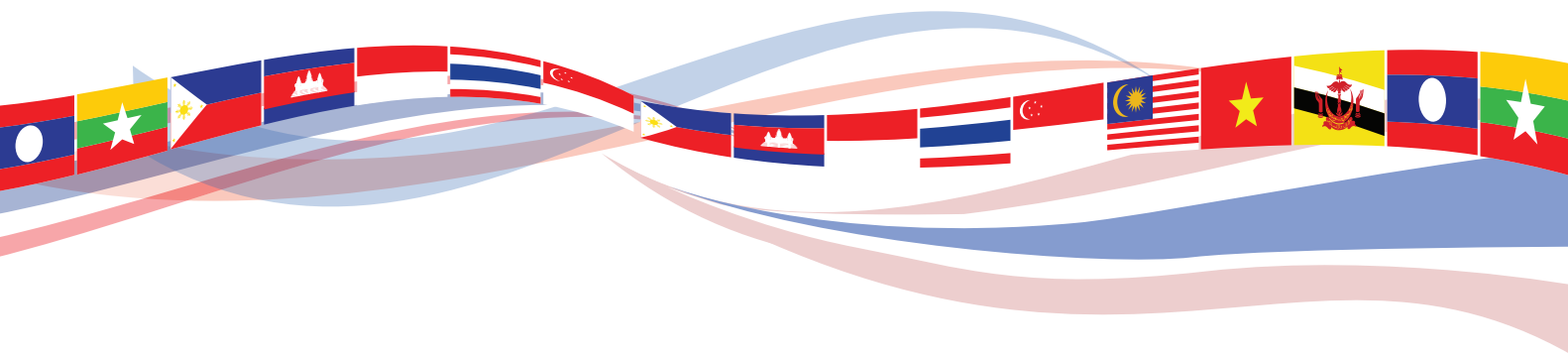


Environmental Impact Assessment (EIA) Guidelines for Business Project Development in ASEAN Economic Community (AEC)



Office of Natural Resources and Environmental Policy and Planning
Ministry of Natural Resources and Environment
and
PTT Public Company Limited

November 2018



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Preface



Environmental Impact Assessment (EIA) is the process of examining the anticipated direct and indirect environmental impacts of a proposed project or activity in order to determine appropriate mitigation measures and monitoring programs. It is a tool globally used for environmental management, especially in ASEAN countries. The main objective of EIA in Thailand, as in other countries, is to prevent environmental problems from major development projects in order to align development objectives with sustainable development goals.

The Office of Natural Resources and Environmental Policy and Planning (ONEP) is tasked with overseeing the EIA process in

Thailand. In this respect, and in connection with the move towards regional economic integration among ASEAN member countries, ONEP has recognized the importance of developing EIA Guidelines for Business Project Development in the ASEAN Economic Community (AEC). This guideline will support Thai Investors in AEC, and concurrently foreign investors in Thailand, to better understand EIA regulations in each ASEAN country. The guideline includes relevant information on types of activities requiring EIA, as well as EIA preparation and review process in each ASEAN country.

In our effort to develop this guideline, ONEP has partnered with PTT Public Company Limited. Therefore, I would like to take this opportunity to thank PTT Public Company Limited for their continued good cooperation. Finally, I hope that this guideline will be useful for relevant agencies, investors, and interested parties, and contribute to strengthening the knowledge of EIA systems in AEC countries.

Dr. Raweewan Bhuridej

Secretary- General

Office of Natural Resources and
Environmental Policy and Planning (ONEP)



PTT Public Company Limited (PTT) has 3P principle for sustainability; which are people, planet and prosperity. We believe that economic development could be done alongside environmental conservation, and Environmental Impact Assessment (EIA) is the tool. EIA is an assessment of the likely environmental consequences that might arise from development projects. It ensures that the potentially environmental impacts are minimized and environmental mitigation measures of any projects are taken into account throughout the development of the projects.

This EIA Guidelines for Business Project Development in ASEAN Economic Community (AEC) is successfully accomplished with collaboration

between the Office of Natural Resources and Environmental Policy and Planning (ONEP), Ministry of Natural Resources and Environment, and PTT. The Guidelines will provide a sustainable business development framework, procedure of EIA preparation, and EIA approval process for project types or activities that are legally required to undertake EIA in all ASEAN countries.

PTT wish that this guideline, which contains essential information of ASEAN's EIA rules and regulations would facilitate all investors who plan to invest in Thailand and other countries in ASEAN to implement their projects in compliance with EIA laws and regulations imposed in business development in each country successfully.

On behalf of PTT, I would like to express my sincere appreciation to Dr. Raweewan Bhuridej, Secretary General of ONEP, for granting PTT an opportunity to be one of the mechanisms to drive Thai National Strategy through the 1st EIA guidelines in ASEAN. Also, many thanks to dedicated teams from ONEP and PTT who worked days and nights, and brought together their knowledge and experiences in EIA conducting to draft and complete this 1st EIA guideline.

Chansin Treenuchagron

President and Chief Executive Officer
PTT Public Company Limited

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Executive Summary

ASEAN Economic Community (AEC), consisting of Thailand, Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, The Philippines, Singapore, and Vietnam, expected to implement economic integration initiatives to create a single market across ASEAN member countries. As part of the development and investment process, one of important tool for development decision is Environmental Impact Assessment (EIA), which has been legally established and applied in all ASEAN Member States for avoiding, mitigating, and managing social and environmental issues resulting from any significant development activity. Most ASEAN Countries require Environmental Impact Assessment (EIA), to be conducted, either AMDAL, EIA , EHIA ,EIS, EPP, ESIA, FEIA, IEE, IEIA, PCS, PEIA, QRA, UKL-UPL in order to ensure that potential impacts from the project are identified, assessed and mitigated in accordance with applicable standards and requirements. (Shown in **Figure of EIA System in ASEAN**)

Hence, Office of Natural Resources and Environmental Policy and Planning (ONEP), Ministry of Natural Resources and Environment (MONRE), has developed an **EIA Guidelines for Business Project Development in AEC** in order to support Thai investors in the AEC concurrently with foreign investors in Thailand. This EIA Guidelines will be an innovative tool to help persons whose roles are relevant to the project development understand the EIA regulatory frameworks and requirements of each country for comprehensive planning for business project development in order to reduce project risks and environmental impacts.

Note :

AMDAL	= Analisis Mengenai Dampak Lingkungan (Environmental Impact Assessment)
EIA	= Environmental Impact Assessment
EHIA	= Environmental Health Impact Assessment
EIS	= Environmental Impact Statement
EPP	= Environmental Protection Plan
ESIA	= Environmental and Social Impact Assessment
FEIA	= Full Environmental Impact Assessment
IEE	= Initial Environmental Evaluation
IEIA	= Initial Environmental Impact Assessment
PCS	= Pollution Control Study
PEIA	= Preliminary Environmental Impact Assessment
QRA	= Quantitative Risk Assessment
UKL-UPL	= Environmental Management and Monitoring Efforts

EIA System in ASEAN



Legislation: Enhancement and Conservation of National Environmental Quality Act (NEQA), 1992 and 2nd Edition, 2018
Regulator: Office of Natural Resources and Environmental Policy and Planning (ONEP), Ministry of Natural Resources and Environment

Legislation: Environmental Protection and Management Order, 2016
Regulator: Department of Environment, Parks and Recreation, Ministry of Development

Legislation: Law on Environmental Protection and Natural Resource Management, 1996
Regulator: Environmental Impact Assessment Department, Ministry of Environment

Legislation: Law No. 32 regarding Protection and Management of the Environment, 2009
Regulator: Ministry of Environment and Forestry

Legislation: Environmental Protection Law, 2012
Regulator: Ministry of Natural Resources and Environment

Legislation: Environmental Quality (Amendment) Act, 2012
Regulator: Department of Environment, Ministry of Energy, Science Technology, Environment & Climate Change

Legislation: Environmental Conservation Law, 2012
Regulator: Environmental Conservation Department, Ministry of Natural Resources and Environmental Conservation

Legislation: Presidential Decree (PD) 1151 Philippine Environment Policy, 1977
Regulator: Department of Environment and Natural Resources

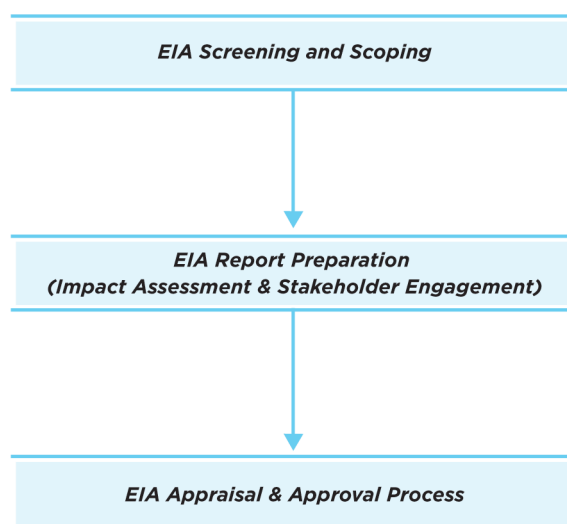
Legislation: Environmental Protection and Management Act (EPMA), 2002
Regulator: National Environment Agency

Legislation: Law on Environmental Protection (LEP), 2014
Regulator: Ministry of Natural Resources and Environment

AMDAL = Analisis Mengenai Dampak Lingkungan (Environmental Impact Assessment)	EPP = Environmental Protection Plan	PCS = Pollution Control Study
EIA = Environmental Impact Assessment	ESIA = Environmental and Social Impact Assessment	PEIA = Preliminary Environmental Impact Assessment
EHIA = Environmental Health Impact Assessment	FEIA = Full Environmental Impact Assessment	QRA = Quantitative Risk Assessment
EIS = Environmental Impact Statement	IEE = Initial Environmental Evaluation	UKL-UPL = Environmental Management and Monitoring Efforts
	IEIA = Initial Environmental Impact Assessment	

1. EIA Systems and Requirements in AEC

Most countries in AEC have adopted formal Environmental Impact Assessment (EIA) system for decision making to consider to environmental, social and health impacts before project proceeding. Except Singapore that it has only requirements on identification and assessment of specific environmental issues related to the project. In general, the EIA development processes for AEC can be summarized into key steps as following:



2. EIA Screening & Scoping

Screening is the process to determine whether EIA is required and which type of EIA report shall be prepared, taking into account the nature and scale of projects. The screening process is based on the lists of projects, activities and locations requiring the study in the relevant regulations of each country.

Scoping is undertaken during the initial stage of the EIA process to set the boundary conditions for the scope of study and to identify interactions between project activities that may affect environment and receptors. This process may be generally called “Terms of Reference” (TOR) and typically performed by the Project Proponent together with the EIA developers or consultants.

3. EIA Report Preparation (Impact Assessment & Stakeholder Engagement)

The impact assessment is performed to evaluate potential impacts of a project. In the assessment, the potential impacts, both direct and indirect, are determined. Also the appropriate measures are identified to mitigate any significant negative impacts and to monitor project implementation.

Stakeholder engagement (Public Consultation, Public Participation, Public Hearing, Public Involvement, etc.) is an activity that should be concerned throughout EIA process. The EIA process requires identification of project’s stakeholders in order to gather opinions and feedbacks as well as consideration of stakeholder views during EIA preparation and appraisal process. All projects involve some measures of stakeholder engagement, the level of which is based on the complexity of the projects, the variety of stakeholders, and the specific requirement of countries.

4. EIA Appraisal & Approval Process











The appraisal and approval of EIA report is done by consideration of relevant government authority prior to commencement of project, construction phase in general. As part of the appraisal and approval process, the approval level and responsible authority considering EIA report are determined by the EIA regulations of each country.

A comparative analysis of the EIA systems adopted by 10 countries in AEC. Sources for the analysis consist mainly of EIA laws and regulations. The comparative analysis considers on 8 variables, starting with formal legislation of EIA and then focusing on the main elements of the EIA system. Following is a brief description of











1. What formal legislation exists concerning requirement of EIA?
2. What authority involve in EIA procedure in the country?
3. What are the tools of EIA?
4. Who is EIA developer?
5. How timing in approval process?
6. How long is EIA valid?
7. Fee of approval process
8. Penalties





Country	What formal legislation exists concerning requirement of EIA?
 Thailand	<ul style="list-style-type: none"> Enhancement and Conservation of National Environmental Quality Act (NEQA), B.E. 2535 (1992) and 2nd Edition, B.E. 2561 (2018)
 Brunei	<ul style="list-style-type: none"> Environmental Protection and Management Order, 2016
 Cambodia	<ul style="list-style-type: none"> Law on Environmental Protection and Natural Resource Management , 1996 Sub-Decree on Environmental Impact Assessment Process , 1999 Prakas on General Guideline for Preparing Initial Environmental Impact Assessment and Full Environmental Impact Assessment Report, 2009
 Indonesia	<ul style="list-style-type: none"> Law No. 32 regarding Protection and Management of the Environment , 2009 Regulation of the State Minister of the Environment (MOE) No. 05 Year 2012 regarding Type of Business Plan and/or Activity that are Required to Possess an Environmental Impact Assessment Document
 Lao PDR	<ul style="list-style-type: none"> Environmental Protection Law (EPL) (Revised Version) No: 29/NA, Vientiane Capital City, 18 December 2012
 Malaysia	<ul style="list-style-type: none"> Environmental Quality Act, 1974 Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order, 1987 Environmental Quality (Amendment) Act, 2012
 Myanmar	<ul style="list-style-type: none"> Environmental Conservation Law, 2012 Environmental Conservation Rule Notification No. 50 / 2014 (5th June, 2014) Chapter 11 Environmental Impact Assessment The Environmental Impact Assessment Procedure Notification No. 616/2015 (29th December 2015)
 The Philippines	<ul style="list-style-type: none"> Presidential Decree (PD) 1151 Philippine Environment Policy, 1977 Presidential Decree (PD) 1152 Philippine Environment Code, 1977 Presidential Proclamation (PP) 2146 Environmentally Critical - Projects (ECPs) and Environmentally Critical Areas (ECAs) , 1981 and amended in 1996 Department of Environment and Natural Resources (DENR) Administrative Order No. 30 Series of 2003 (DAO 03-30) (Implementing Rules and Regulations of PD No. 1586, Establishing the Philippine Environmental Impact Statement System), 2007
 Singapore	<ul style="list-style-type: none"> Environmental Protection and Management Act (EPMA), 2002 Code of Practice on Pollution Control (CoPPC), 2013
 Vietnam	<ul style="list-style-type: none"> Law on Environmental Protection (LEP) effected on 23 June 2014 Decree on Environmental Protection Planning, Strategic Environmental Assessment, Environmental Impact Assessment and Environmental Protection Plans (No.18/2015/ND-CP) Circular on Strategic Environmental Assessment, Environmental Impact Assessment and Environmental Protection Plans (No. 27/2015/TT-BTNMT)

Country	What authority involve in EIA procedure in the country?
 Thailand	<ul style="list-style-type: none"> Office of Natural Resources and Environmental Policy and Planning (ONEP) , Ministry of Natural Resources and Environment
 Brunei	<ul style="list-style-type: none"> Department of Environment, Park and Recreation (JASTRe), Ministry of Development
 Cambodia	<ul style="list-style-type: none"> Environmental Impact Assessment Department, Ministry of Environment Provincial Department of Environment The Technical Working Group (TWG), appointed by Minister of Environment
 Indonesia	<ul style="list-style-type: none"> Ministry of Environment and Forestry (merged from the Ministry of Environment and the Ministry of Forestry, since 2014) Central EIA Evaluation Commission Provincial EIA Evaluation Commission Regency/City EIA Evaluation Commission
 Lao PDR	<ul style="list-style-type: none"> Ministry of Natural Resources and Environment (MONRE) The Provincial Department of Natural Resources and Environment (PONRE)
 Malaysia	<ul style="list-style-type: none"> Department of Environment (DOE), Ministry of Energy, Science, Technology, Environment & Climate Change The National Development Planning Committee for Federal Government Sponsored Projects The Respective State Planning Authorities for State Government Sponsored Projects The Regional Development Authorities for the State Executive Committee (EXCO)
 Myanmar	Environmental Conservation Department (ECD), Ministry of Natural Resources and Environmental Conservation (MONREC)
 The Philippines	<ul style="list-style-type: none"> Department of Environment and Natural Resources for Philippines Environmental Impact Statement System (PEISS) Environmental Management Bureau (EMB) for Environmental Impact Statement (EIS)
 Singapore	<ul style="list-style-type: none"> National Environment Agency (NEA) Pollution Control Department (PCD) Central Building Plan Department (CBPD) Singapore Civil Defense Force (SCDF)
 Vietnam	<ul style="list-style-type: none"> Ministry of Natural Resources and Environment (MoNRE) (except for the national defense and security secrets project) Ministry of National Defense and Ministry of Public Security (for the national defense and security secrets project) People's Committee of province

