CHAPTER SEVEN

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

7.0 MANAGEMENT PLAN

The Management Plan identifies strategies and approaches for managing the proposed project and associated impacts related to:

- Environmental and Social;
- Occupational Health and Safety concerns.

The management plans defines the guidelines, strategies and procedures for managing the significant, possible, potential and associated environmental and social impacts of the proposed project. The identified key environmental and socio-economic aspects and mitigation measures associated with the project are the basis for the management plan. The plan has been defined in accordance with the analyses carried out in the previous chapters of this Environmental and Social Impact Assessment report (ESIA).

This plan is aimed at:

- Providing an initial analysis for the subsequent adoption of an Environmental and Social Management System (ESMS) in accordance with the IFC Performance Standard 1.
- This plan also aims to provide guidelines for the follow up programs to be carried out by the proponent to assess the effectiveness of procedures laid out to after implementation of ESMS for both construction and operation.
- Identifying priorities of the actions needed to implement mitigation/compensation measures necessary to manage the impact and risks identified in the Assessment (see the Action Plan reported in appendix 7.4).

IEFCL has developed and implemented a comprehensive regime for management of the Safety, Health, Environment and Social issues. The concept of sustainable development, which covers economic development, environmental protection and social responsibility, is clearly illustrated in the QHSE policy presented in appendix 7.5 of this document.

The ESMS adopted at IEFCL is based on the best practices adopted in same kind of industries globally. The systems and procedures practiced at IEFCL are in line with globally accepted international standards, like ISO 14001, OHSAS 18001 etc. The IEFCL-Train2 project is an expansion of IEFCL-Train1, the same systems and procedures will be extended to new plants. As needed, updates, will be made to existing systems and procedures.

The following sections applying what constitutes the Project Team, the manpower distribution and responsibilities of the various units within the Project Team during the construction and operation phases of IEFCL-Train2 Project.

IEFCL's Management Team

The management team is headed by a Project Director under whom the following teams for both during construction and operation phases are organized:

1. Project Team responsible for the design, engineering, construction & commissioning activities
2. Operations team who will carry out the day to day operations of the Ammonia, Urea & Utilities and Off-sites facilities
3. EHS Team responsible to carry out the environment, occupational health & safety related activities during construction and operation phases.
4. Community relations & Industrial relations department to carry out the social functions during construction and operation phases.

Each team as mentioned above are adequately staffed with equipped with enough resources. Indorama Eleme Fertilizers and Chemicals shall enjoy the synergy of its existing departments in EHS & Community relations function since the IEFCL-Train 2 project is being co-located at the existing Indorama manufacturing complex.

The current strength to manage the above functions include a total of approximately 101 well experienced professionals as described below:

1. Current project team consists of 21 personnel. At peak, the project organization shall grow to about 45 personnel. The project team consist of qualified and well experienced professionals in civil, mechanical, electrical & instrument engineering disciplines.
2. The current operations team consist of more than 200 personnel engaged in the operations of IEFCL-Train 1. After about two years, in to construction of IEFCL-Train2, relevant additional personnel will have been trained to take over operations of IEFCL-Train2. The operations mainly consist of qualified and well experienced professionals in the chemical engineering discipline.
3. The current EHS team on site consists of about 68 personnel made of Environmental Engineers, Doctors/Nurses, Medical Professionals, Fire Processionals, Process and Construction Safety Processionals and Technician working together, sharing knowledge for the realization of the management plan objectives.
4. The community & industrial relations team consist of more than 12 personnel made up of community and industrial officers, social scientists and management processionals.

Through the above adequately staffed teams, IEFCL intend to implement ESMS procedures according to the environmental, social, occupational health and safety policies of the company through applicable E&S requirements.

