရှိရာ ဧရာဝတီတိုင်းဒေသကြီး၊ ဖျာပုံခရိုင်၊ ဘိုကလေးမြို့နယ် ၏ လူမှုစီးပွားဆိုင်ရာ အချက်အလက်များအား အထွေထွေအုပ်ချုပ်ရေးဦးစီးဌာနမှ ရယူ၍ Secondary Data ဖြင့် ဖော်ပြထားပါသည်။	အပိုဒ် (၄.၄)

ကတိကဝတ်၏ အတိုချုပ်အမည်	**အမှတ် စဉ်**	**ကတိကဝတ်အားရှင်းလင်းဖော်ပြချက်**	**အစီရင်ခံစာပါရည်ညွှန်းချက်အခန်း**
ဇီဝဝန်းကျင်ဆိုင်ရာ အချက်အလက်များ	၄.၉	➢ စီမံကိန်းတည်ရှိရာ ဧရာဝတီတိုင်းဒေသကြီး၊ ဖျာပုံခရိုင်၊ ဘိုကလေး မြို့နယ် ၏ လူမှုစီးပွားဆိုင်ရာ အချက်အလက်များအား အထွေထွေ အုပ်ချုပ်ရေးဦးစီးဌာနမှ ရယူ၍ Secondary Data ဖြင့် ဖော်ပြထားပါသည်။	အပိုဒ် (၄.၅)
ယဉ်ကျေးမှု နှင့် ပသာဒအလှ အပဆိုင်ရာ အချက်အလက်များ	၄.၁၀	➢ စီမံကိန်းဝန်းကျင်ရှိ ယဉ်ကျေးမှုနှင့် ပသာဒအလှအပဆိုင်ရာ အချက်အလက်များအား အထွေထွေအုပ်ချုပ်ရေးဦးစီးဌာနမှ ရယူ၍ Secondary Data ဖြင့် ဖော်ပြထားပါသည်။	အပိုဒ် (၄.၆)
ဘေးအန္တရာယ်ရှိမှုဆန်းစစ်ခြင်းနှင့် လျော့နည်းစေရေး အစီအစဉ်	၅	➢ စီမံကိန်းကြောင့် ပတ်ဝန်းကျင်နှင့် လူမှုစီးပွားအပေါ် ဖြစ်ပေါ်နိုင်သော အကျိုး သက်ရောက်မှုများကို လေ့လာ ဆန်းစစ်၍ လျော့နည်းစေရေး အစီအစဉ်များအား ဖော်ပြထားပြီး လိုက်နာ ဆောင်ရွက်သွားမည် ဖြစ်ပါသည်။	အခန်း (၅)
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု	၆	➢ Marine Acary Production Company Limited သည် စက်ရုံအခြေအနေ၊ အလုပ်သမား၊ ဒေသခံလူထုအမြင်၊ အစု ရှယ်ယာ ဝင်များ/ဒေသခံပြည်သူများ နှင့် ညှိနှိုင်းဆွေးနွေးခြင်း အပါအဝင် ပတ်ဝန်းကျင်စီမံခန့်ခွဲခြင်းနှင့် ပတ်ဝန်းကျင် ဆိုင်ရာ စောင့်ကြပ်ကြည့်ရှုခြင်းများကို ဆောင်ရွက်သွားမည် ဖြစ်ပါသည်။ ၁. လေထုညစ်ညမ်းမှုဆိုင်ရာ စီမံခန့်ခွဲမှု ၂. ဆူညံသံထွက်ရှိမှု ဆိုင်ရာ စီမံခန့်ခွဲမှု	အခန်း(၆) အပိုဒ် (၆.၃)