Country	What are the tools of EIA?
 Thailand	<ul style="list-style-type: none"> • Initial Environmental Examination (IEE) • Environmental Impact Assessment (EIA) • Environmental Health Impact Assessment (EHIA)
 Brunei	<ul style="list-style-type: none"> • Environmental Impact Analysis (EIA)
 Cambodia	<ul style="list-style-type: none"> • Initial Environmental Impact Assessment (IEIA) • Full Environmental Impact Assessment (FEIA)
 Indonesia	<ul style="list-style-type: none"> • Environmental Impact Analysis (AMDAL) • Environmental Management and Monitoring Efforts (UKL-UPL) • Statement of Management and Environmental Monitoring Ability (SPPL)
 Lao PDR	<ul style="list-style-type: none"> • Initial Environmental Examination (IEE) • Environmental and Social Impact Assessment (ESIA)
 Malaysia	<ul style="list-style-type: none"> • Preliminary Environmental Impact Assessment (PEIA) • Detailed Environmental Impact Assessment (DEIA)
 Myanmar	<ul style="list-style-type: none"> • Initial Environmental Examination (IEE) • Environmental Impact Assessment (EIA)
 The Philippines	<ul style="list-style-type: none"> • Initial Environmental Examination (IEE) • Environmental Impact Statement (EIS) • Environmental Performance Report and Management Plan (EPRMP)
 Singapore	<ul style="list-style-type: none"> • Pollution Control Study (PCS) • Quantitative Risk Assessment (QRA)
 Vietnam	<ul style="list-style-type: none"> • Environmental Impact Assessment (EIA) • Environmental Protection Plan (EPP)

Country	Who is EIA developer?
 Thailand	EIA reports must be prepared by the Environmental consultant, registered by ONEP
 Brunei	There is no official requirement for minimum qualifications for an EIA developer in Brunei
 Cambodia	IEIA/EIA should be prepared by a consulting company with sufficient and qualified professional capacity and should be registered with the Ministry of Commerce and be recognized by the Ministry of Environment.
 Indonesia	The individual or consultant should meet the requirements stipulated in Regulation of the State Minister of the Environment. The consultant as AMDAL compiler has to be licensed by Ministry of Environment and Forest (merged from the Ministry of Environment and the Ministry of Forestry, since 2014)
 Lao PDR	An IEE or ESIA shall be conducted only by qualified consultant who is registered with the Ministry of Natural Resources and Environmental.
 Malaysia	Competent individuals who have a valid registration with the Department of Environment (DOE) under the EIA Consultant Registration Scheme. All members in the EIA study team have valid DOE EIA Consultant registration.
 Myanmar	Consultant firms registered with Ministry of Natural Resources and Environmental Conservation (MONREC)
 The Philippines	Qualified Consultant registered with Department of Environment and Natural Resources (DENR)
 Singapore	Independent consultant approved by the National Environment Agency (NEA)
 Vietnam	<ul style="list-style-type: none"> • Owners of projects shall carry out, on his own, or hire an advisory organization to carry out the environmental impact assessment • EIA developers shall fully meet the conditions following Decree on Environmental Protection Planning No. 18/2015/ND-CP

Country	How timing in approval process?
 Thailand	<ul style="list-style-type: none"> • 75 days for first review • 30 days: ONEP examines and preliminary comment of EIA report • 45 days: The Expert Review Committee considers the report If the report is denied, the proponent shall submit the revised EIA Report within 180 days. When the revised Report is submitted, the expert committee has 30 day to review the report after receiving date
 Brunei	<p>There is no specified or formalized timeframe for EIA processing in Brunei. Timeframe are usually dependent on the type and complexity of each individual project.</p>
 Cambodia	<ul style="list-style-type: none"> • 30 working days: In case of no request for report revision • Up to 12 months per common practices depending on the complexity of the project
 Indonesia	<ul style="list-style-type: none"> • The environmental permit will be obtaining within 3 months after EIA/AMDAL or UKL-UPL is approved. • Maximum 30 working days - from the date of receipt of EIS-TOR • Maximum 75 working days - from the date of receipt EIS and Environmental Management and Monitoring Plan
 Lao PDR	<ul style="list-style-type: none"> • IEE : In general within 40 working days from the date that the Project Owner submits every documents required to PONRE • ESIA : Review by MONRE, in general within 95 working days. and within 120 working days for the Investment project which is complicated
 Malaysia	<ul style="list-style-type: none"> • PEIA - 5 weeks i.e. 25 working days – excluding weekends, public holidays and State holidays • DEIA - 12 weeks i.e. 60 working days – excluding weekends, public holidays and the Federal Territory of Putrajaya holiday
 Myanmar	<ul style="list-style-type: none"> • Department shall deliver the final decision of the Ministry within 60 working days of receipt of an IEE Report. • EIA Process including. <ul style="list-style-type: none"> - EIA Third Person/Organization approval process: within 7 working days - Scoping report & TOR approval process: within 15 working days. - Ministry shall deliver its final decision within 90 working days of receipt of the EIA Report.
 The Philippines	<p>30 to 180 working days long subjective to types of EIA reports</p>
 Singapore	<p>Not specified or formalized timeframe</p>
 Vietnam	<ul style="list-style-type: none"> • Within 45 working days from the date on which the satisfactory application is received regarding projects under assessment of the Ministry of Natural Resources and Environment • Within 30 working days from the date on which the satisfactory application is received regarding projects not under assessment of the Ministry of Natural Resources and Environment

Country	How long is EIA valid?
 Thailand	Project proponent shall apply to project permission/ approval within 5 years of receiving the letter of EIA approval.
 Brunei	Not specified
 Cambodia	Not specified
 Indonesia	After approved, a project owner must launch their businesses and/or activities immediately or within 3 years.
 Lao PDR	2 years from the date it obtained the environmental compliance certificate for both IEE and ESIA.
 Malaysia	EIA approval valid for 2 years
 Myanmar	<ul style="list-style-type: none"> Environmental Compliance Certificate (ECC) - 5 shall be valid for 5 years from the date of issuance. 6 months prior to expiration of an ECC issued by the Ministry, the Project Proponent may apply to the Ministry for an extension.
 The Philippines	<ul style="list-style-type: none"> Environmental Compliance Certificate (ECC) - shall be valid for 5 years. After which, should the project development has not begun as yet the ECC application process will need to be restarted.
 Singapore	Not specified
 Vietnam	<p>Project owners must repeat the report on the environmental impact assessment when :</p> <ul style="list-style-type: none"> The project is not executed within a period of 24 months from the date which the EIA report is approved Project location has been changed An increase in the size, capacity and technological changes can cause adverse impacts on the environment

Country	Fee of approval process
 Thailand	None
 Brunei	Not specified
 Cambodia	The project sponsor shall bear the cost of the project review and monitoring fees which approved by the Ministry of Economy and Finance pursuant to a proposal of the Ministry of Environment.
 Indonesia	Not specified
 Lao PDR	The Water Resources and Environment Administration or the local administration which issues environmental compliance certificate has the duty to collect fees and services charges.
 Malaysia	Not specified
 Myanmar	Not specified, However all costs incurred in completing the EIA Report disclosure and review, including the public consultation process, shall be borne by the Project Proponent.
 The Philippines	Not specified
 Singapore	Not specified
 Vietnam	Not specified, however the project owner shall cover expenses incurred from the formulation and inspection of the report on environmental impact assessment, and included in total investment budget.

Country	Penalties
 Thailand	<ul style="list-style-type: none"> • Fine not exceeding one million baht for any construction or operation before the EIA approval • If the project owner still illegal construct or operation, the owner will face on the fine not exceeding 100,000 baht per day • In case of EHIA project, the fine will be more than half of EIA project • Fine not exceeding one million baht for avoidance the EIA monitoring submission.
 Brunei	Any person carrying out any prescribed activity without written notification to the Authority as required is guilty of an offence and liable on conviction to a fine not exceeding \$1,000,000, imprisonment for a term not exceeding 3 years or both
 Cambodia	Not specified
 Indonesia	Not specified
 Lao PDR	Not specified
 Malaysia	<ul style="list-style-type: none"> • Fine not exceeding 500,000 ringgit or imprison for a period not exceeding 5 years or both in any offence • For continuous offence, fine 1,000 ringgit for everyday if the offence continued after a notice has been served by the Director General
 Myanmar	<ul style="list-style-type: none"> • Undertaking or allowing any preparatory or other construction works without the prior approval by the Ministry of a revised EMP or EMPCP or • Operating/implementing without a permit, or approval by the Ministry of an EMP or EMP-OP are an offence punishable by a fine ranging from 1,000 to 5,000 US\$ or equivalent Myanmar Kyat + 50 to 500 US\$ / day until cured or equivalent Myanmar Kyat
 The Philippines	<ul style="list-style-type: none"> • Fines, penalties and sanctions of the Philippine EIS System is based on Section 9.0 provision of P.D. 1586, as follows: "Penalty for Violation. Any person, corporation or partnership found violating Section 4 of this Decree, or the terms and conditions in the issuance of the Environmental Compliance Certificate, or of the standards, rules and regulations issued by the National Environmental • Protection Council pursuant to this Decree shall be punished the suspension or cancellation of his/its certificate and/or a fine in an amount not to exceed fifty thousand pesos (P50,000.00) for every violation thereof at the discretion of the National Environmental Protection Council
 Singapore	<ul style="list-style-type: none"> • Offence QRA <ul style="list-style-type: none"> - Shall be liable on conviction to a fine not exceeding \$50,000 or to imprisonment for a term not exceeding 2 years or to both and, in the case of a continuing offence, to a further fine not exceeding \$2,000 for every day or part thereof during which the offence continues after conviction • PCS <ul style="list-style-type: none"> - On the first conviction to a fine not exceeding \$20,000 and, in the case of a continuing offence, to a further fine not exceeding \$1,000 for every day. - On a second or subsequent conviction to a fine not exceeding \$50,000 and, in the case of a continuing offence, to a further fine not exceeding \$2,000 for every day.
 Vietnam	Not specified

1

EIA in
Thailand



1. EIA in Thailand



1.1 Definitions

Environmental Impact Assessment (EIA) is the study and evaluation process on any projects or activities, which may affect on natural resources, environmental quality, health, sanitation, life quality or any interest of people or community both direct or indirect impact though the public participation process in order to determine the mitigation measures.

Environmental Health Impact Assessment (EHIA) is the study and evaluation process on projects or activities which may seriously affect on natural resources, environmental quality, health, sanitation, life quality of people in community

Initial Environmental Examination (IEE) is the initial impact study on the proposed small projects or activities that have the limitation on location. The study mostly uses the secondary data, basic information and environmental checklist to evaluate the environmental impact.

Screening is the determination of whether an EIA is needed. Screening should be based on magnitude of possible impacts may arise from development projects or activities. In Thailand, lists of projects or activities required EIA by environmental quality law has been used as a screening tool.

Scoping is the process that identifies the significant issues, study area, essential alternatives that has to study and evaluate. This process can reduce conflict, timing and study cost.

1.2 Introduction

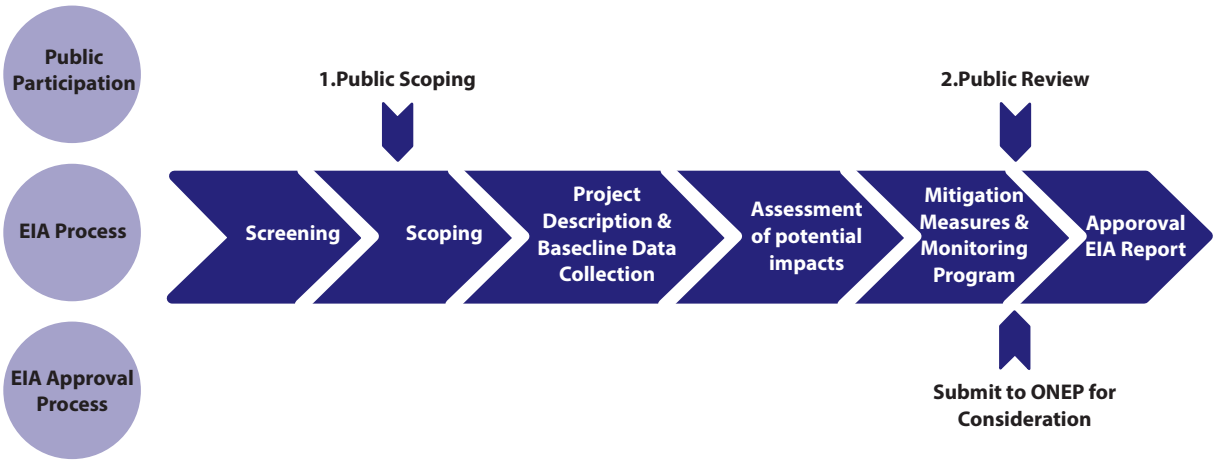
The Environmental Impact Assessment (EIA) system has been implemented in Thailand since 1981, under the Enhancement and Conservation of the National Environmental Quality Act (NEQA) 1975. The Minister of Science Technology and Energy set the types and sizes of projects which had to study environmental impact, and assigned authority for the Office of National Environmental Board (ONEB) to take the responsibilities for approval EIA.

In 1992, the Enhancement and Conservation of the National Environmental Quality Act (NEQA) was issued the EIA on Part 4 with provisions on EIA Screening, Preparation, Review Process and Monitoring. Later, the Constitution of the Kingdom of Thailand, B.E. 2550 (2007) imposed in the Section 67 about the Community Rights on the impact studies of seriously affect to the community in quality of the environment, natural resources, and health. This is induced the Rule, Procedure, Method and Guideline for Preparation of the Environmental Health Impact Assessment (EHIA) in 2009 and the Prescription of Types of severe project required Environmental Health Impact Assessment (EHIA) preparation in 2010

However, the Constitution of the Kingdom of Thailand, B.E. 2560 (2017) imposed in the Section 58 "In regard to any undertaking by the State or which the State will permit any person to carry out, if such undertaking may severely affect the natural resources, environmental quality, health, sanitation, quality of life or any other essential interests of the people or community or environment, the State shall undertake to study and assess the impact on environmental quality and health of the people or communities and shall arrange a public hearing of relevant stakeholders, people and communities in advance in order to take them into consideration for the implementation or granting of permission as provided by the law". This induces the Environmental Law Amendment in NEQA 2018 which increases the regulation on Scoping, EIA Reviewing, Decision Making and Monitoring; For Instance, EIA Report is valid for project permission/approval within 5 years after the Report approval. Moreover, the fine penalty applies for Construction or Operation before EIA Approval and Failure to submit the EIA Monitoring Report. And other issue on this law is the linkage between Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) that EIA/EHIA must consider the legalized SEA study in any specific area/issue.

An overview of Thailand’s EIA process proposed is shown in **Figure 1.1-1** and the key elements are described in the following sections.