Functions of Project & EHS Team during construction

Besides managing the project and ensuring that the manufacturing facilities are designed and constructed in a safe manner, the Project & EHS teams shall also be responsible for monitoring the compliance between the project activities and the ESMS procedures. The EHS team will carry out following functions, which will be reviewed regularly with Project Management Team:

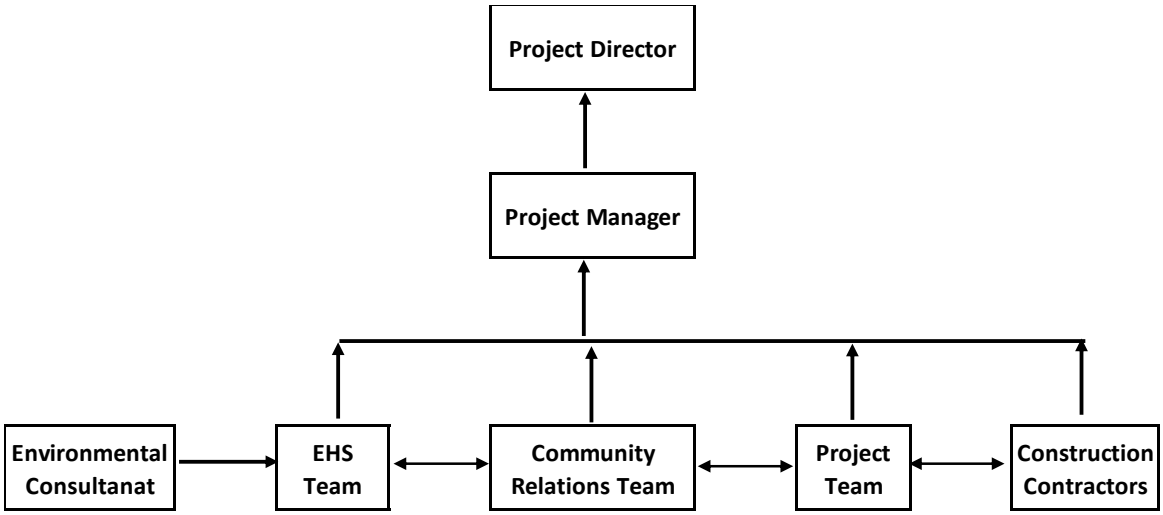
- Compile quarterly environmental monitoring reports and submit same to Project Management Office, FMEnv and relevant authorities.
- Compile quarterly reports of construction activities as it relates to health and Safety statistics and sent to Project Management Office.

- Verify compliance status of construction activities.
- Daily site inspection.
- Take on the spot decisions to rectify minor problems on site
- Oversee contractors supervising consultants
- Ensure healthy relations between the company, community and government regulatory agencies
- Manage the training and awareness programs

In pursuance of above objectives, IEFCL will strive to be an equal opportunity employer through the active cooperation of the community relations department.

Project Construction Management

As part of the company's efforts to ensure highest level of quality control, about 30 well experienced constructions professionals in each discipline including environmental engineering and construction safety shall be mobilized at site. This team shall work alongside the Project & EHS team as their extended arm to realize the project objectives.



Construction Supervision

It is mandatory for all IEFCL contractors to deploy environmental and safety engineers/officers as part of their scope of services to ensure that each activity is monitored and controlled at the very first level itself. These engineers/officers will monitor site activities, verify the implementation of ESMS management plan as per IEFCL specifications, arrange for the monitoring of social, occupational health, safety and

environmental conditions as per the monitoring Plan and also prepare the monitoring reports to be submitted to the project manager.

The Environmental and Safety Engineer(s)/officer(s) duties shall include:

- Oversee construction and maintenance activities at the project sites.
- Measure and verification for environmental and safety performances.

Environment Consultants

IEFCL will be deploying a reputed third party environmental consulting outfit to audit all aspects of environment management including the monitoring of any form of pollution of the environment. This outfit shall be used to provide independent reports to IEFCL management as a quality assurance check. IEFCL considers the services by Environmental Consultant as critical element in the EHS management plan.