ကတိကဝတ်၏ အတိုချုပ်အမည်	အမှတ် စဉ်	ကတိကဝတ်အားရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါရည်ညွှန်းချက်အခန်း
		၃. ရေသုံးစွဲမှုဆိုင်ရာ စီမံခန့်ခွဲမှု ၄. အဓိုင်အခဲစွန့်ပစ်ပစ္စည်းဆိုင်ရာ စီမံခန့်ခွဲမှု ၅. အရည်စွန့်ပစ်ပစ္စည်းဆိုင်ရာ စီမံခန့်ခွဲမှု ၆. အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းဆိုင်ရာ စီမံခန့်ခွဲမှု ၇. မီးဘေးအန္တရာယ်ဆိုင်ရာ စီမံခန့်ခွဲမှု ၈. လုပ်ငန်းခွင် ကျန်းမာရေးနှင့် လုံခြုံရေးဆိုင်ရာ စီမံခန့်ခွဲမှု ၉. စွမ်းအင်သုံးစွဲမှုဆိုင်ရာ စီမံခန့်ခွဲမှု ၁၀. အရေးပေါ်တုံ့ပြန်ရေးဆိုင်ရာ စီမံခန့်ခွဲမှု ၁၁. သဘာဝဘေးအန္တရာယ်ဆိုင်ရာ စီမံခန့်ခွဲမှု	
ပတ်ဝန်းကျင်ဆိုင်ရာ စောင့်ကြပ်ကြည့်ရှုမှု	၆.၁	➢ စီမံကိန်းသည် ပတ်ဝန်းကျင်ဆိုင်ရာ စောင့်ကြပ်ကြည့်ရှုမှု အစီရင်ခံစာအား EMP အစီရင်ခံစာ အတည်ပြုပြီးပါက ပတ်ဝန်းကျင် ထိန်းသိမ်းရေးဦးစီးဌာနသို့ (၆)လ တစ်ကြိမ် တင်ပြ ဆောင်ရွက်သွားမည် ဖြစ်ပါသည်။	အပိုဒ် (၆.၄)
ပတ်ဝန်းကျင်ဆိုင်ရာ စောင့်ကြပ်ကြည့်ရှုမှု အချိန်ဇယားနှင့် အစီရင်ခံတင်ပြမည့်အစီအစဉ်	၆.၂	➢ ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှု အစီအစဉ်ပါ အစီအစဉ်များအတိုင်း စောင့်ကြပ်ကြည့်ရှုသွားမည့် နေရာများ၊ GPS Location Point များ၊ ကုန်ကျစရိတ်များ၊ တာဝန်ယူဆောင်ရွက်သွားမည့် အဖွဲ့အစည်းအား ဖော်ပြထားရှိပါသည်။	ဇယား (၆-၂)

ကတိကဝတ်၏ အတိုချုပ်အမည်	**အမှတ် စဉ်**	**ကတိကဝတ်အားရှင်းလင်းဖော်ပြချက်**	**အစီရင်ခံစာပါရည်ညွှန်းချက်အခန်း**
ပတ်ဝန်းကျင်ဆိုင်ရာစီမံခန့်ခွဲမှုနှင့် စောင့်ကြပ်ကြည့်ရှုမှုအတွက် ကုန်ကျစရိတ်	၆.၃	➢ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုနှင့် စောင့်ကြပ်ကြည့်ရှုမှုအတွက် ခန့်မှန်းကုန်ကျစရိတ်များအား ဖော်ပြထားရှိပါသည်။	ဇယား (၆-၃)
စွမ်းဆောင်ရည်မြှင့်တင်ခြင်းနှင့် သင်တန်းပို့ချခြင်း အစီအစဉ်	၆.၄	➢ ဝန်ထမ်းများအား သဘာဝဘေးအန္တရာယ် အရေးပေါ်အခြေအနေ၊ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့် လုံခြုံရေးအခြေအနေ၊ မီးဘေးအန္တရာယ်များ ဖြစ်ပေါ်လာပါက ထိန်းချုပ်ဖြေရှင်းနိုင်ရန် လိုအပ်သည့် သင်တန်းများ ပို့ချဆောင်ရွက်သွားမည် ဖြစ်ပါသည်။	အပိုဒ် (၆.၅)
မကျေနပ်မှုများဆိုင်ရာ ဖြေရှင်းမှုနည်းလမ်း	၆.၅	➢ ဒေသခံပြည်သူများ၏ စီမံကိန်းနှင့် ပတ်သက်၍ မကျေနပ်မှုများ၊ ပြဿနာများ အား ဖြေရှင်းရန်အတွက် စက်ရုံ၏ ကော်မတီ၊ အစိုးရဌာန၊ ရပ်ရွာတာဝန်ရှိသူများနှင့် ပူးပေါင်းဖြေရှင်းသွားပါမည်။	အပိုဒ် (၆.၆)
လူမှုအကျိုးတူပူးပေါင်းဆောင်ရွက်မှု	၁၀	➢ လူထုအကျိုးပြုဆောင်ရွက်ချက်များကို လူနေမှုအဆင့်အတန်း မြင့်မားစေရန် နှင့် စီမံကိန်းဇရိယာရှိ လူနေမှုအသိုင်းအဝိုင်းများ အားလုံးနှင့် အဆင်ပြေစေရန် ရည်ရွယ်ပါသည်။ Marine Acary Production Company Limited ၏ လူထုအကျိုးပြု ဆောင်ရွက်ချက်များအနေဖြင့် ဒေသအတွင်း ဖွံ့ဖြိုးတိုးတက်ရေးအတွက် အထောက်အပံ့များ ကူညီဆောင်ရွက်ခြင်းနှင့် ဝန်ထမ်းများနှင့် ၎င်းတို့၏ မိသားစုများအတွက်	အပိုဒ် (၆.၇)