Figure 1.1-1 Simplified Overview of Thailand’s EIA Process



1.3 EIA Legal Framework

The Enhancement and Conservation of National Environmental Quality Act was initially established in 1975; however, fully enforcement of EIA process was imposed by The Enhancement and Conservation of National Environmental Quality Act, 1992. The relevant regulations of the EIA system in Thailand are summarized in **Table 1.3-1** below

Table 1.3-1 EIA Relevant regulations

Year	Relevant regulations	Key description
1975	Enhancement and Conservation of National Environmental Quality Act (NEQA) B.E. 2518 (1975)	<ul style="list-style-type: none"> • First Environmental Law, which legally enforced • National Environmental Board (NEB) had the duty on reviewing the EIA Report
1981	Notification of Minister of Science Technology and Energy Re: Types and Size of Projects or Activities which Require an Environment Impact Assessment (EIA)	<ul style="list-style-type: none"> • Prescribed the 10 types and size of Projects or Activities which Require an Environment Impact Assessment (EIA) Report
1984	Ministerial Regulation (No.2), 1984	<ul style="list-style-type: none"> • Prescribing the EIA Preparation must be prepared by the Environmental Consultant, registered for a license from the ONEP
1992	Enhancement and Conservation of National Environmental Quality Act (NEQA) B.E. 2535 (1992)	<ul style="list-style-type: none"> • Repealed the Enhancement and Conservation of National Environmental Quality Act, B.E.2518 (1975) and amendment • Fully enforcement of EIA process; and • Prescribed 22 types of project required EIA
2009	Notification of the Ministry of Natural Resources and Environment, B.E 2552 (2009), Re: Rule, Procedure, Method and Guideline for Preparation of the Environmental Impact Assessment Report for Project or Activity which may Seriously Affect Community with respect to Quality of Environment, Natural Resources and Health	<ul style="list-style-type: none"> • Prescribing Rule, Procedure, Method and Guideline for EHIA Report Preparation for Severe Projects or Activities

Year	Relevant regulations	Key description
2010	Notification of the Ministry of Natural Resources and Environment, B.E 2553 (2010), Re: Types, Sizes and Practices of Projects or Activities that May Cause Severe Impact on Quality of Environment, Natural Resources and Health of Community for which Government Agency, State Enterprise or Private Sector is Required to Prepare Environmental Impact Assessment Report	<ul style="list-style-type: none"> Prescribing 12 types and sizes of the Severe Projects or Activities required to prepare EHIA
2012	Notification of the Ministry of Natural Resources and Environment, B.E 2555 (2012), Re: Types and Sizes of Projects or Activities Requiring Environmental Impact Assessment Report and Rules, Procedures, Practices and Guidelines for Preparing Environmental Impact Assessment Report	<ul style="list-style-type: none"> Amendment of type and size of the projects/ activities required EIA to 35 types; and Prescribing principles, procedures, practices and guidelines for EIA report preparation

Year	Relevant regulations	Key description
2017	Notification of the Ministry of Natural Resources and Environment, B.E 2560 (2017), Re: Rule, Procedure, Method and Guideline for Preparation of the Environmental Impact Assessment Report for Project or Activity which may Seriously Affect Community with respect to Quality of Environment, Natural Resources and Health	<ul style="list-style-type: none"> Amendment of Notification of the Ministry of Natural Resources and Environment, B.E 2553 (2010) on the Public Participation for the EIA Report Preparation
2018	Enhancement and Conservation of National Environmental Quality Act (NEQA), B.E. 2561 (2018)	<ul style="list-style-type: none"> Repealing Part 4 Environmental Impact Assessment under Enhancement and Conservation of National Environmental, B.E 2555 (2012) Prescribing Stricter Environmental Impact Assessment (EIA) Regulation and EIA Validation for project approval/permission Clearly prescribing the type/size of severe project, required EHIA report Decentralizing the EIA Reviewing Process to other local government agencies (by NEB Approval); and Increasing the linkage between SEA and EIA that EIA must consider legalized SEA study
	Notification of MNRE Re: Types and Sizes of Projects or Activities Requiring Environmental Impact Assessment Report and Rules, Procedures, Practices and Guidelines for Preparing Environmental Impact Assessment Report, B.E.2561 (2018)	<ul style="list-style-type: none"> Repealing Notification of the Ministry of Natural Resources and Environment , B.E 2555 (2012) Prescribing type and size of the projects activities required EIA to 35 types Prescribing principles, procedures, practices and guidelines for EIA Report Preparation

Year	Relevant regulations	Key description
	Notification of MNRE Re: Rule, Procedure, Method and Guideline for Preparation of the Environmental Impact Assessment Report for Project or Activity which may Seriously Affect Community with respect to Quality of Environment, Natural Resources and Health, B.E.2561 (2018)	<ul style="list-style-type: none"> • Repealing Notification of the Ministry of Natural Resources and Environment, 2009 and 2010 • Prescribing 12 types and sizes of the Severe Projects or activities required to prepare EHIA • Prescribing principles, procedures, practices and guidelines for EHIA report preparation

1.4 Types and Sizes of Projects Requiring EIA Reports

The lists of projects and activities which are required to submit EIA and EHIA announced in the Notifications of MNRE are used for screening. The proponents shall consider whether their investment projects are required to submit EIA and EHIA listed in the following Ministerial Notifications or Cabinet Resolutions:

1. Notification of MNRE Re: Types and Sizes of Projects or Activities Requiring Environmental Impact Assessment Report and Rules, Procedures, Practices and Guidelines for Preparing Environmental Impact Assessment Report, 2018 prescribe that 2 types and sizes of projects/activities, required IEE Report preparation, listed on the **Annex A1** and 35 types and sizes of projects/activities, required EIA Report Preparation, listed on the **Annex A2**

2. Notification of MNRE Re: Rule, Procedure, Method and Guideline for Preparation of the Environmental Impact Assessment Report for Project or Activity which may Seriously Affect Community with respect to Quality of Environment, Natural Resources and Health, 2018 prescribe that 12 types and sizes of severe projects/activities, required EHIA Report Preparation, listed on the **Annex A3**

3. Notifications of MNRE on Environmentally Protected Areas, which prescribe the types and sizes of projects/activities, required the IEE/EIA, listed on the **Annex A4**

4. Type of Projects Located in Additional Conservation Forest According to Cabinet Resolution on 26th April 2011, listed on the **Annex A5**

1.5 EIA Report Component

There are regulations and specific guidelines for preparation of EIA/ EHIA report listed as follows;

- Notification of MNRE Re: Types and Sizes of Projects or Activities Requiring Environmental Impact Assessment Report and Rules, Procedures, Practices and Guidelines for Preparing Environmental Impact Assessment Report, 2018, described on **Annex B1** of this report
- Guideline on Environmental Impact Assessment in Thailand published by the ONEP, 2015
- Guideline on Public Participation for EIA Report Preparation, published by the ONEP, 2018
- Guideline on Health Impact Assessment for EIA published by the ONEP, 2009

Content of IEE/EIA Report

According to Clause 7 and Clause 8 of Notification of MNRE Re: Types and Sizes of Projects or Activities Requiring Environmental Impact Assessment Report and Rules, Procedures, Practices and Guidelines for Preparing Environmental Impact Assessment Report (2018), The Initial Environmental Evaluation Report and Environmental Impact Assessment Report shall content essential topics at least as following

1. Introduction (background, objectives, rationale, necessity for project including alternative project location)
2. Project Details (type, size, operation, implementation and location of project or activities)
3. Existing Environment (physical environment, biological environment, human use value and human quality value)
4. Environmental Impact Evaluation
5. Mitigation Measures and Monitoring Measures
6. The report attachment contents references, photograph layout or model.

The Public consultation process and methodology shall follow the guideline issued by Office of Natural Resources and Environmental Policy and Plan. In addition, in case of State Projects/Activities or joint venture between state and private, the project proponent shall prepare the executive summary, which consists of at least essential matters, including (a) Introduction (b) Project Details same content as the main report and (c) Summary Table of significant environmental impact with mitigation measures and monitoring measures.

Content of EHIA Report

The Environmental and Health Assessment Report (EHIA) shall content essential topics as prescribed on the Clause 5 of Notification of Ministry of Natural Resources and Environment Re: Prescribing of projects or activities which may seriously affect on natural resources, environmental quality, health, sanitation, life quality of people or community Required Environmental and Health Impact Assessment Report and Rules, Procedures, Practices and

Guidelines for Preparing Environmental Impact Assessment Report, 2018 which are the same topics as EIA Report. However, EHIA report shall be concentrated in public participation process and health impact more than EIA report

1.6 EIA Process System

Office of Natural Resources and Environmental Policy and Planning (ONEP) is responsible for the EIA System in Thailand. As guidance for the project requires EIA, the Minister with the approval of the NEB has issued the MNRE Notification describing the procedures, methods and guidelines for preparation of Environmental Impact Assessment report.

1.6.1 Involved People in EIA

People, involved in the EIA procedure in Thailand, are following

1) The project proponent

According to NEQA, 1992, section 46, the project proponent which may be a government agency, state enterprise or private sector, is the responsible for the EIA/EHIA Report Preparation for the project approval/permission, if the project is required IEE/EIA/EHIA by Environmental Quality Law.

2) EIA Developers

According to Section 51/4 of NEQA (No.2), 2018, EIA reports must be prepared by the Environmental consultant, registered by ONEP. Each issued license for consultant firm will be valid for not above than 5 years depending on new or old firms.

3) The Permitting Agency

According to NEQA, 1992 section 47 and 48, the permitting agency by relevant law has the authority to consider and grant a permit to any proponent in order to enable the proponent to carry out any project under the Environmental Quality Law, also, the agency has to delay the permission to the proponent until the EIA report will be approved by the Expert Review Committee. All conditions set by ONEP through Expert Review Committee will be banded to license for the private project. The final decision maker will be the recommendation for such project; however any state project that must be approved by the cabinets, will be reviewed by the National Environmental Board.

4) Expert Review Committee (ERC)

According to NEQA, 1992 section 48-49, EIA report has to be submitted to ONEP for preliminary review before final review by the Expert Review Committee. ONEP will be responsible for examining the environment impact assessment report and related documents and also the preliminary review; then the report with the preliminary comments will be proposed to the ERC for final review. This committee is composed of ONEP Secretary-General, Specialists up to 9 people appointed by NEB, permitting agencies and ONEP officers; moreover, this committee may approve or reject the report or may ask for report revision or correction. In case of State Project, approved by the cabinets, ERC can assign ONEP to summarize the ERC Comments to NEB for consideration.

1.6.2 EIA Preparation and Timeline

Screening

According to Sector 48 of NEQA, 1992 and 2018, Minister of MNRE has the authority to prescribe the type and Sizes of Project that require the EIA Report or Severe Project that require EHIA Report. The project proponent must look over the relevant law and regulation that mentioned on Annex A whether the project require IEE/EIA/EHIA report.

Scoping and Report Preparation

If the projects is required the EIA/EHIA report preparation, project developer must find the Environmental consultant, registered by ONEP to prepare the report and follow the principles, procedures, practices and guidelines which are prescribed by Notification of MNRE; According to section 48 of NEQA, 2018 MNRE minister authorizes to legislate the ministerial regulation on EIA consultant licensing and some regulation that project proponents must comply with, are:

- The report must content project details, current environmental existing, alternative options evaluation, potential environmental impact evaluation both direct and indirect impact, public participation in EIA and Mitigation Measures and Compensation from damage
- In case of severe project, required EHIA, the project proponent must evaluate the Health Impact and have the additional Public Consultation from stakeholders more than the EIA Public Consultation requirement.
- EIA will take account of Strategic Environmental Assessment (SEA) study, if any specific areas or issues has the legally SEA.

Public Participation will arrange at least 2 times for EIA preparation. The Project owner have to survey for the social preparation process at the project site area in order to prepare the community by public information, analyze the stakeholder and consult with community about appropriate time, place and formation of meeting. The first public consultation discusses on the study scoping, project proposal review, project detail and alternative analysis; then, the second public consultation (or final public consultation) discusses on draft EIA report and draft mitigation measures and monitoring program. However, if the project is either mega project or complicated project, the project proponent is able to use other appropriate techniques for consultation.

However, In case of Public Participation for EHIA Report Preparation, project proponent must arrange at least 3 times for Public Participation consultation and comply with process, explained on **Figure 1.6-1** and **Annex B2**, which summarize that the purpose of first and last public consultation are the same as the EIA Public Participation including the social preparation process prior to the first consultation, but there are the timing condition to inform the stakeholder and receive the public feedbacks, also both consultations require the public forum. Moreover, the project proponent and environmental consultant must arrange the public consultation during the impact investigation, which can be interviewing, focus group meeting, workshop, postal surveying or other appropriate surveying.

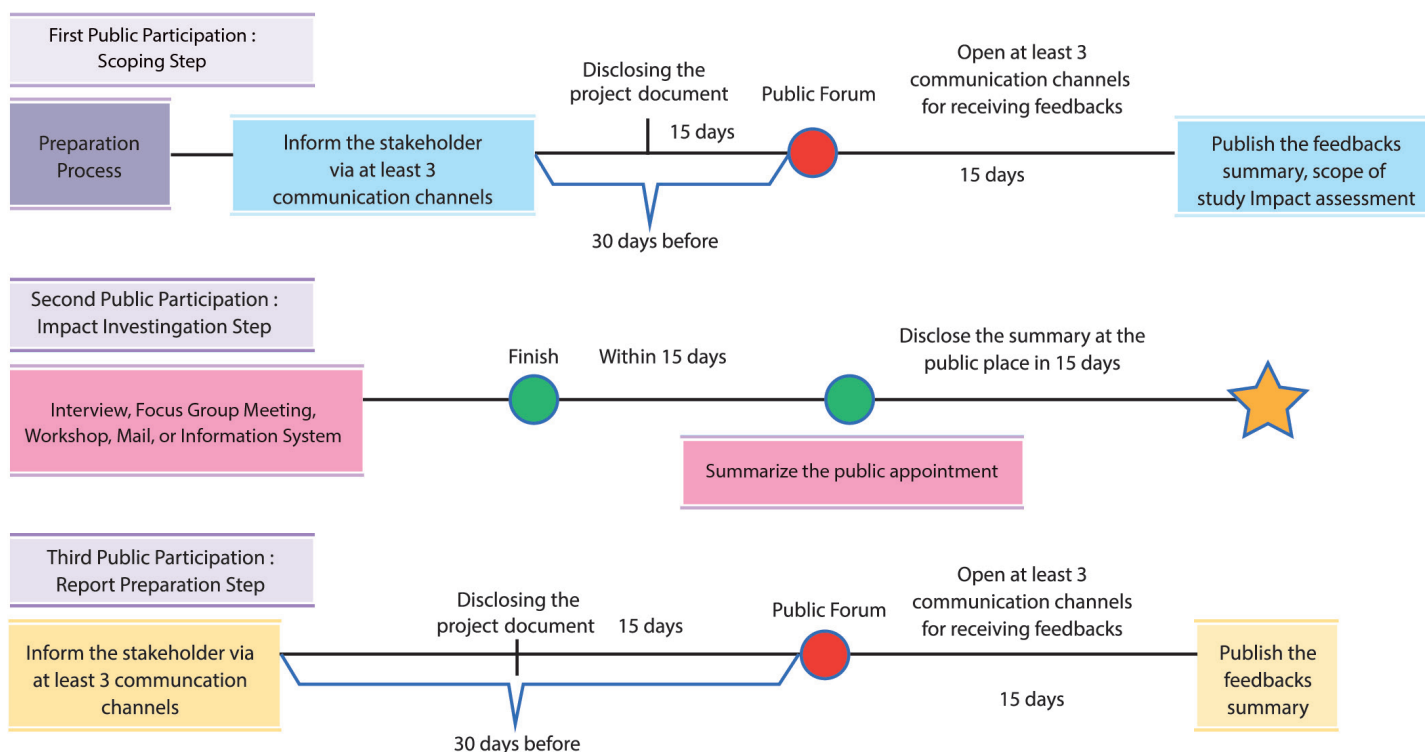
In case of Public Participation for IEE Report Preparation, the project proponent has to arrange the public participation at least 1 time to inform the project information and receive the public concerns and feedbacks in order to determine the mitigation measure.

1.6.3 EIA Approval Process and Timeline

The review processes are shown on **Figure 1.6-2 to 1.6-5**, which is in accordance with NEQA (1992) and (2018) that the legal authorized officer shall withhold the granting of permission for the EIA required project/activity until having been report approval notification from ONEP. The EIA review process can explain that

- When the project proponent submits report to ONEP, ONEP will examine the report and related documents. If it is found that the report is incorrect or incomplete, ONEP will send back to the project proponent to recheck and fulfill the report within 15 days; however, if the report is complete or correct, ONEP will summarize the preliminary comments and submit report to Expert Review Committee (ERC) within 15 days
- ERC will carry out within 45 days to review the EIA Report after ONEP submit to the committee. If the committee fails to review and approval within the 45 days-period, the report shall be deemed to have been approved.
- ERC or officer, who is assigned by ERC, has the authority to survey the project location, purposed in the EIA Report. The survey must be act on or the consent by project owner.

Figure 1.6-1 Public Participation for EHIA Report Preparation



If the ERC approves the EIA Report, ONEP will issue the letter of Environmental Approval and the Permitting Agency will apply the Mitigation Measures, determining in the EIA Report as the condition to permit the project or renew the license. In contrast, If the report is denied, the project proponent has to amend or redo the report and submit the revised report within 180 days after ONEP inform the denial letter; otherwise the Reviewing Process is finished and Project Proponent will resubmit to ONEP at the beginning procedure. If the proponent submits the revised report within 180 days, the ERC will review the report within 30 days.

- In case of State Project or the Project, required the Cabinet Approval, ERC will review and command the ONEP to summarize the ERC Comments and submit to National Environmental Board (NEB) to review. Though, if the EHIA report is the project that is required the cabinet approval, ONEP will notify the ERC Review Result to the project owner and summarize the ERC comments to NEB for reviewing, while The State Project Owner arranges the Public Hearing, according to Section 58 of the Kingdom of Thailand's Constitution.
- In case of complicated or advance technology project the ERC can assign other expert to review the report with the remuneration as prescribed by royal decree.
- In case of the required EIA project is Transportation, Irrigation, Disaster Reduction, Hospital or Housing Project; also is urgently essential for Public Benefit. During the EIA Reviewing Process, the State Agency, who is Project Owner, may submit the Cabinet to approve the procedures for Private Contractor Recruiting; however, the agency cannot sign any contract with the Contractor.

For decision Making process as mentioned above, When the Report is approved by ERC, the Permitting Agency will apply the Mitigation Measures, determining in the EIA Report as the condition to permit the project or renew the license; however, according to Section 51/6 of NEQA, 2018. The EIA Report is valid for project permission/approval within 5 years after the letter of Environmental Approval is issued.

In case of the project, required the cabinet approval, the National Environmental Board (NEB) will submit the comments to the Cabinet to make the decision for project approval. The Cabinet may allow other experts to comment on the project approval.