Functions of Project & EHS Team during Operation

After the completion of construction, the Project team will take over the charge of operations. The respective discipline Lead will be the Section Head of that discipline i.e. Lead-Ammonia will be Section Head for Ammonia, Lead-Urea will be Section Head of Urea Plant, and so on. The Lead-EHS will be take over the charge of EHS functions for IEFCL-Train2 operations. The functions and responsibilities of Section Heads defined in IEFCL-Train1 operations shall be adopted in IEFCL-Train2 operations.

7.1 ENVIRONMENTAL MANAGEMENT PLAN

Introduction

The Environmental and Social Management Plan (ESMP) identifies policies and approaches for managing the potential environmental impacts associated with the project and also ensure the compliance of the applicable international and national environmental regulatory standards and guidelines.

The overall objective of EMP is to prevent and ensure the progressive reduction of the impact of any project activity on the environment. This objective shall be achieved through a combination of:

- Appointing adequately trained E&S staff responsible for implementation of ESMP;
- Ensuring periodic EHS training of construction personnel;
- Establishing an Environmental Capacity Building Program;
- Developing and Implementing an Environmental Monitoring Program;
- Establishing an Environmental Audit Program;
- Implementing an Energy Conservation Program;
- Implementing a Leak Detection and Repair Program;
- Implementing a Risk Management Plan for Contaminated resources;
- Implementing a Hazardous Materials Management Plan;
- Implementing a Waste Management Program;
- Implementing a Traffic Management Plan;
- Implementing a Decommissioning and Closure Plan.

7.1.1 Environmental Capacity Building Program

Training and awareness are the key aspects to be considered in the establishment of a capacity building program. The training program will implemented by IEFCL through technical assistance with project management training specialists.

Training Needs

The IEFCL Managers (Project team members) & the personnel of the Construction Contractor shall be trained on environmental issues by project management training

specialists. Training needs of target groups shall be prepared in advance to ensure the success of the training program.

Target Groups for Training

All members of the project team, staff of the construction contractors directly responsible for delivery of collaborating services, shall be trained and retrained as primary target groups. They are divided into the following target groups:

- For Line Managers – Specific training in ESMP implementation, environmental safety and environmental regulations.
- Construction Supervisors - Training in construction environmental and safety requirements, methods and equipments of construction.
- Senior staff - Understanding of the environmental policies and awareness programs.

Training Program

The program will consist of a several training modules specific to target groups.

The training will cover the basic principles and postulates of environmental assessment, mitigation plans and programs (Operational Guidelines and National Policy Perspectives), implementation techniques, monitoring and management.

Considering into the potential requirements of each of the target groups, several training modules are suggested below:

- **Module I:** Environmental Overview
- **Module II:** Environmental Regulations and Acts
- **Module III:** Pollution Prevention
- **Module IV:** Environmental Impact Assessment
- **Module V:** Environmental Management System
- **Module VI:** Mobilization and Environmental Issues
- **Module VII:** Environmental Issues in the Project

- **Module VIII:** The Environmental Management Plan for construction Projects
- **Module IX:** Environmentally Sound Construction Management
- **Module X:** Long Term Environmental Management Issues

The training modules are combined into different training components. There are overlaps in the composition of the target groups and the constitution of the training components.

However, each training module would be developed keeping in view the composition and responsibilities of the target group members. Other components may be imparted throughout the implementation period and held in the initial months of project implementation, preferably on site.

The company EHS team will prepare a detailed training program schedule indicating target audience, specific modules and delivery times.

The following tools are expected for the implementation of environmental training programme:

- Informal Training Sessions;
- Audio-Visual Communications;
- Case Studies;
- Lecture Sessions;
- Workshops;
- Group Discussions;
- Short-Term Training Courses;
- Seminars;
- Additional Training Modules;
- Full-term Training Courses.