ကတိကဝတ်၏ အတိုချုပ်အမည်	အမှတ် စဉ်	ကတိကဝတ်အားရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါရည်ညွှန်းချက်အခန်း
		ကျန်းမာရေး ကူညီစောင့်ရှောက်မှု ထားရှိပေးခြင်းများ ဆောင်ရွက်သွားမည်ဖြစ်ပါသည်။	
အများပြည်သူနှင့် တွေ့ဆုံဆွေးနွေး ခြင်း	၁၁	➢ အများပြည်သူနှင့် တွေ့ဆုံဆွေးနွေးခြင်း အစီအစဉ်တွင် Marine Acary Production Company Limited ၏ EMP အစီရင်ခံစာအား ရှင်းလင်းတင်ပြခြင်းဖြစ်သည်။ ၂၀၂၃ ခုနှစ် ဩဂုတ်လ ၂၀ ရက်နေ့တွင် ဘိုကလေးမြို့နယ်၊ ကဒုံကနိကျေးရွာအုပ်စုရှိ Marine Acary Production Company Limited ၏ အစည်းအဝေး ခန်းမတွင် အများပြည်သူနှင့်တွေ့ဆုံဆွေးနွေးပွဲ ကျင်းပခဲ့ပြီး ဆွေးနွေးတင်ပြလာသည့် အကြံပြုချက်များအတိုင်း အကောင်အထည်ဖော် လိုက်နာဆောင်ရွက်သွားမည် ဖြစ်ပါသည်။	အခန်း (၇)
နိဂုံးနှင့် အကြံပြုချက်	၁၂	➢ Marine Acary Production Company Limited သည် ငါးအမှုန့်ကြိတ်စက်ရုံ (တိရစ္ဆာန်အစားအစာ) နှင့် ရေခဲထုတ်လုပ်ခြင်း လုပ်ငန်း ဖြစ်ပါသည်။ စီမံကိန်းမှရရှိသော အကျိုးအမြတ်၏ ၂% ကို CSR အစီအစဉ်ဖြင့် ဒေသအကျိုးပြုလုပ်ငန်းများနှင့် ဝန်ထမ်းများ၏ ကျန်းမာရေးဆိုင်ရာ ကူညီထောက်ပံ့ခြင်းများတွင် အသုံးပြုသွားမည် ဖြစ်ပါသည်။ စီမံကိန်း လည်ပတ်နေစဉ် နှင့် ပိတ်သိမ်းမည့် ကာလအတွက် နေ့စဉ်၊ လစဉ်၊ နှစ်စဉ် ရေးဆွဲမည့် အစီအစဉ်များအား	အခန်း(၈)

ကတိကဝတ်၏ အတိုချုပ်အမည်	အမှတ် စဉ်	ကတိကဝတ်အားရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါရည်ညွှန်းချက်အခန်း
		ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုဆိုင်ရာ ဥပဒေ၊ နည်းဥပဒေ၊ စည်းမျဉ်း၊ စည်းကမ်းများ၊ လုပ်ထုံးလုပ်နည်းများနှင့်အညီ ရေးဆွဲသွားမည် ဖြစ်ပါသည်။	

Managing Director
Marine Acary Production Co., Ltd.