However, In case of EHIA report, when the report is approved by ERC, Permitting Agency will arrange the final Public Hearing for permission decision, according to Section 58 of the Kingdom of Thailand's Constitution; meanwhile, in case of the EHIA report of the state project, required the cabinet approval, the result of final public hearing by state project owner will be submitted to the Cabinet as the element for the approval decision with the NEB solution.

Figure 1.6-2 EIA Review Process for Private Projects and State Project, not required the Cabinet Approval

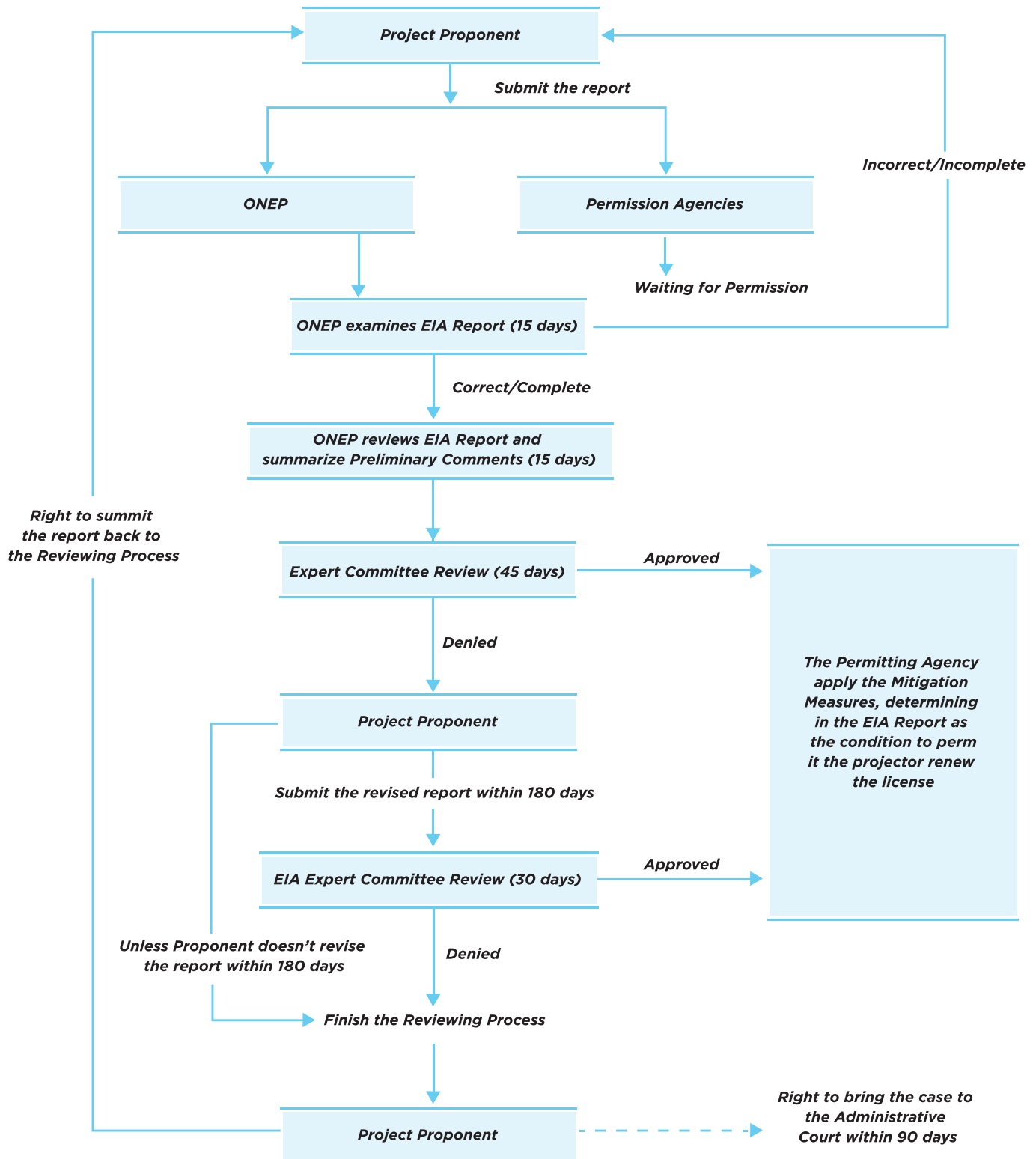


Figure 1.6-3 EIA Review Process for the State Project, required the Cabinet Approval

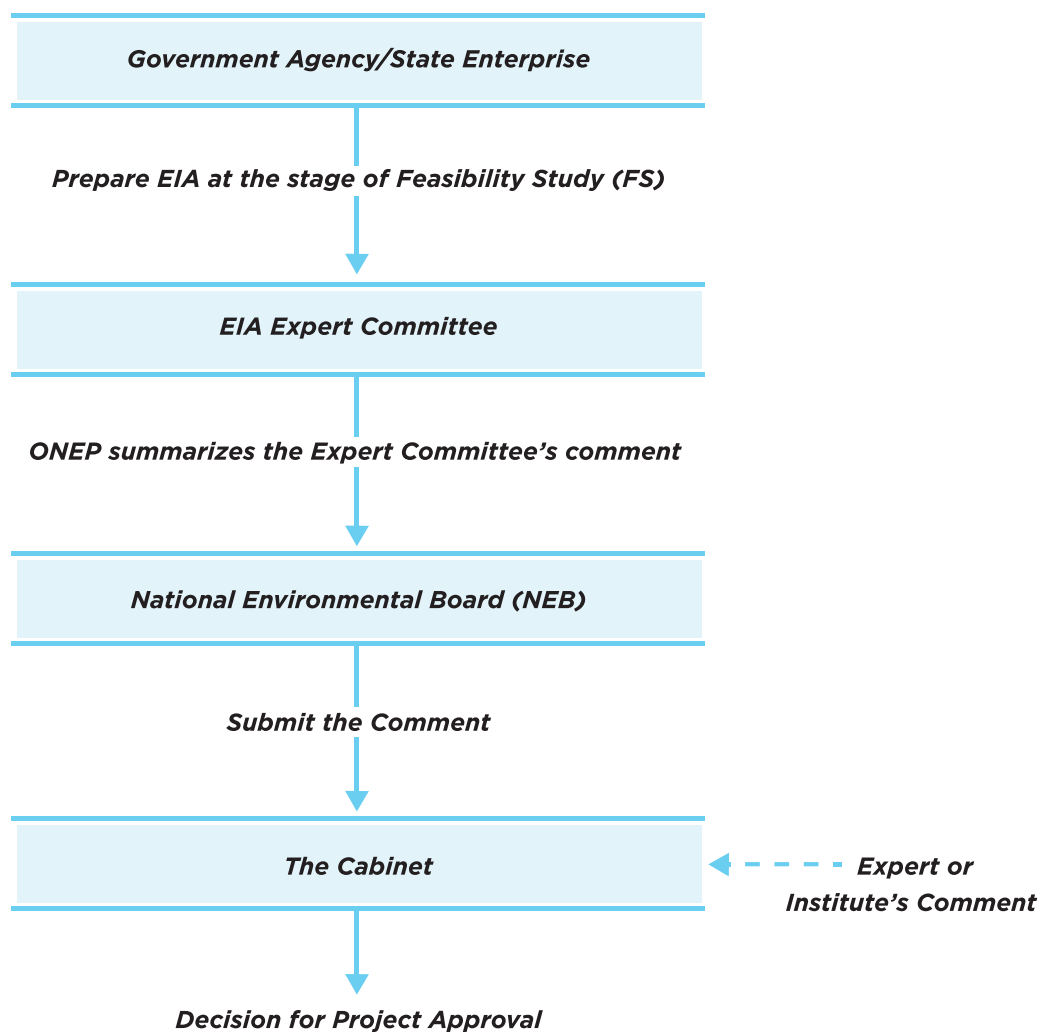


Figure 1.6-4 EHIA Review Process for Private Projects and State Project, not required the Cabinet Approval

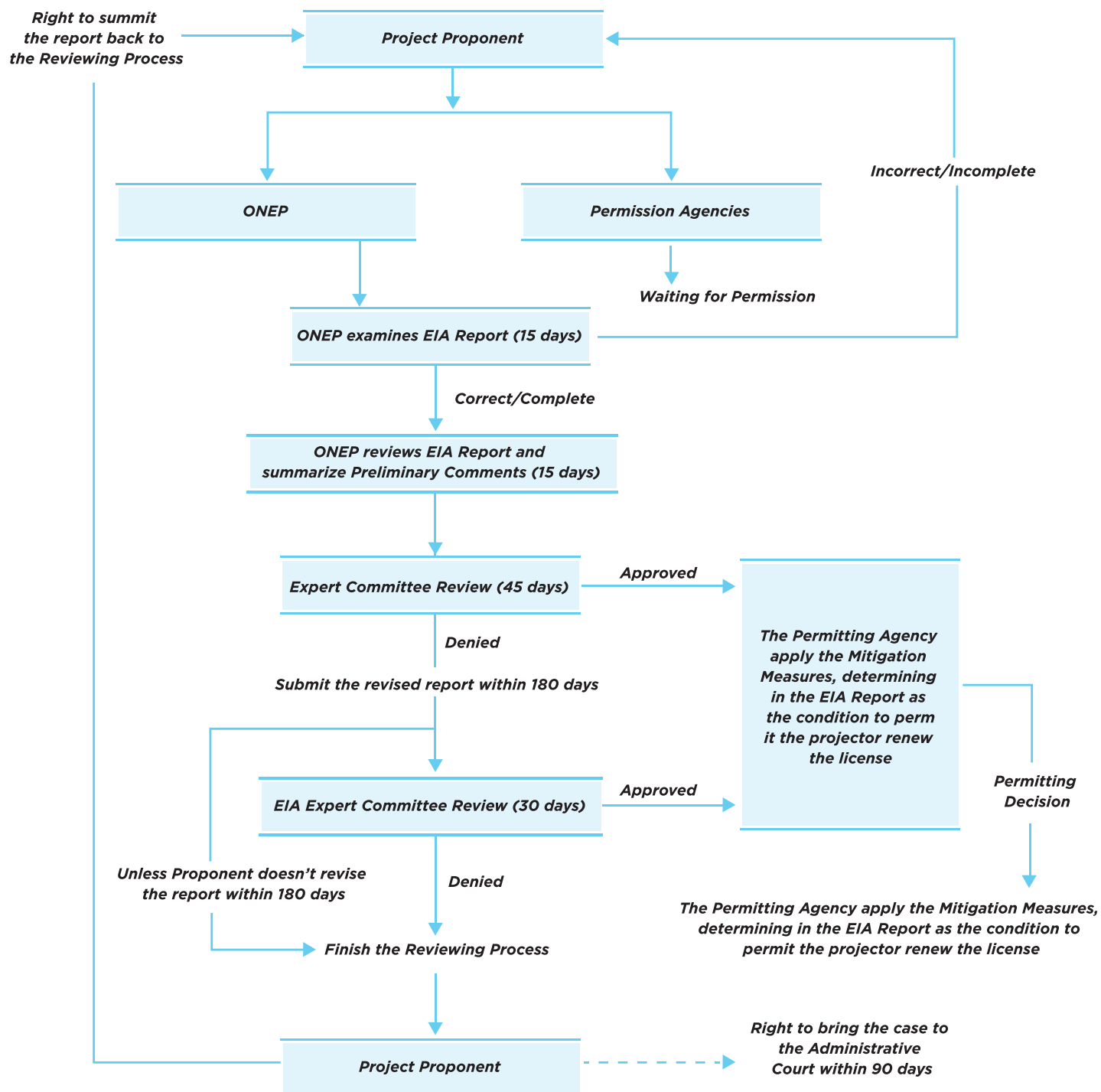
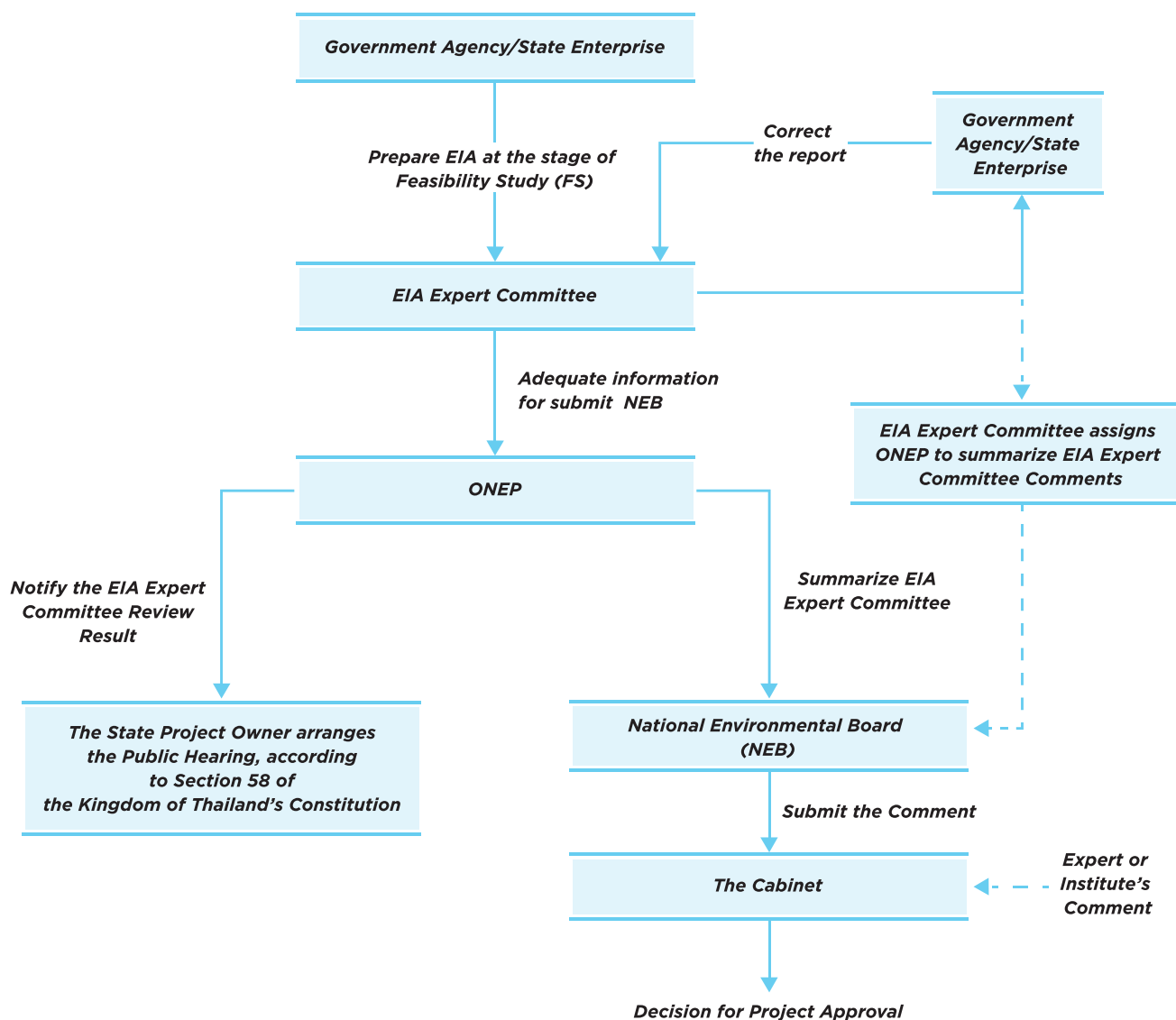


Figure 1.6-5 EHIA Review Process for the State Project, required the Cabinet Approval



1.7 Basic Questions about EIA

Questions	Answers
1) What formal legislation exists concerning requirement of EIA?	Enhancement and Conservation of National Environmental Quality Act (NEQA), B.E. 2535 (1992) and 2 nd Edition, B.E. 2561 (2018)
2) Which types of projects are required to undertake EIA?	<p>1. There are 35 types and sizes of projects or activities refer to Notification of MNRE Re: Types and Sizes of Projects or Activities Requiring Environmental Impact Assessment Report and Rules, Procedures, Practices and Guidelines for Preparing Environmental Impact Assessment Report, B.E. 2561 (2018)</p> <p>2. There are 12 types and sizes of severe projects or activities refer to Notification of MNRE Re: Rule, Procedure, Method and Guideline for Preparation of the Environmental Impact Assessment Report for Project or Activity which may Seriously Affect Community with respect to Quality of Environment, Natural Resources and Health B.E.2561 (2018)</p> <p>3. Types and sizes of projects or activities in Protected Areas which in seven provinces follow by the Notification of Environmentally Protected Area, virtue of section 44 (3) of the Enhancement and Conservation of National Environmental Quality Act (NEQA), B.E. 2535 (1992)</p>
3) What are the components of the EIA report?	<p>The Environmental Impact Assessment reports will compose of 6 parts,</p> <ol style="list-style-type: none"> 1. Introduction (background, objectives, rationale, necessity for project including alternative project location) 2. Project Details (type, size, operation, implementation and location of project or activities) 3. Existing Environment (physical environment, biological environment, human use value and human quality value) 4. Environmental Impact Evaluation 5. Mitigation Measures and Monitoring Measures 6. The Report Attachment
4) Which authority involves in EIA procedure in Thailand?	Office of Natural Resources and Environmental Policy and Planning (ONEP) is responsible for the administration of the EIA process for Thailand. As the guidance for the project requires EIA, the Minister with the approval of the NEB has issued a notification describing the procedures, methods and guidelines for preparation of EIA report.