7.1.2 Monitoring Program

The environmental monitoring plan is designed to confirm that the applicable international and national environmental regulatory standards and guidelines shall be complied with. IEFCL shall comply with National regulatory controls as well as

internationally agreed requirements (i.e. IFC Performance Standards) by establishing an ecological, environmental, health and safety monitoring program that shall cover the entire project development phase (i.e. pre-Construction through operation phases including decommissioning phase). This program will help to generate information on the impacts, which, in comparison with predicted impacts, will forewarn any adverse variation in the ecological components. Once the construction phase is completed the environmental monitoring program shall be made to form part of the existing monitoring plan for IEFCL-Train1. The environmental components to be monitored shall include but not limited to:

- Land Use;
- Climate;
- Vegetation/Wildlife;
- Hydrobiology;
- Noise;
- Stack Emissions;
- Ambient Air Quality/Odor (ground level pollutants concentration);
- Surface Water;
- Sediment
- Groundwater;
- Treated Waste Water;
- Workplace monitoring conditions (i.e. noise, dust, vapors)

7.1.2.1 Performance Indicators

The following Table 7.1 shows the physical, biological, workplace and social components identified as significant for the environmental assessment. For each component, specific key performance indicator to be monitored at critical locations have been identified. The specific corresponding standard values for monitor parameters in the relevant environmental components are list in chapter 4 in table 4.3.1 (Ambient Air Quality), table 4.3.4 & 4.3.5 (Stack emissions), table 4.7.1 & 4.7.4 (Surface water and treated effluent) and table 4.6.2 (Ground water).

Table 7.1: Monitoring Plan for the IEFCL-Train2

Environmental Components	**Indicator Parameters**	**Frequency[1]**	**Location**	**Responsibility**	**Remarks/ Responsible Regulatory Agency**
Treated Waste water-2	• PH , Ammonia	• Daily	• Plant level from fertilizer plant	• IEFCL QAQC	• Quarterly report to NESREA, FMEnv & RSMENV
Treated Waste water -3	• PH , Ammonia	• Daily	• Plant level entire fertilizer facility	• IEFCL QAQC	• Quarterly report to NESREA, FMEnv & RSMENV
Treated Waste water -1	• pH, BOD, COD, Heavy metals, TSS, TDS, Oil and grease, NH_3 , Chloride, etc. as it relates to Fertilizer production specified in FMENV 1991	• Monthly	• Complex discharge point	• Third Party (Environmental Consultants)	• Quarterly report to NESREA, FMEnv & RSMENV

[1]The duration of all environmental components monitoring will continue through the life cycle of the project.

Environmental Components	**Indicator Parameters**	**Frequency[1]**	**Location**	**Responsibility**	**Remarks/ Responsible Regulatory Agency**
Air Quality (ground level pollutants concentration)	• NH3 • $SPM/PM_{10}/PM_{2.5}$ • NOx • SOx • CO • Noise	• Monthly	• Plant site and selected community based stations (total 4 no.)	• IEFCL Environment Department • Third Party (Environmental Consultants)	• Quarterly report to NESREA, FMEnv & RSMENV
Surface Water Quality	• Dissolved Oxygen • Nutrient Content • Ammonia • Nitrate • PH • Biological Oxygen Demand (BOD) • Chemical Oxygen Demand (COD) • Heavy metals concentration • Oil and grease	• Monthly	• Surface water along Okulu stream upstream and downstream, Indorama complex discharge outfall	• IEFCL Environment Department • Third Party (Environmental Consultants)	• Quarterly report to NESREA, FMEnv & RSMENV

Environmental Components	Indicator Parameters	Frequency[1]	Location	Responsibility	Remarks/ Responsible Regulatory Agency
Stack emission	• SOx; • NOx; • PM; • NH3;	• Quarterly	Point sources: • Boiler stack: NOx, SOx; • Reformer stack: NOx, SOx • Granulator stacks: PM, NH_3	• Third Party (Environmental Consultants)	• Quarterly report to NESREA, FMEnv & RSMENV
Land Use	• Waste production	• Yearly	• Project site	• Third Party (Environmental Consultants)	• Quarterly report to NESREA, FMEnv & RSMENV
Climate	• Macro/micro climatic data	• Yearly	• Within project site	• Third Party (Environmental Consultants)	• Quarterly report to NESREA, FMEnv & RSMENV
Vegetation/wildlife	• Record of vegetation / wildlife status i.e. common species, dynamic species and endangered species	• Yearly	• Around the project site	• Third Party (Environmental Consultants)	• Quarterly report to NESREA, FMEnv & RSMENV