Questions	Answers
5) When will the EIA be prepared?	To make EIA more efficient and effective timing to prepare EIA is very vital. It should be prepared as early as possible in the project cycle, prefer at the same time as those of feasibility study (FS) of the project in order to integrate all environmental mitigation measures in evaluating the project.
6) How many steps are in EIA system?	6 Steps (Screening , Scoping , Report Preparation, Reviewing, Decision Making and Monitoring)
7) What are the tools of EIA?	<ul style="list-style-type: none"> • Initial Environmental Examination (IEE) • Environmental Impact Assessment (EIA) • Environmental Health Impact Assessment (EHIA)
8) Who is EIA developer?	According to Section 51/4 of NEQA , 2 nd Edition, 2018 , EIA reports must be prepared by the Environmental consultant, registered by ONEP. Each issued license for consultant firm will be valid for not above than 5 years depending on new or old firms.
9) Is there any requirement for public consultation in EIA process?	<ol style="list-style-type: none"> 1. In case of EIA report preparation: the Public Participation will be arranged at least 2 times. <ul style="list-style-type: none"> • The first public consultation discusses on the study scoping, project proposal review, project detail and alternative analysis • Thesecondpublicconsultation(orfinalpublicconsultation discusses on the draft EIA report and draft mitigation measures and monitoring program. 2. In case of Public Participation for EHIA Report Preparation, the Public Participation will be arranged at least 3 times. 3. In case of Public Participation for IEE Report Preparation, the project proponent has to arrange the public participation at least 1 time to inform the project information and receive the public concerns and feedbacks in order to determine the mitigation measure.
10) How timing in approval process?	<ul style="list-style-type: none"> • 75 days for first review • 30 days: ONEP examines and preliminary comment of EIA report • 45 days: The Expert Review Committee considers the report. If the report is denied, the proponent shall submit the revised EIA Report within 180 days. When the revised Report is submitted, the expert committee has 30 day to review the report after receiving date

Questions	Answers
11) Fee of approval process	None
12) How long is EIA valid?	Project proponent shall apply to project permission/approval within 5 years of receiving the letter of EIA approval.
13) Penalties	<ul style="list-style-type: none"> • Fine not exceeding one million baht for any construction or operation before the EIA approval • If the project owner still illegal construct or operation, the owner will face on the fine not exceeding 100,000 baht per day • Fine not exceeding one million baht for avoidance the EIA Monitoring Submission

Annex A : Project Applicable to EIA

Annex A1: Types and Sizes of Projects or Activities requiring Preparation of Initial Environmental Evaluation (IEE) Report, According to Notification of Ministry of Natural Resources and Environment, 2018

Item	Types of projects or activities	Size
1.	Other mining projects than those specified in attachment 4 (EIA project list), Except The Mining Projects As Following: 1) Glass sand or silica Mining 2) Cement Clay Mining 3) Stained clay Mining 4) Marl mining 5) Ball clay mining; 6) Fire clay mining 7) Diatomite mining	All Sizes
2.	Water airport	All Sizes

Annex A2: Types and Sizes of Projects or Activities requiring Preparation of Environmental Impact Assessment (EIA) Report, According to Notification of Ministry of Natural Resources and Environment, 2018

Item	Types of projects or activities	Size
1.	Mining under the Mineral Laws	
	1.1 Mining Projects as following	
	1.1.1 Coal Mining	All Sizes
	1.1.2 Potash Mining	All Sizes
	1.1.3 Rock Salt Mining	All Sizes
	1.1.4 Limestone Quarry for cement industry	All Sizes
	1.1.5 All Metal Mining	All Sizes
	1.2 Underground Mining	All Sizes
	1.3 Mining Projects using Explosives	All Sizes
	1.4 All types of mining projects located in the following areas	
	1.4.1 Class 1 Watershed Area defined by Cabinet Resolution	All Sizes
	1.4.2 Additional Conservation Forest defined by Cabinet Resolution	All Sizes
	1.4.3 Ramsar Site Wetland	All Sizes

Item	Types of projects or activities	Size
	1.4.4 Area within 2 km. from an Ancient Monument, Archaeological Site, Historic Site or Historic Park under the Laws on Ancient Monuments, Antiques, Objet D'art and National Museums, or World Heritage Site inscribed on the World Heritage List according to the World Heritage Convention	All Sizes
2.	Petroleum Development	
	2.1 Petroleum Exploration by Drilling	All Sizes
	2.2 Petroleum Production	All Sizes
3.	Petroleum and Fuel Pipeline System Except for	All Sizes
	3.1 Onshore Natural Gas Pipeline System of which a Maximum Operating Pressure is less than or equal to 20 bars and Diameter is less than or equal to 16 inches for the entire project, in any area, excluded the Cabinet Resolution areas or the specific laws specify otherwise	
	3.2 Onshore Natural Gas Pipeline System of which a Maximum Operating Pressure is more than 20 bars or a diameter is more than 16 inches, entirely located in an Industrial Estate	
4.	Industrial Estate Under the Industrial Estate Authority of Thailand Act or other Projects that the Same Feature as Industrial Estate or Land Allocation for Industrial Development	All Sizes
5.	Petrochemical Industry Using Chemical Process In Production	Production Capacity of 100 tons per day or more
6.	Petrochemical Refining Industry	All Sizes
7.	Natural Gas Separation Industry or Natural Gas Reforming Industry	All Sizes
8.	Chlor-Alkali Industry and Industry Using Chlorine (Cl ₂) or Hydrogen Chloride (HCl) As Following	Production capacity of such products for each, or combined, of 100 tons per day or more
	8.1 Chlor-alkali Industry using Sodium Chloride (NaCl) as a Raw Material to Produce Chlorine (Cl ₂) Sodium Hydroxide (NaOH), Sodium Hypochlorite (NaOCl), Hydrochloric Acid (HCl), Sodium Carbonate (Na ₂ CO ₃) and Bleaching Powder	

Item	Types of projects or activities	Size
	8.2 Industry Using Chlorine or Hydrogen Chloride as a Raw Material to produce Sodium Hypochlorite (NaOCl), Hydrochloric Acid (HCl), Sodium Carbonate (Na ₂ CO ₃) and Bleaching Powder	
9.	Cement Industry	All Sizes
10.	Paper Pulp Industry	Production capacity of 50 tons per day or more
11.	Active Ingredient Production or Pesticide Industry Using Chemical Process	All Sizes
12.	Chemical Fertilizer Industry Using Chemical Process	All Sizes
13.	Sugar industry as Following:	
	13.1 Producing Raw Sugar, White Sugar or Refined Sugar	All Sizes
	13.2 Producing Glucose, Dextrose, Fructose or Other Similar Products	Production capacity of 20 tons/day or more
14.	Iron or Steel Industry	Production capacity of 100 tons/day or more but not over 5,000 tons/day
15.	Metallic Mineral Smelting or Dressing or Metal Melting, other than the Iron or Steel Industry	Production capacity of 50 tons per day or more
16.	Liquor, Alcohol Industry including Beer and Wine	
	16.1 Liquor, Alcohol Industry	Production Capacity of 40,000 liters/month or more (calculated at 28 degrees)
	16.2 Wine Industry	Production Capacity of 60,000 liters/month or more
	16.3 Beer Industry	Production Capacity of 60,000 liters/month or more

Item	Types of projects or activities	Size
17.	Central Waste Treatment Plant only for Industrial Waste under the Factory Laws	All Sizes
18.	Thermal Power Plant except Waste-To-Energy Plants Waste-To-Energy Plants that are exempted shall not be located in the following areas (1) Class 1 or Class 2 Watershed Area defined by the Cabinet Resolution (2) Environmentally Protected Area under the Notification of Ministry of Natural Resources and Environment (3) Additional Forest Conservation Area defined by the Cabinet Resolution (4) Ramsar Site Wetland (5) Area where Air Pollution Level exceeds 80 percent of the National Ambient Air Quality Standards	Power Production Capacity of 10 Megawatts (MW) or more
19.	Expressway System under the Expressway Authority of Thailand Act or other similar projects	All Sizes
20.	Highway or road as defined by the highways Law, passing through the following areas: 20.1 Wildlife Sanctuary or Non-Hunting Area under the Wildlife Conservation And Protection Law 20.2 National Park under the National Park Law 20.3 Class 2 Watershed Area defined by Cabinet Resolution 20.4 Mangrove Forest Area designed as the National Forest 20.5 Coastal Area within 50 meters of the Highest Natural Sea-Level Rise 20.6 Area in or within 2 kilometer from Ramsar Site or World Heritage Site inscribed on the World Heritage List according to the World Heritage Convention 20.7 Area within 1 kilometer from an Ancient Monument, Archaeological Site ,Historic Site or Historic Park under the Laws On Ancient Monuments, Antiques, Objet D'art and National Museums Except for the Road described by City Planning Laws	All Sizes All Sizes All Sizes All Sizes All Sizes All Sizes All Sizes

Item	Types of projects or activities	Size
21.	Railway Transportation System	All Sizes
22.	Port	Capacity For Vessels of 500 gross tons or more or Quay Length of 100 m. or longer or Total Port Area of 1,000 sq.m. or larger
23.	Recreational Port	Capacity for 50 boats or more or Total Port Area of 1,000 sq.m. or larger
24.	Land Reclamation in the Sea	Not over 300 Rai (480,000 square meter)
25.	Construction or Expansion of a Structure around or in the sea	
	25.1 Groin, Jetty, Training Wall;	All Sizes
	25.2 Offshore Breakwater	All Sizes
26.	Aviation Transportation System only Construction or Expansion of Commercial Service Airport or Temporary Takeoff and Landing Area for Commercial Aircraft	Runway Length of 1,100 m., but not over 3,000 m.
27.	Building under the Building Control Laws that falls within any of the following Locations Or Utilization Purposes:	
	27.1 Located Adjacent to a Riverbank, Seashore, Lakeshore or Beach, or near or within a National Park or Historic Park, which may impact to the Environmental Quality	Height of 23.00 m. or higher or Total Floor Area or Individual Floor Area in the same building of 10,000 sq.m. or larger
	27.2 Retail or Wholesale Business	Height of 23.00 m. or above or Total Floor Area or Individual Floor Area in the same building of 10,000 sq.m. or above

Item	Types of projects or activities	Size
	27.3 Office for Private Sector	Height of 23.00 m. or above or Total Floor Area or Individual Floor Area in the same building of 10,000 sq.m. or above
28.	Land Allocation for Residential or Commercial Purposes under the Land Allocation Laws	500 land plots or more or total area of 100 Rai or larger (160,000 sq.m. or larger)
29.	Hospital or Sanatorium under the Sanatorium Laws	
	29.1 In the case of the location is within 50 m. from a Riverbank, Seashore, Lakeshore Or Beach	30 in-patient Beds or more
	29.2 Other Projects not specified in item 29.1	60 in-patient Beds or more
30.	Hotel or Resort under the Hotel Law	80 Units or more or Total Usable Area of 4,000 sq.m. or larger
31.	Residential building under the Building Control Laws	80 Units or more or Total Usable Area of 4,000 sq.m. or larger
32.	Irrigation	Total Irrigation Area of 80,000 rai or larger (128 sq.km.)
33.	All types of projects located in the Class 1 Watershed Area defined by the Cabinet Resolution	All Sizes

Item	Types of projects or activities	Size
34.	Transbasin Diversion as Following	
	34.1 Transbasin Diversion of Main River Basins, Except For Temporary Diversion In the Case of the Disaster or where there is an Impact on National Security	All Sizes
	34.2 International Transbasin Diversion, Except for Temporary Diversion In the Case of the Disaster or where there is an Impact on National Security	All Sizes
35.	Sluice Gate in the Main River	All Sizes

Annex A3: Type and Sizes of Projects or Activities which may Severely Affect Community with respect to Environmental Quality, Natural Resources and Health, requires the Environmental Health Impact Assessment (EHIA) according to Notification of Ministry of Natural Resources and Environment, 2018

Item	Types of projects or activities	Size
1.	Land Reclamation in the Sea or Lake from Existing Coastline Except for Coastal Restoration Purpose	Total Land Area of 300 Rai or larger (480,000 square meter or larger)
2.	Mining under the Mineral Laws as follows	
	2.1 Underground Mining which the Structure has been specifically designed for Subsidence After Stopping Operation Without Suspended Material or Refilling Substituted Material to Prevent Subsidence	All Sizes
	2.2 Lead Mining, Zinc Mining or other Metal Mining using Cyanide or Mercury or Lead Nitrate ($PbNO_3$) in Production Process or Other Metal Mining which Arsenopyrite ($AsFeS_2$) is the Associated Mineral	All Sizes
	2.3 Coal Mining which specifically loaded Coal from Project Area by Vehicles	Daily Production Capacity of 200,000 tons/day or more or Annual Production Capacity 2,400,000 tons/years or more
	2.4 Marine Mining	All Sizes

Item	Types of projects or activities	Size
3.	Industrial Estate under the Industrial Estate Authority of Thailand Act or Projects that the same feature as Industrial Estate as Following	
	3.1 Industrial Estate or Projects that the same feature as Industrial Estate which is established to support for Petrochemical Industry, according to Item 4 or Steel Smelting Industry, according to Item 5.1 or 5.2 as the case may be from one factory or more	All Sizes
	3.2 Industrial Estate or Projects that the same feature as Industrial Estate which is expanded the area to support for Petrochemical Industry, according to Item 4 or Steel Smelting Industry, according to Item 5.1 or 5.2	All Sizes
4.	Petrochemical Industry as Following	
	4.1 Upstream Petrochemical Industry	All Sizes or Production Capacity Expansion of 35% of Existing Production Capacity or more
	4.2 Intermediate Petrochemical Industry as Following	
	4.2.1 Intermediate Petrochemical Industry which produces Substances or uses the Carcinogenic Substances Group 1 as the Raw Material	Production Capacity of 100 tons/day or Total Extensive Production is more than 100 tons/day
	4.2.2 Intermediate Petrochemical Industry which produces Substances or uses the Carcinogenic Substances Group 2A as the Raw Material	Production Capacity of 700 tons/day or Total Extensive Production is more than 700 tons/day

Item	Types of projects or activities	Size
5.	Metal Smelting or Melting Industry as Following	
	5.1 Steel Smelting	Quantity of Ore Input for Production Process is 5,000 tons/day or more or Total Quantity of Ore Input is 5,000 tons/day or more
	5.2 Steel Smelting Manufacturing Coke Coal or Using Sintering Process	All Sizes
	5.3 Copper, Gold or Zinc Smelting	Output Production Capacity of 1,000 tons/day or more or Total Production Capacity of 1,000 tons/day or more
	5.4 Lead Smelting	All Sizes
	5.5 Metal Melting (Except for Steel or Aluminum smelting)	Output Production Capacity of 50 tons/day or more or Total Production Capacity of 50 tons/day or more
	5.6 Lead Melting	Output Production Capacity of 10 tons/day or more or Total Production Capacity of 10 tons/day or more
6.	Production, Possession or Use of Nuclear Energy From Nuclear Reactors	Production Capacity of 2 Megawatts (MW) or more
7.	Central Waste Treatment Plant or Manufactory of Waste or Unused Material Disposal defined By The Factory Act Law which Burns or buries Hazardous Waste Except for Incineration on Cement Oven that use the Hazardous Waste As Substitute Raw Material or Additional Fuel	All Sizes
8.	Aviation Transportation System	Construction or Extension or Addition of Runway from 3,000 m. or longer

Item	Types of projects or activities	Size
9.	Port	1) Berth Length of 300 m. or longer or Total Port Area of 10,000 sq.m. or more Except for Port that Local People Use In Daily Life and For Tourism Purpose 2) Digging of Water Course of 100,000 Cubic meters or more 3) Using for Loading of Carcinogenic Substance Group 1 Hazardous Material or Hazardous Waste of 25,000 tons/month or Annual Total Loading of 250,000 tons or more
10.	Dam or Reservoir	Total Water Storage Capacity of 100 million cubic meters or more or Total Catchment Area or 15 sq.km. or larger
11.	Thermal Power Plant as Following	
	11.1 Coal Power Plant	Total Power Production Capacity of 100 Megawatts (MW) or more
	11.2 Biomass Power Plant	Total Power Production Capacity of 150 Megawatts (MW) or more
	11.3 Natural Gas Power Plant which is Combined Cycle or Cogeneration System	Total Power Production Capacity of 3,000 Megawatts (MW) or more
	11.4 Nuclear Power Plant	All Sizes
12.	Coke Production Industry	All Sizes