Environmental Components	Indicator Parameters	Frequency[1]	Location	Responsibility	Remarks/ Responsible Regulatory Agency
Ground Water Quality	• Ammonia • Nitrate • pH • Biological Oxygen Demand (BOD) • Heavy metals concentration • Chemical Oxygen Demand (COD) • Oil and Grease • Consumption	• Yearly	• At least two (2) bore holes strategically located will be used as monitoring wells.	• IEFCL Environment Department • Third Party (Environmental Consultants)	• Yearly report to FMEnv, RSMENV & NESREA
Sediment Quality	• pH • Heavy metals concentration • TPH	• Yearly	• Along Okulu stream Upstream, downstream and outfall	• IEFCL Environment Department • Third Party (Environmental Consultants)	• Yearly report to FMEnv, RSMENV & NESREA
Hydrobiology	• Diversity and abundance of organisms (benthos, fish, plankton)	• Yearly	• Surface water along Okulu stream upstream, downstream and outfall	• IEFCL Environment Department • Third Party (Environmental Consultants)	• Yearly report to FMEnv, RSMENV & NESREA

Environmental Components	Indicator Parameters	Frequency[1]	Location	Responsibility	Remarks/ Responsible Regulatory Agency
Workplace Monitoring	• Noise • Dust • Vapors	• Quarterly	• In-plant area	• IEFCL Environment Department • Third Party (Environmental Consultants)	• Yearly report to FMEnv, RSMENV & NESREA
Workers Grievances	• Workers complaints	• Monthly	• Project Sites	• IEFCL HR/IR Department	• IEFCL will monitor the grievance redressal report
Socio-economics and Community Health	• Population • Health status • Infrastructural and Community Development and Assisted Projects • Number of Employed youths from the communities. • Community Grievances • Community engagement meetings	• Yearly • Quarterly • Quarterly	• Host Communities • Host Communities • Host Communities	• IEFCL Community Relation Department and Public Affairs Unit • Third Party (Environmental & Socio-economic Consultants)	• IEFCL will regularly hold stakeholders Forum with the representatives of the communities

Environmental Components	Indicator Parameters	Frequency[1]	Location	Responsibility	Remarks/ Responsible Regulatory Agency
DECOMMISSIONING					
All affected Environmental Components	• All agreed parameters	--	--	• IEFCL Environmental Department	• Decommissioning &Closure plan will be executed after successful discussion with all affected Regulatory Agency

7.1.2.2 Environmental Monitoring Reporting System

Monitoring involves periodic checking to ascertain whether activities are going on according to the plans and the in accordance with Key Performance Indicators laid out by regulatory agencies.

There will be the following important aspects of reporting which are under the responsibility of the Project EHS Lead and IEFCL Environmental Consultants:

- Reporting on progress;
- Environmental compliance monitoring.

The reporting system will operate linearly with the Contractor (which is at the lowest rung of the implementation system) reporting to the Project Manager, which reviews the reports with the Project EHS Lead that finally reports to the Project Director. The environmental compliance monitoring performed by IEFCL Environmental Consultants and by in-house EHS team and the progress reports on environmental components will be clubbed together and submitted to the FMENV/RSMENV quarterly during the implementation period. In addition, during construction, IEFCL will submit quarterly E&S monitoring reports to IFC. After construction will submit E&S monitoring report twice a year during first year of operation and their after annually.

Photographic records as monitoring tools shall also be established to provide useful environmental information. A full record shall be kept as part of normal contract monitoring.

7.1.3 Audit Program

Environmental audit will be conducted on the project as called for by the relevant Regulators. This audit process shall be used to check the prediction in the ESIA and also to assess the environmental performance during the operational phase of the project. This will ensure that environmental protection and management procedures are reinforced.

The audit program shall:

- Examine compliance with regulatory requirements;
- Identify current and potential environment problems especially during the Operational phase of the project;
- Check the predictions in ESIA and assure implementations and application of recommended practices and procedures.

Indorama Eleme Fertilizer & Chemicals Limited shall produce an Environmental Audit Report (EAR), which shall be submitted to FMEnv and State Environmental Authorities.

7.1.4 Traffic Management Plan

Measures on transportation/traffic will be adopted to minimize the impact due to the mobilization of trucks and other vehicles for the construction and operation phases.

The following mitigation measures shall be taken into account for transportation management of heavy equipments, construction materials, products and personnel:

- Schedule large and slow moving vehicles during off peak periods
- Raise community awareness in case of transportation of equipment having over dimensional crate (ODC)
- Strictly enforce vehicle speed limits.
- Provide safety and environmental awareness training to Contractors/Company Drivers and conduct periodic assessments and monitoring.
- Restrict circulation of construction vehicles to approved access roads.
- Maintain vehicles to minimize emissions and fuel consumption.
- Place warning signs at road crossings and other appropriate locations as required.
- Establish temporary traffic control where necessary at road crossings and junctions.
- Establish Traffic wardens for monitoring and controlling of vehicle speed.

The IEPL and IEFCL facilities attract vehicles of different type on daily basis. On an average, about 400 vehicles come & leave the facility each day. The fertilizer expansion project IEFCL-Train2 will increase the present traffic flows. In view of this, the company conducted a traffic survey and developed traffic management plan. This plan is attached as Appendix 7.1 and shall be implemented including the above mentioned measures.

7.1.5 Energy Conservation Program

Energy conservation shall be the basis for project engineering. Energy conservation as part of design criteria shall be considered to effectively operate the plant on regular basis. This has tangible benefits in the long run.

An energy conservation program shall be adopted for the facilities (process and auxiliary) that consume energy in process, heating and cooling during operational phase

Common techniques/measures/procedures may be applied in accordance with the chapter 1.2 of the IFC general EHS Guidelines (April 30, 2007). Specifically on energy conservation in process heating, cooling and compressed air system.

7.1.6 Leak Detection and Repair program

Referring to the possible fugitive emission due to the operation of the Fertilizer plants, IEFCL shall implement a leak detection and repair (LDAR) program that controls fugitive emission by quarterly monitoring by operations engineers to detect leaks and respective engineering section to implement repairs when need arises. Established leak detection and repair (LDAR) program existing in IEFCL-Train1 will be adopted in IEFCL-Train2.

7.1.7 Risk Management Plan for Contaminated Land

IEFCL shall define the contents/indications to be developed/followed in case of land contamination due to anthropogenic releases of hazardous materials, wastes or oil, including naturally occurring substances. In such areas where oil is dispensed and where mechanical equipments repairs will takes place, dedicated catchment/secondary containments will be supplied and regularly collected in remarketed receptacles for reuse/recycling. IEFCL already has a hazardous waste management plan that tracks waste from “cradle to grave”. This analysis shall be considered for the identification of dedicated ESMS procedures according to IFC EHS guidelines (1.8 “Contaminated Lands”). Specifically the secondary containments shall be made available at oil and chemical storage area. Secondly during transportation suitable containers shall be provided to prevent land contamination in case of any incident lead to spillage.

7.1.8 Hazardous Materials Management plan

The Hazardous Materials Management Plan shall be consistent with Occupational Health and Safety Management plan, including:

- Written process safety parameters (i.e., hazards of the chemical substances, safety equipment specifications, safe operation ranges for temperature, pressure, and other applicable parameters, evaluation of the consequences of deviations, etc.);
- Written operating procedures;
- Compliance audit procedures.