Annex A4 : List of Environmentally Protection Area, prescribing the type and size of projects/ activities that require the IEE/EIA Report Preparation

1. Notification of MNRE Re: Prescribing the Environmentally Protected Area and measures in Banglamung and Sattahip district in Chonburi province, 2010
2. Notification of MNRE Re: Prescribing the Environmentally Protected Area and measures in Samui Islands and Pha-ngun Island in Surat Thani province , 2015
3. Notification of MNRE Re: Prescribing the Environmentally Protected Area and measures in Phang-nga Province, 2016
4. Notification of MNRE Re: Prescribing the Environmentally Protected Area and measures in Krabi Province, 2016
5. Notification of MNRE Re: Prescribing the Environmentally Protected Area and measures in Phuket Province, 2017
6. Notification of MNRE Re: Prescribing the Environmentally Protected Area and measures in Ban Laam District, Mueng Phetchaburi District, Tha Yang District, and Cha-am District in Phetchaburi District and Hua-Hin District and Pranburi District in Prachuap Khiri Khan Province, 2018

Annex A5 : Type of Projects Located in Additional Conservation Forest According to Cabinet Resolution on 26th April 2011

1. Projects requiring the Environmental Impact Assessment (EIA) are:
 - 1.1. Dam or Reservoir Located in Additional Conservation Forest over 500 Rai (800,000 sq.m.) or more
 - 1.2. Dam Type and Weir Type (Non-Reservoir) Hydro Power Plant of which Power Production Capacity is 10 Megawatt (MW) or more
 - 1.3. High Voltage Transmission Line from the Required-EIA Power Plant which pass through Additional Conservation Forest, include in EIA Report of the Power Plant Project.
 - 1.4. Seismic Petroleum Exploration under the Petroleum Law
 - 1.5. Type III Factory under the Factory Act
2. Projects requiring Initial Environmental Examination (IEE) are:
 - 2.1. Dam or Reservoir which is located in Additional Conservation Forest 50 Rai (80,000 sq.m.) or more but not over 500 Rai (800,000 sq.m.)
 - 2.2. Dam Type and Weir Type (Non-Reservoir) Hydro Power Plant of which Power Production Capacity is 200 kilowatt or more but not over 10 MW
 - 2.3. High Voltage Transmission Line's Construction or Voltage Expansion the Specific Case of the Radial Expansion of the Right of Way's Safety in Additional Conservation Forest
 - 2.4. Construction or Expansion of Road in Additional Conservation Forest

- 2.5. Pipe Construction or Irrigation System in Additional Conservation Forest from 5 kilometer or more
- 2.6. Mineral Exploration under the Mineral Law
- 2.7. Mining Project under the Mineral Law (Only Mining Concession Extension)
- 2.8. Type II Factory under the Factory Act

3. Projects requiring Environmental Checklist including Mitigation Measure and Monitoring Program

All Projects which are not required IEE or EIA preparation, Must prepare the Environmental Checklist including Mitigation Measure and Monitoring Program

4. Environmental Impact Assessment Mechanism are:

- 4.1. Projects requiring EIA and IEE Report, must submit the Report to Expert Committee Review for the Approval
- 4.2. Projects requiring the Environmental Checklist including Mitigation Measure and Monitoring Program, must submit to Royal Forest Department for Review and Approval
- 4.3. EIA/IEE Report Preparation shall mutatis mutandis apply the Report Preparation Guideline according to Notification of Ministry of Natural Resources and Environmental Re: Types and Sizes of Projects or Activities Requiring EIA Report and Rules, Procedures, Practices and Guidelines for Preparing EIA Report

Project Proponents must follow the Mitigation Measure and Monitoring Program determining in the Approved EIA/IEE Report, also Proponents must submit the EIA Monitoring Report to ONEP and Royal Forest Department at least 2 times/year

Annex B: Guideline of EIA Content

Annex B1: IEE/EIA/EHIA report, according to Notification of Ministry of Natural Resources and Environment (2018)

Guideline for preparing the IEE report

According to Clause 7 Notification of MNRE Re: Prescribing of Projects or Activities Required Environmental Impact Assessment Report and Rules, Procedures, Practices and Guidelines for Preparing Environmental Impact Assessment Report, 2018, The Initial Environmental Evaluation Report shall content essential topics at least as following

- 1. Introduction** describes background, objectives, rationale, necessity for project or activities implementation, objective of report, scope of study and study methodology including alternative project location
- 2. Project Details** must be able to show the project overview clearly, including type, size, operation, implementation and location of project or activities with location map, photograph of project site, also the environmental element map at the affected area on the scale of 1:50,000 and/or appropriate scale as well as project layout with suitable direction sign and scale.
- 3. Existing Environment** describes the detail and photograph of physical environment, biological environment, human use value and human quality value, also public consultation by information publishing at the site location from the beginning of report preparation. In addition, the result of consultation has to be included to the report, including other current issues in order to evaluate initial impact from the implementation. This chapter must show the surrounding environment and land use map, which may be affected both short term and long term.
- 4. Environmental Impact Evaluation** must focus on significant environmental impact, which may be occurred from the project implementation both direct and indirect natural resources and environmental impact, mentioned on Topic No.3
- 5. Mitigation Measures and Monitoring Measures** must content essential matters at least as following:
 - a. The Detail of Mitigation Measures from the Environmental Impact Evaluation. In case of unavoidable damage, the proponent shall propose the additional compensation measures.
 - b. The Detail of Monitoring Measures, which is suitable techniques and practices and complies with mitigation measures.
 - c. Summary Table of significant environmental impact with mitigation measures and monitoring measures
- 6. The report attachment** contents references, photograph layout or model, which are used for initial impact evaluation. The appendix such as calculation lists, sample of questionnaire or interview photograph and the research, helped on the understanding enhancement for environmental evaluation.

Guideline for preparing the EIA report

According to Clause 8 of Notification of MNRE Re: Prescribing of Projects or Activities Required Environmental Impact Assessment Report and Rules, Procedures, Practices and Guidelines for Preparing Environmental Impact Assessment Report, 2018, The Environmental Impact Assessment Report shall content essential topics at least as following

- 1. Introduction** describes backgrounds, objectives, rationale and necessity of projects/ activities as well as objective of report preparation, scope and methodology of study, including location options which have to accord with objectives, rationale and necessity of projects/activities as well as reason and decision on proposed options.
- 2. Project Details** must be able to show the project overview clearly, including type, size, operation, implementation and location of project or activities with location map, photograph of project site, also the environmental element map at the affected area on the scale of 1:50,000 and/or appropriate scale as well as project layout with suitable direction sign and scale.
- 3. Existing Environment** describes the detail and photograph of Physical environment, biological environment, human use value and human quality value. This topic must include the detail of social-economic study and public participation as well as current issues with the surrounding environment and land use map, which may be affected both short term and long term. The Public consultation process and methodology shall follow the guideline issued by Office of Natural Resource and Environmental Policy and Plan.
- 4. Environmental Impact Evaluation** identifies environmental impact and all aspects evaluation from projects/activities implementation both direct and indirect natural resources and environmental impact, including the alternative implementation assessment
- 5. Mitigation Measures and Monitoring Measures** must content essential matters at least as following:
 - a. The detail of mitigation measures from the environmental impact evaluation. In case of unavoidable damage, the proponent shall propose the additional compensation measures
 - b. The detail of monitoring measures, which is suitable techniques and practices and complies with mitigation measures. These measures shall be the part of monitoring and post-implementation assessment.
 - c. The detail mitigation of measures and monitoring measures, which have been taken, in case of the project/activity, having been implemented before.
 - d. Summary Table of significant environmental impact with mitigation measures and monitoring measures. It is able to propose as the action plan in each aspect completely.

- 6. The report attachment** content references such as sampling report and environmental quality analysis report, photograph, layout or model, which are used for impact evaluation. The appendix such as calculation lists, sample of questionnaire or interview photograph and the research, helped on the understanding enhancement for environmental evaluation.
- 7. In case of State Projects/Activities** or joint venture between state and private, the project proponent shall prepare the executive summary, which consists of at least essential matters, including (a) Introduction (b) Project Details same content as the main report and (c) Summary Table of significant environmental impact with mitigation measures and monitoring measures

Guideline for preparing the EHIA report

According to Clause 5 of Notification of MNRE Re: Prescribing of projects or activities which may seriously affect on natural resources, environmental quality, health, sanitation, life quality of people or community Required Environmental and Health Impact Assessment Report and Rules, Procedures, Practices and Guidelines for Preparing Environmental Impact Assessment Report, 2018, The Environmental and Health Impact Assessment Report shall content essential topics at least as following

- 1. Introduction** describes backgrounds, objectives, rationale and necessity of projects/activities as well as objective of report preparation, scope and methodology of study, including location options which have to accord with objectives, rationale and necessity of projects/activities as well as reason and decision on proposed options.
- 2. Project Details** must be able to show the project overview clearly, including type, size, operation, implementation and location of project or activities with location map, photograph of project site, also the environmental element map at the affected area on the scale of 1:50,000 and/or appropriate scale as well as project layout with suitable direction sign and scale.
- 3. Existing Environment** describes the detail and photograph of Physical environment, biological environment, human use value and human quality value. This topic must include the detail of social-economic study and public participation as well as current issues with the surrounding environment and land use map, which may be affected both short term and long term. The Public consultation process and methodology shall follow the guideline issued by Office of Natural Resource and Environmental Policy and Plan.
- 4. Environmental Impact Evaluation** identifies environmental impact and all aspects evaluation from projects/activities implementation both direct and indirect natural resources and environmental impact, including the alternative implementation assessment

5. Mitigation Measures and Monitoring Measures must content essential matters at least as following:

- a. The detail of mitigation measures from the environmental impact evaluation. In case of unavoidable damage, the proponent shall propose the additional compensation measures
- b. The detail of monitoring measures, which is suitable techniques and practices and complies with mitigation measures. These measures shall be the part of monitoring and post-implementation assessment.
- c. The detail mitigation of measures and monitoring measures, which have been taken, in case of the project/activity, having been implemented before.
- d. Summary Table of significant environmental impact with mitigation measures and monitoring measures. It is able to propose as the action plan in each aspect completely.

6. The report attachment content references such as sampling report and environmental quality analysis report, photograph, layout or model, which are used for impact evaluation. The appendix such as calculation lists, sample of questionnaire or interview photograph and the research, helped on the understanding enhancement for environmental evaluation.

7. In case of State Projects/Activities or joint venture between state and private, the project proponent shall prepare the executive summary, which consists of at least essential matters, including (a) Introduction (b) Project Details same content as the main report and (c) Summary Table of significant environmental impact with mitigation measures and monitoring measure

Annex B2: Guideline for public consultation of EIA for the project/activity that which may seriously affect on natural resources, environmental quality, health, sanitation, life quality of people or community (EHIA)

Project Proponent must arrange the Public Consultation for EHIA Report at least 3 times, also survey for the social preparation process in order to:

- Prepare the Public Information in the project detail and the rule of public hearing with emphasis on the easy understanding communication such as Infographic, Brochure, Billboard or Short Videoclip.
- Analyze the Stakeholder to determine the appropriate public participation format.
- Discuss about suitable date, time and place

First Public Consultation: This public consultation is the public forum for study scoping and environmental impact assessment guidance, including project details and alternative analysis; in order to involve the stakeholders and relevant agencies participation. The objective of this forum is to inform the stakeholders and relevant agencies about project details, scope of study, potential impact (both direct and indirect) and alternative analysis. Moreover, the public feedbacks can be fulfilled the study and report preparation. The first Public hearing shall be organized as following:

1. The project proponent must inform stakeholder at least 30 days before the forum date via the communication channels at least three channels in order to ensure the preparation of the interested agency and the public
2. The project document must be disclosed in advance for the period of not less than 15 days before the forum via the communication channel at least 3 channels. This document has to identify background, necessity, process and operation guideline of the project, including basic information relating to factors which may induce environmental impact and the draft term of reference (TOR) and guidance for environmental impact assessment; in order to be reviewed by relevant people and agencies. The communication channels should be the same as the channels, informing stakeholder the agenda of public forum.
3. The registration to the forum shall be organized for the convenience of the public, interested parties and related agency and registration in advance has to be allowed.
4. The public hearing forum has to be arranged the suitable period in order to allow stakeholders to express about relevant information, concerns and guidance of appropriate environmental and health impact evaluation, moreover the project proponent must completely gather all issues, questions and opinions from the forum.
5. After the Public Hearing forum, the project proponent must open the communication channel at least 3 channel to receive the opinions continuously not less than 15 days and should be the same channel as the stakeholder informing.
6. Project Proponent must summarize the result of the public hearing forum, including explanations, opinions, presentation of study scoping and guidance of environmental and health impact evaluation to inform the public and include to the EHIA Report.

Second Public Consultation: This public consultation is arranged during the investigation and report preparation, of which objective is to engage the public involvement and gain the feedbacks and concerns of the target groups. The second public consultation shall be organized as following:

1. The EIA Developer has to disclose the fact related to the project/activity to be assessed which, at least, composing of the following information:
 - 1.1 Type, Size, production capacity, project area, pollution which may emerge from the operation of the project/activity and other significant detail, including potential impact factor data.
 - 1.2 Expected commencement of the project/activity
 - 1.3 Project Owner Name or Permitting Agencies with telephone number and address for further information
 - 1.4 date, time and place for consultation with stakeholder
 - 1.5 The place for installation of the sign board displaying information under 1.1-1.5 and the size of the sign board shall be conveniently accessible and readable.

2. The EIA Developer has to display name of the project/activity, objectives, goals and survey issue clearly. Each issue shall be complied with project/activity detail too.
3. The consultation should be given the priority to information gathering and the life way and community environment study at the study area which may be affected from the operation of the project/activity
4. The EIA Developer may use following techniques for consultation, consisting of:
 - 4.1 Individual Interview
 - 4.2 Submitting opinions by post, telephone, facsimile, information technology networks system or other suitable mean
 - 4.3 Allowing the public and stakeholders to obtain information and express their opinion at the State agency which is responsible for the project
 - 4.4 Focus Group Meeting
 - 4.5 Workshop
 - 4.6 Meeting of Stakeholder Representative
5. When the EIA Developer already finishes the consultation, the EIA developer must summarize the social survey result, including both positive opinions and negative opinions within 15 days from the survey finishing date. This has to report to Provincial Natural Resources and Environmental Office (PNRE), Provincial Health Office, District Office, District Health office, local administration office and public health service in the project/activity area. In this regard, the report shall be displayed at conveniently accessible place for, at least 15 days

Third Public Consultation: This public consultation is the public forum for reviewing the draft EHIA Report, mitigation measures and monitoring programs. The objectives are to ensure the public about report and mitigation measure, which include their opinions from previous consultation, also to make the chance for stakeholders to examine the completeness and accuracy of draft report and give the additional feedbacks to improve the draft report. However, if the project is either mega project or complicated project, the project proponent is able to use other appropriate techniques for consultation. The third Public hearing shall be organized as following:

1. The project proponent must inform stakeholder at least 30 days before the forum date via the communication channels at least three channels in order to ensure the preparation of the interested agency and the public
2. The draft final report and mitigation measures must be disclosed in advance for the period of not less than 15 days before the forum date via the communication channel at least 3 channels in order to make the opportunity for stakeholders and relevant agencies to review the draft final report and mitigation measures. The communication channels should be the same as the channels, informing stakeholder the agenda of public forum.

3. Public Hearing forum for draft final report reviewing has to be arrange the suitable period in order to allow stakeholders and interested party to express about information fact and additional opinions. Moreover, the project proponent must completely gather all issues, questions and opinions from the forum.
4. After the Public Hearing forum, the project proponent must open the communication channel at least 3 channel to receive the feedbacks continuously not less than 15 days
5. Project Proponent must summarize the result of the public forum, including explanations and opinions to inform the public and include to the EHIA Report.