Hazardous materials shall be stored within designated storage areas and using appropriate procedures (e.g. containment and bounding, impermeable surfaces, secure drainage, limited access, labeling).

A record shall be kept of all hazardous materials on-site. The Material Safety Data Sheets (MSDS) shall be maintained by EHS and Fire department and also safety precautions shall be displayed at storage site. The hazardous material shall be stored as per compatibility and potentially reactivity of the materials.

Personnel shall be trained in safe use & handling of hazardous materials. Spill response equipment (absorbents, etc.) will be available and emergency response training provided.

The above management/handling/storage procedures for hazardous materials management are in line and are specified by IFC EHS guidelines (1.5 Hazardous Materials Management). The details of hazardous materials management is included in IEFCL-Train1 safety case and shall be adopted for IEFCL-Train2.

7.1.9 Decommissioning and Closure Plan

The activities shall involve demolition and site clean-up, disposal of wastes, worker's exposure to workplace agents. Decommissioning activities and closure plan will commence only after the plan has been reviewed and approved by FMENV & State Environmental Authorities.

Any possible measure shall be taken to avoid negative impacts during decommissioning. IEFCL commits itself to restore the site back to as much as possible to the environmental conditions existing before the realization of the Fertilizer project.

7.1.10 Waste Management Program

Waste management programs for IEFCL-Train2 project shall be implemented to address all activities that have been identified to have potential significant impacts on the environment with respect to waste generation and disposal during construction, operation and decommissioning. Consequently, waste type to be generated during the construction, operation and decommissioning of this project has been classified into the following:

Domestic waste

These are waste generated from the daily operations of the offices and canteens within the facility. Composition of the waste will include the following:

- Paper
- Glass
- Plastics bottles
- Metal (off spec materials)
- Food residues
- Sanitary wastes

Hazardous waste

These are waste generated from the daily operations of the fuel dispensing area, lube oil service bay, and above ground storage containments within the facility. These categories of waste include solid/liquid substances or mixtures of substances capable of causing fire. Composition of waste will include:

- Used/spent oil
- Oil soaked cotton
- Spent catalyst

Waste Handling and Disposal

Domestic Waste Collection and Storage

The facility will be equipped with waste bins for the collection and segregation of the following categories of domestic waste:

- Biodegradables: food remnants
- Recyclables: metal articles, glass, papers etc.

Aspects to be considered in the selection of the waste bin types shall include:

- Hygiene (exclusion of insects, rodents and odor); which may be achievable through provision of adequate cover, and spraying of insecticides or microbial inoculums.
- Adequate capacity to forestall garbage spill;
- Weather resistance (impermeability);
- Convenience of use (color coding for ease of use), and
- Aesthetic acceptability

Domestic Waste Disposal

The domestic waste generated from the facility shall be disposed in the most pragmatic and environmentally acceptable manner. Domestic waste from the facility shall be finally disposed-

off at approved dump site by approved contractors. The options of recycling, reusing, or composting shall be considered at the dumpsite.

Hazardous Waste Collection and Disposal

The hazardous waste shall be collected in demarcated receptacles kept in safe and secured area. The collected hazardous waste shall be transported by a licensed waste disposal contractor, using an appropriate waste disposal vehicle. The final disposal of the waste shall be carried out at an approved waste disposal facility, after due treatment, to an environmentally acceptable level.

7.2 OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT PLAN

IEFCL will adopt an Occupational Health and Safety management plan which provides workers and vendors a safe and healthy work environment by the provision of first aid facilities and clinic, conveniences, good lighting, potable water supply, integrity (well insulated structures) of workplace structures as detailed in IFC EHS guidelines 2.0 Occupational health and Safety in order to protect their workers from occupational hazards/accidents/incidents.