2

EIA in **Brunei**



2. EIA in Brunei



2.1 Definitions

Environmental Impact Analysis (EIA) refers to the process of

- (a) surveying, predicting and assessing environmental impact;
- (b) studying possible environmental protection measures relating to the prescribed activity;
- (c) assessing the likely overall environmental impact of such measures;

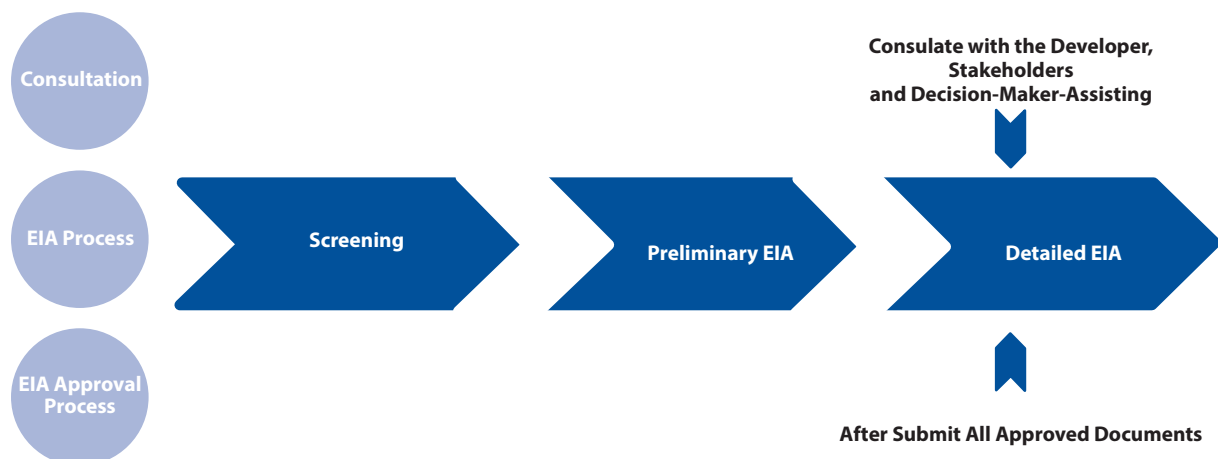
Jabatan Alam Sekitar, Taman dan Rekreasi (JASTRe) is Department of Environment, Parks and Recreation, Ministry of Development

2.2 Introduction

His Majesty the Sultan and Yang Di-Pertuan of Brunei Darussalam's decree delivered during the 26th National Day in 2010, whereby the monarch highlighted the need for substantive laws to protect the environment, while, there was no the laws to mandate EIA for any development or industrial projects in Brunei. Following His Majesty's decree, Department of Environment, Parks and Recreation, Ministry of Development (JASTRe), responsible for approving and endorsing the Environmental Impact Assessment, came out with the proposed Environmental Protection and Management Order 2012 which states mandatory EIA for future projects listed as "prescribed activities" under its Schedule and to support the Environmental Protection and Management Order 2012 JASTRe published the only Environmental Impact Assessment Guidelines for Brunei Darussalam (as of October 2012). The Revision of the prescribing mandatory EIA for the projects listed as "prescribed activities" under its Schedule 1 in Environmental Protection and Management Order 2016,

An overview of Brunei's EIA process proposed is shown in **Figure 2.2-1** and the key elements are described in the following sections.

Figure 2.2-1 Simplified Overview of Brunei's EIA Process



2.3 EIA Legal Framework

The current main legal framework for the EIA in Brunei is Environmental Protection and Management Order 2016, which based on The Sultan and Yang Di-Pertuan of Brunei Darussalam's decree, dated 26th National Day in 2010 and revised the Environmental Protection and Management Order 2012; also the JASTRe published the Environmental Impact Assessment Guidelines for Brunei Darussalam in 2012 to establish the process of EIA and guide the project proponent about the EIA report preparation.

However, some relevant law on the environmental impact assessment process are currently in effect and adopted by the Department of Environment, Parks and Recreation such as:

- 1) Penal Code (Kanun Keseksaan) c.22 and Minor Offences Act (Akta Kesalahan-Kesalahan Kecil) c.30 of Royal Brunei Police Force
- 2) Municipal Board Act (Akta Lembaga Bandaran) c.57 of Municipal Board.
- 3) Water Supply Act (Akta Bekalan Air) c.121 of Department of Water Services, Public Works Department.

The history of development of the EIA system in Brunei is summarized in **Table 2.3-1** below.

Table 2.3-1 EIA Relevant Regulations

Year	Relevant regulations	Key milestones/ changes
2010	The Sultan and Yang Di-Pertuan of Brunei Darussalam's decree, dated 26 th National Day in 2010	<ul style="list-style-type: none">Highlighted the need for substantive laws to protect the environment for every development projects which may have potential impact to the environment
2012	Environmental Protection and Management Order, 2012	<ul style="list-style-type: none">Prescribed mandatory EIA for future projects listed as "prescribed activities" under its Schedule
	JASTRe's Environmental Impact Assessment Guidelines for Brunei Darussalam	<ul style="list-style-type: none">Published the Guidelines for EIA of developments that are proposed to be carried out in Brunei Darussalam
2016	Environmental Protection and Management Order, 2016	<ul style="list-style-type: none">Revised the prescribing mandatory EIA for future projects listed as "prescribed activities" under its Schedule 1

2.4 Types and Sizes of Projects Requiring EIA Reports

The list of types and sizes of projects or activities which are required to submit EIA announced in the SCHEDULE 1 [sections 9(1), 40 and 41(2)(a) of the Environmental Protection and Management Order (2016). Currently, 19 types of types and sizes of projects or activities requiring EIA reports listed in **Annex A** of this report

2.5 EIA Report Component

There are no regulations and specific guidelines for environmental impact assessment preparation process, however, Environmental Impact Assessment Guidelines for Brunei Darussalam (2012) serves as a guideline for project proponents to survey, predict and assess environmental impacts and study possible environmental protection measures relating to prescribed activities in the following areas. The EIA report shall content as summarized below and described on the **Annex B** of the report.

Content of EIA Report

Executive Summary

The Executive Summary must be set up to give a brief summary of findings from the EIA Study. It must be explained in a simplified manner without any technical jargon to assist the understanding of a variety of readers which make up the panel of decision makers.

Body of Report

- A. Project Title
- B. Project Stakeholders
- C. Project Statement
- D. Project Description
- E. Project Alternatives (if any)
- F. Environmental Assessment for existing environment
- G. Impacts and Mitigation Measures
- H. Environmental Management and Monitoring Plan
- I. Conclusion
- J. Annexes/References

2.6 EIA Process system

2.6.1 EIA Developer

There is no official requirement for minimum qualifications for an EIA developer in Brunei. All Environmental matters presently under authority of the Director of Brunei Department of Environment, Park and Recreation (JASTRE) include the legislation of the environmental orders.

2.6.2 EIA Preparation and Timeline

There is no formalized EIA process in Brunei. The EIA process generally reflects the Project Proponent's corporate requirements and/ or the funding body. JASTRe's Environmental Impact Assessment Guidelines for Brunei Darussalam (as of October 2012) however provides a general outline and guideline on how to conduct an EIA in Brunei. All completed EIA Statements must be submitted to the following address for review by the Environmental Impact Assessment Review Committee. Based on the EIA Guidelines for Brunei, the EIA process is recommended to be undertaken as a three stage process, which are Screening, Preliminary EIA; and Detailed EIA.

Screening

Screening helps to focus resources on those projects most likely to have significant impacts, those where the impacts are uncertain and those where environmental management input is likely to be required. Guidance to assist with the screening process may take several forms: screening criteria such as size, cost, location of the project; lists of EIA requirement projects, project's checklists and investigated environment. The types of projects which generally require an EIA include:

- projects which involve a significant change in renewable resource use;
- projects which involve a substantial change in farming or fisheries practice;
- water resource projects, including dams, irrigation, watershed development;
- infrastructure projects;
- industrial projects;
- extractive industries; and
- waste management and disposal.

Preliminary EIA

If the screening process suggests that further assessment is required, or if there is uncertainty about the nature of potential environmental impacts, the next stage is for the project proponent to undertake a preliminary assessment. This may employ rapid assessment techniques but should be detailed enough to:

- identify key impacts on the local environment;
- describe the magnitude and significance of the impacts; and
- evaluate the importance of the impacts for decision makers.

The preliminary assessment often require the project proponent to undertake a number of components of the impact assessment process at a superficial level. If the screening process or the preliminary assessment indicates that an impact assessment is required, the first task of the study team should be to scope the impact assessment. Since, the Preliminary EIA is not a full environmental impact assessment, there is no formal guideline for undertaking this process. The Preliminary EIA works like an Environmental Impact Review, which outline the project and predict impact of project operation. This will also determine if a full EIA needs to be conducted. The full EIA is termed as "Detailed EIA" and is further detailed below.

Detailed EIA

If during the screening process or the preliminary EIA indicates that further impact assessment is required, the Detailed EIA will be undertaken. There is no official requirement for minimum qualifications for an EIA developer in Brunei, however, The general integration sequence for an EIA as specified by the Brunei EIA Guidelines 2012 is shown in the **Figure 2.6-1** There are seven stages in developing an EIA report, which are Scoping, Project Planning Integration, Identifying Baseline Situations, Prediction of Risks and Impacts, Identify Mitigation Options, Review and Revise Project and Produce Report. (**Figure 2.6-2**)

1) Scoping

Scoping is one of the crucial elements of an impact assessment process. During the scoping process, the extent and depth of the EIA report can be determined. Scoping exercise can also be utilized as a preliminary review of crucial items of the projects such as the viability of the site, design and process selection. A guideline for the scoping exercise is included in the Brunei EIA Guidelines.

2) Project Planning Integration

During this phase of the project, Project Proponent may want to include or modify some aspects of the project based on the conclusions of the scoping exercise.

3) Identifying Baseline Situations

Key components of baseline data include Physical environment, Biological environment and Socio-economic environment. The project proponent should decide to use secondary data, the Brunei Guidelines recommends that the data to not be older than five (5) years.

4) Prediction of Risks and Impacts

Brunei does not have a preferred impact assessment methodology to be used in EIAs. Commonly, impact assessments will take into consideration, amongst others:

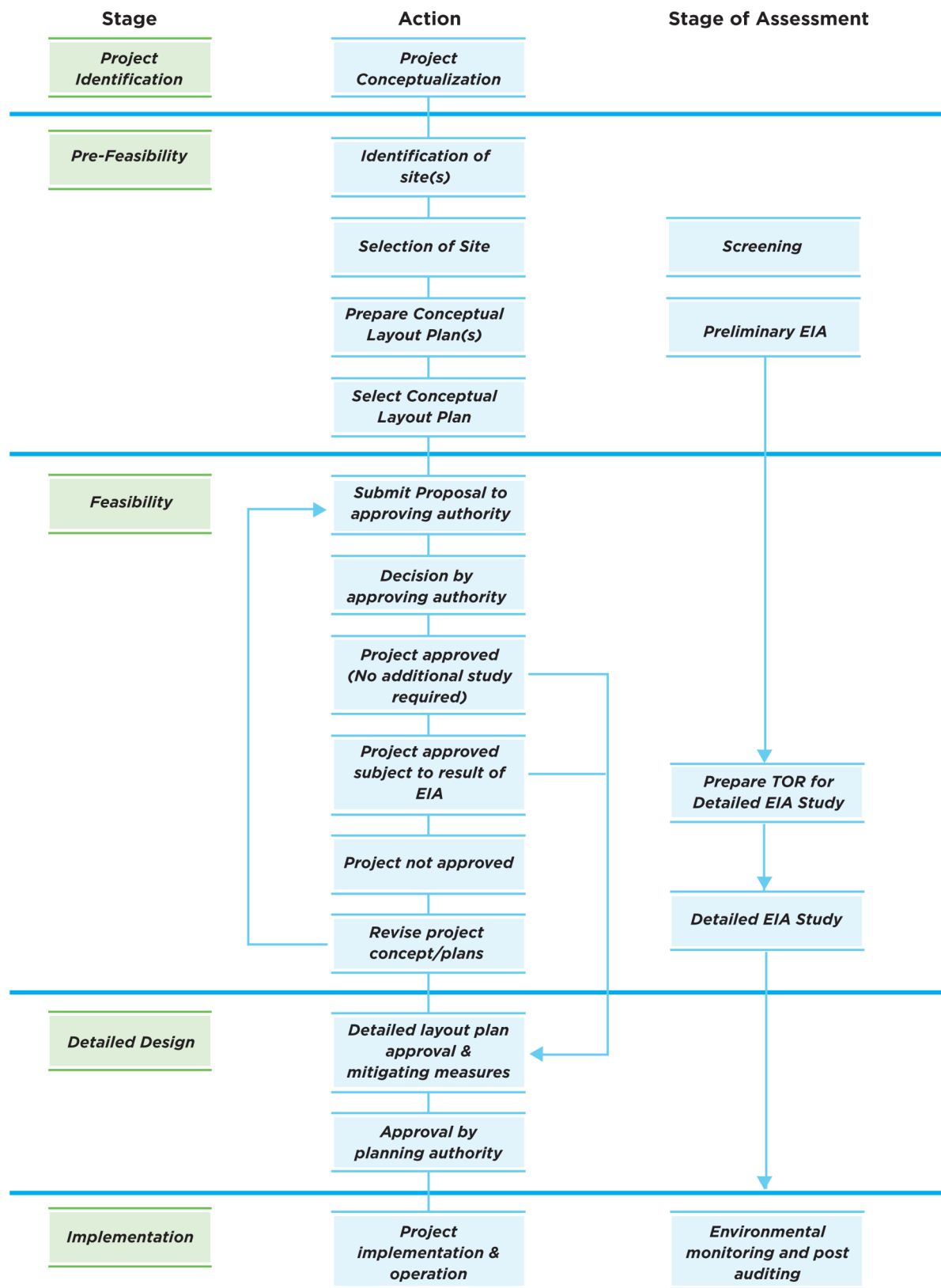
- i. Existing legislation, standards or regulations;
- ii. The status of respective particular area, ecosystem, landscapes and/or species e.g. Protected, Rare, etc.;
- iii. Governmental policy objectives; and
- iv. Acceptability to potentially affected people and the general public.

However, in the absence of the standards and/or the items listed above, such is the current situation in Brunei, professional expertise and experience of the Project EIA team will have to be employed.

5) Identify Mitigation Options

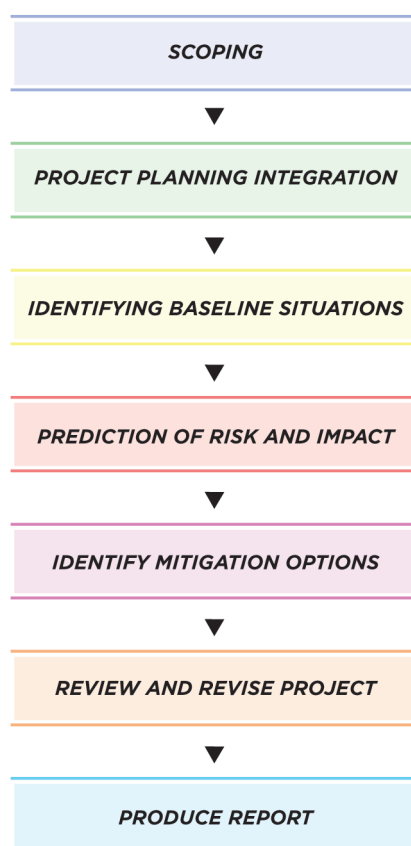
Mitigation measure must commensurate with the identified impacts. Mitigation measures should also be practical and practicable.

Figure 2.6.-1 Integration Sequence for an EIA



Source: EIA Guidelines for Brunei Darussalam, 2012

Figure 2.6-2 Stages in the Environment Impact Assessment Process



Source : EIA Guidelines for Brunei Darussalam, 2012

6) Review and Revise Project

The whole project, its activities, impacts and mitigation measures are reviewed during this exercise to ensure its applicability and relevance prior to producing the final EIA report. Any modification or additions to the project will be taken into consideration and included.

7) Produce Report

The Brunei EIA Guidelines recommends that the public be notified at this point via an Environmental Impact Statement (EIS). The suggested format for the EIS is as follows:

- i. Executive Summary
- ii. A listing of study team members and their credentials (simplified)
- iii. A matrix table of impacts and mitigation measures, according to these categories: physical impacts, biological impacts and social impacts.

Stakeholder Engagement

The main stakeholder for the EIA process in Brunei is JASTRe. Public participation is limited and the most that is usually done is limited social participation in the form of social impact questionnaire, and communication with the people in the general area of the project (if any). Social impacts are usually conducted as a desktop study based on conventionally accepted methods. For big projects, community leaders are usually informed and discussions

are conducted. This, however, is not common and reserved for projects that are likely to interest the international community. The Brunei EIA Guidelines recommends that the local community be informed of the EIA through an EIS during the EIA submission process.

For non-Governmental Agencies (NGOs) are not very active in Brunei and the ones that tend to get international notice are the offshore or nearshore projects as Brunei is within the known turtle migration route.

2.6.3 EIA Approval Process and Timeline

The report is compiled and submitted to JASTRe's Environmental Impact Assessment Division for review and approval. There is no specified or formalized timeframe for EIA processing in Brunei. The EIA process typically includes a comprehensive interaction between the project proponent, project environmental consultant and JASTRe's EIA department. Projects are evaluated on case-by-case basis and approval timeframe are usually dependent on the type and complexity of each individual project.