A Communication and Training Programme to ensure that all the employees involved in the project receive training about Occupational Health and Safety (OHS) aspects, according to IFC, EHS guidelines 2.0 Occupational health and Safety will be put in place. The existing IEFCL Train1 Contingency/Emergency plan to ensure that all employees are capable of acting in an emergency so as to protect human life and property shall be periodically reviewed to accommodate the activities of IEFCL-Trains2.

Safety and emergency procedures shall be defined also for chemical hazards, directly referable to the operation of the new fertilizer plants (e.g. spills or leakage of hazardous substances).International codes to be considered for incorporation into the design, construction and maintenance of the proposed fertilizer plants and shall be in accordance with International Codes Council (ICC, 2006). The OHS shall include the Hazardous Materials Risk Management plan.

7.2.1 Hazardous Materials Risk Management Plan

In addition to the application of the above-referenced guidance on prevention and control of releases of hazardous materials, IEFCL shall implement a Hazardous Materials Risk Management Plan containing the following elements for handling, storage and use of hazardous materials:

- Management actions to be addressed;
- Use of appropriate PPEs
- MSDS of each chemical
- Proper house-keeping
- Preventive Measures to be taken;
- Emergency Preparedness and Response to be developed;
- Community involvement and Awareness in relation to potential hazards.

The objective is the prevention and control of the potential industrial risk.

IEFCL has developed an Occupational HSE Plan for construction phase. The same is included as appendix 7.6. All the occupational health and safety elements have been captured in this document and the same shall be shared with EPC contractor. The EPC contractor shall subscribe to this document and shall present their specific occupational HSE plan and procedures to IEFCL-Train2 Project team.

IEFCL has developed a Safety Case tailor made for IEFCL-Train2 operations. The data and back-up documents have been referenced from IEFCL-Train1 Safety Case, since IEFCL-Train2 Project is a replica of IEFCL-Train1 plants. This safety case shall be revised after receipt of detailed engineering drawings and data for IEFCL-Train2.

7.3 SOCIAL MANAGEMENT PLAN (SMP)

IEFCL will adopt a Social Management plan according to the Equator principles and the IFC Performance Standard 1.

According to the Equator Principle n. 5, the Proponent will assure the consultation and participation of affected parties in the implementation of the Project.

IEFCL has developed a Stakeholder Engagement Plan and it is included as Appendix 7.2. The implementation of Stakeholder Engagement Plan will encourage the participation of relevant Stakeholders in various project phase with ensuring the equally socio-economic development of communities. Where applicable, the Stakeholder Engagement Plan include differentiated measures to allow the effective participation of those identified as disadvantaged or vulnerable. Moreover, IEFCL has also developed an Influx management Plan, which is attached as appendix 7.3 in this document.

The Proponent shall provide Affected Communities with access to relevant information on: (i) the purpose, nature and scale of the project; (ii) the duration of proposed project activities; (iii) any risks to and potential impacts on such communities and relevant mitigation measures; (iv) the envisaged stakeholder engagement process and (v) the grievance mechanism to express their concern with respect to the project.

Social conditions of the host communities shall be monitored as previously indicated in Table 7.1 (Monitoring Plan).

SMP shall be fully implemented and establishment of community liaison team enforced to facilitate relationships with communities during the construction, operation and decommissioning phases.

7.4 SECURITY MANAGEMENT

The security will be assured by the existent dedicated security personnel. Their action will be monitored by the Proponent to assure that the possible use of force will be adopted according to the law. The detailed security management plan which is produced as standalone document for effective use and implementation is attached as appendix 7.7.

7.5 HUMAN RESOURCES

IEFCL operates human resource department that has a community relations unit. Consequently IEFCL has developed a high ethical standard for work conditions and relationship between management, staff and labour in strict compliance with IFC Performance Standard 2. A detailed employee handbook covering all areas of labour relationship developed and implemented for IEFCL-Train1 shall be adopt for IEFCL-Train2. The employee handbook is attached as appendix 7.8.