2.7 Basic Questions about EIA

Questions	Answers
1) What formal legislation exists concerning requirement of EIA?	Environmental Protection and Management Order, 2016
2) What types of projects are required to undertake EIA?	According to SCHEDULE 1 of Environmental Protection and Management Order, 2016, there are 19 types and sizes of project and activities, required the EIA preparation.
3) What are the components of the EIA report?	The EIA content as prescribed in the EIA Guidelines, 2012 is described below. A. Project Title B. Project Stakeholders C. Project Statement D. Project Description E. Project Alternatives (if any) F. Environmental Assessment for existing environment G. Impacts and Mitigation Measures H. Environmental Management and Monitoring Plan I. Conclusion J. Annexes/References
4) What authority involve in EIA procedure in Brunei ?	Department of Environment, Park and Recreation (JASTRe), Ministry of Development
5) When will EIA be prepared?	If the projects or activities are listed on the SCHEDULE 1 of Environmental Protection and Management order, 2016.

Questions	Answers
6) What are the steps of EIA in Brunei?	Based on the EIA Guidelines for Brunei, 2012, the EIA process is recommended to be undertaken as a three-stage process, which are Screening, Preliminary EIA and Detailed EIA.
7) What are the tools of EIA?	Environmental Impact Analysis (EIA)
8) Who is EIA developer?	There is no official requirement for minimum qualifications for an EIA developer in Brunei.
9) Is there any requirement for public consultation in EIA process?	Not specified
10) How timing in approval process?	There is no specified or formalized timeframe for EIA processing in Brunei. The EIA process typically includes a comprehensive interaction between the project proponent, project environmental consultant and JASTRe's EIA department. Projects are evaluated on case-by-case basis and approval timeframe are usually dependent on the type and complexity of each individual project.
11) Fee to approval process	Not specified
12) How long is EIA valid?	Not specified
13) Penalties	Any person carrying out any prescribed activity set out in Schedule 1 without written notification to the Authority as required under section 9(1) is guilty of an offence and liable on conviction to a fine not exceeding \$1,000,000, imprisonment for a term not exceeding 3 years or both.

Annex A : Project Applicable to EIA

List of the Projects Require EIA, according to SCHEDULE 1 sections 9(1), 40 and 41(2)(a) of Environmental Protection and Management order, 2016

Prescribed Activities

1. Agricultural and farming.
2. Aviation, including airport development and airline operations.
3. Drainage and irrigation, including
 - (a) dams and man-made lakes and artificial enlargement of lakes
 - (b) drainage of wetland, wildlife habitat or of virgin forest;
 - (c) irrigation schemes;
 - (d) all other man-made drainage and irrigation arrangements.
4. Fisheries, including
 - (a) fishing harbours;
 - (b) harbour expansion involving an increase of 50 per cent or more in fish landing capacity per annum;
 - (c) land based aquaculture projects accompanied by clearing of mangrove swamp forests;
 - (d) aquaculture, livestock and horticulture farms.
5. Forestry, including
 - (a) conversion of hill forestland to other land use;
 - (b) logging or conversion of forestland to other land use within the catchment area of reservoirs used for municipal water supply, irrigation or hydropower generation or in areas adjacent to state and national parks and national marine parks;
 - (c) conversion of mangrove swamps or peat land for industrial and housing development or agriculture use;
 - (d) clearing of mangrove swamps on islands adjacent to marine parks and marine reserves.
6. Hazardous substance
 - (a) activities related to construction, refurbishment and decommissioning of
 - (i) pipelines;
 - (ii) onshore and offshore workplaces and facilities;
 - (b) processing, transporting, handling, storing and disposal

7. Industry

abrasive blasting works	being works in which equipment or structures are cleaned by abrasive blasting
asphalt works	for the manufacture of asphalt or tarmacadam
cement works	for the manufacture or packing of arboniz cement, similar cementer pozzolanic materials
ceramic works	in which any products such as bricks, tiles, pipes, pottery goods, refractories or glasses are manufactured in furnaces or kilns fired by any fuel
chemical works	
coke or charcoal works	being works in which coke or charcoal is produced and quenched, cut, crushed or graded
concrete works	for the manufacture of concrete and of each batch capacity greater than 0.5 cubic meter
crushing, grinding and milling works	in being works which rock, ores, minerals, milling works chemicals or natural grain products are processed by crushing, grinding, milling or separating into different sizes by sieving, air elutriation or in any other manner
ferrous and non-ferrous metal or ore-work	being works in which metal melting process for casting and/or metal coating are carried out
food preparation	in which slaughtering, preparing and preserving meat, manufacturing of dairy products, canning and preserving of fruits and vegetables, canning, preserving and processing of fish, crustaceans and similar food, manufacture of vegetable and animals oils and fats, grain mill products, sugar factories and refineries and manufacture of prepared animal feeds.
gas works	in which coal, coke. oil or other mixtures or derivatives are handled or prepared for carbonised or gasification and in which such materials are subsequently carbonised or gasified
iron and steel	
petrochemicals	
pulp and paper production	
pulping works	being works in which wood or cellulose material is made into pulp

scrap metal works	recovery works, in which scrap metals are treated in any type of furnace for recovery of metal, irrespective of whether this is the primary object of any specific premises or not
shipyards	
vehicle	manufacturing, repair and servicing and maintenance of engine, motors, mechanical pumps, ship building and repair works

8. Infrastructure, including
 - (a) hospitals
 - (b) industrial estate development
 - (c) roadways
 - (d) any building and Facilities in areas which are deemed to be environmentally or ecologically sensitive.
9. Land reclamation, including coastal and river reclamation
10. Marine- Any activities in Brunei Darussalam waters.
11. Mining
 - (a) mining of minerals;
 - (b) ore processing;
 - (c) sand dredging.
12. Ports.
13. Power generation and transmission
 - (a) steam generated power stations burning fossil fuels;
 - (b) hydroelectric power schemes;
 - (c) combined cycle-power stations;
 - (d) nuclear-fuelled stations;
 - (e) hydrogen fuel stations;
 - (f) renewable energy.
14. Quarries-Decorative quarrying of aggregate, limestone, silica, quartzite, sandstone, marble and building stone.
15. Resort and recreational development
 - (a) construction of coastal resort facilities or hotels
 - (b) hill station resort or hotel development
 - (c) development of tourist or recreational facilities in national parks
 - (d) development of tourist or recreational facilities which are gazetted as national marine parks.

16. Steam boilers.
17. Transportation
 - (a) mass rapid transport projects;
 - (b) railways.
18. Waste treatment and disposal
 - (a) toxic and hazardous waste
 - (i) incineration plant;
 - (ii) recovery plant (offsite)
 - (iii) recovery and recycling plant
 - (iv) storage facility [offsite];
 - (b) municipal solid waste
 - (i) incineration plant;
 - (ii) composting plant;
 - (iii) recovery and recycling plant;
 - (iv) municipal solid waste landfill facility;
 - (c) municipal sewage
 - (i) wastewater treatment plant;
 - (ii) marine outfall;
 - (d) paste recycling, treatment and disposal facilities;
 - (e) waste treatment facilities;
 - (f) land-fill sites.
19. Water supply
 - (a) dams or impounding reservoirs;
 - (b) groundwater exploration and development for domestic and nondomestic, for industrial, agricultural or urban water supply.

Annex B : Guideline of EIA Content

According to JASTRe's Environmental Impact Assessment Guidelines
for Brunei Darussalam, 2012

Content of EIA Report

The EIA content as prescribed in the EIA Guidelines, 2012 is described below.

Executive Summary

The Executive Summary must be set up to give a brief summary of findings from the EIA Study. It must be explained in a simplified manner without any technical jargon to assist the understanding of a variety of readers which make up the panel of decision makers.

The Summary must contain the following information:-

- i) A Summary of the project description which includes scope, location, schedule and development components.
- ii) Identified impacts to existing environmental conditions
- iii) Where these impacts affect and the mitigation measures to address them
- iv) Any issues of significance which should be identified
- v) Recommendations

Body of Report

- 1) Project Title
- 2) Project Stakeholders
 - a) Project Initiator – name and contact details for easy reference if any information is required.
 - b) Project Consultant/Study Team Members – name and contact details of person primarily responsible for the EIA, normally the director or project coordinator. All consultants must be listed along with their credentials.
- 3) Project Statement
 - a) What is the objective of this project(s)
 - b) What are the primary activities which will be carried out
- 4) Project Description
 - a) Project location
 - b) Project size, area (blocks of land) involved
 - c) Project schedule
 - d) Project benefits (economic and social)
- 5) Project Alternatives (if any)
 - a) Which site(s) are available for development options
 - b) Evaluation of criteria used to select the optional site(s) for development

The following categories provide different alternatives which can be employed into a relevant development project :

- demand alternatives (e.g. using energy more efficiently rather than building more generating capacity);
- activity alternatives (e.g. providing public transport rather than increasing road capacity);
- location alternatives, either for the entire proposal or for components (e.g. different routing options for a road or power transmission line; alternative locations for a development site);
- process and design alternatives (e.g., use of waste minimising or energy efficient technology, use of different irrigation scheme designs);
- scheduling alternatives (e.g. careful timing of water discharges);
- input alternatives (e.g. alternative fuel types for power generation);
- use of pulp from recycled sources (rather than from virgin fibre); and
- the 'no project' alternative - i.e. what would happen if the project wasn't implemented at all.

6) Environmental Assessment for existing environment

The following information must be provided in order to provide decision makers transparency of the current state of the site environment and how changes due to the project can impact it:

- a) Physical characteristics of the project area
- b) Geological description of the site
- c) Hydrological description of the site
- d) Air Quality
- e) State of Noise
- f) Existing usage of land
- g) Sources of pollution (if any)
- h) Socio-economic state (according to population, employment, other economic activities)
- i) Existing infrastructure
- j) Existing utilities and services

7) Impacts and Mitigation Measures

Please provide information on any of the following impacts, where applicable as well as its mitigation measures:-

Air Pollution

- a) Source of pollution/odour.
- b) Quality, quantity and rate of emission
- c) Measures to control air pollution as well as ensuring compliance to the standards identified in the Pollution Control Guidelines for Industrial Development in Brunei Darussalam.

Water Pollution

- a) Sources of effluent
- b) Quality, quantity and rate of effluent charges
- c) Measures to control level of effluent as well as ensuring compliance to the standards identified in the Pollution Control Guidelines for Industrial Development in Brunei Darussalam.

NB. If impact identified involves the storage of chemicals, measures must be identified for control against leakages or spills.

Noise Pollution

- a) Sources of noise pollution
- b) Estimation of noise emitted
- c) Measures to control noise pollution as well as ensuring compliance to the standards identified in the Pollution Control Guidelines for Industrial Development in Brunei Darussalam.

Hazardous Substance Control

- a) Inventory of hazardous substances
- b) Evaluation of hazardous impacts each chemical or its by product may pose to the environment and the public health
- c) Measures to control noise pollution as well as ensuring compliance to the standards identified in the Pollution Control Guidelines for Industrial Development in Brunei Darussalam.

Social Impacts: Socio-economic impacts

- 8) Environmental Management and Monitoring Plan
 - a) Outline of project planning, execution and management of environmental requirements
 - b) Scheduling of environmental monitoring.
- 9) Conclusion: General conclusion from the EIA study and an outline to deduce whether the proposed project would pose significant impacts on the environment.
- 10) Annexes/References: Any supporting documents including detailed results /matrices/ charts relating to the EIA study.



3

EIA in **Cambodia**





3.1 Definitions

Initial Environmental Impact Assessment (IEIA) or Initial Environmental Examination/Evaluation (IEE) is the preliminary assessment of primarily secondary data of physical, biological, socio-economic environment and resources on the area within or in the surrounding project site. It forms basis for identification, prediction and analysis of potential adverse environmental and social impacts by project activities, aiming to identify actions to minimize negative impacts and maximize positive impacts.

Full Environmental Impact Assessment (FEIA) is the detailed assessment of physical, biological, socio-economic environment and resources, mainly based on primary data on the area within or in the surrounding the project site. It forms basis for identification, prediction and analysis of potential adverse environmental and social impacts by project activities, aiming to identify actions to minimize negative impacts and maximize positive impacts.

Environmental Management Plan (EMP) is the plan for environmental management as stipulated in IEIA or Full EIA report developed by the project owner and approved by the Ministry of Environment.

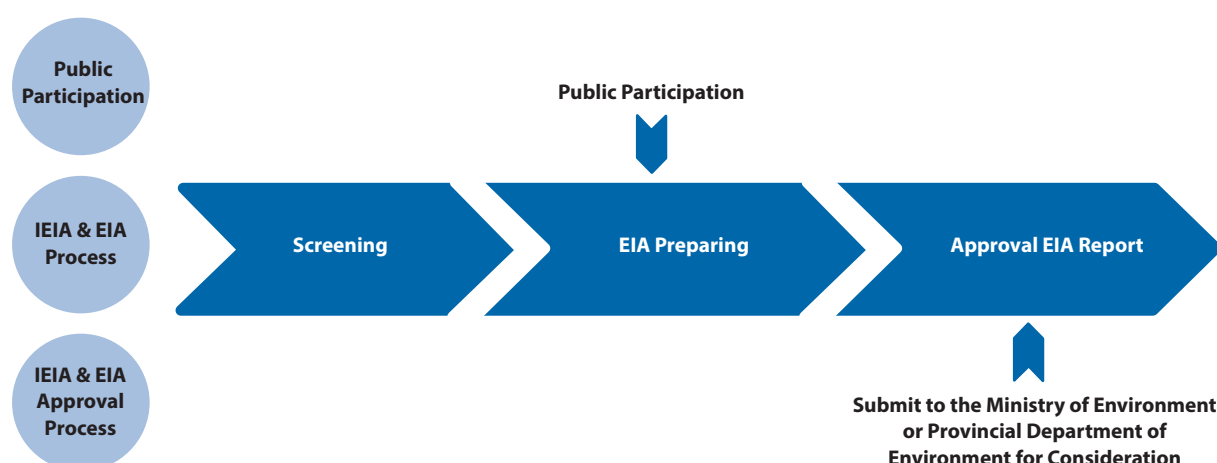
3.2 Introduction

Key legal framework of environmental impact assessment in Cambodia began when the National Assembly enforced Law on Environmental Protection and Natural Resources Management (1996), which induced the Sub-decree on Environmental Assessment Process, No. 72 ANRK.BK, (1999) to enforce the EIA provisions and prescribe the list of Projects, required the IEIA or EIA.

Then, Ministry of Environment approved Prakas (Declaration) on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports (2009), prescribing procedures for preparing initial EIA (IEIA) or EIA reports, related documents and the contents of IEIA and EIA reports. In addition, this declaration prescribe the EIA approval process that the project owners shall submit an application form requesting review and comment on IEIA or EIA report to the ministry of environment or provincial department of environment with supporting documents.

An overview of Cambodia's EIA process is shown in **Figure 3.2-1** and the key elements are described in the following sections.

Figure 3.2-1: Simplified Overview of Cambodia's EIA Process



3.3 EIA Legal Framework

The Law on Environmental Protection and Natural Resources Management, 1996 is the only environmental legislation providing provisions for the application of environmental and social considerations in project development. The Law mainstreams environmental and social concerns into the development process and as stated in Article 6 “An environmental impact assessment (EIA) shall be carried out on every project and activity of either private or public sector which is subject to assessment of its environmental impacts and shall be reviewed and evaluated by the Ministry of Environment before being submitted to the Royal Government for decision” This article precisely sets EIA as a legal requirement of and by the Ministry of Environment and an obligation of project proponents prior to the submission of the project proposal for decision by the Government. Even if a project has already been commissioned, EIA is still legally required.

Article 7 also reiterates that “Every investment project application and proposed project which are submitted by the state, shall enclose with them a preliminary environmental impact assessment or environmental impact assessment as stated the article 6 of this law. The ministry of environment shall consider and make recommendations on the preliminary environmental impact assessment or environmental impact assessment to relevant competent bodies within a period as determined in the law on investment of the Kingdom of Cambodia.” This Article reconfirms that even a project proposed by a government agency is subject to an EIA and that the EIA done by the government agency shall be reviewed by the Ministry of Environment (MoE)

The Sub-decree on Environmental Assessment Process, No. 72 ANRK.BK, 1999 was established to enforce the EIA as indicated. The objectives of the Sub-decree were to (i) enforce the requirement of EIA on all private and public sector projects and empower the MoE with the responsibility to oversee the EIA process before projects were submitted to the Government; (ii) define types and sizes of proposed projects and on-going activities both private and public sector that need to carry out EIA assessments; and (iii) encourage public participation in the EIA process to collect comments and feedback for consideration in the approval process. Annex to this Sub-decree includes a List of the Projects required to do an IEIA or EIA.

In addition, the Sub-Decree on the Establishment of the Sub-Committee on Investment of the Provinces-Municipalities, No. 17 ANK/BK, 2005 specifies that investment with capital exceeding 2,000,000 US Dollars is subjected to be approved by the Council for the Development of Cambodia (CDC), while the projects with capital of less than 2,000,000 US Dollars is subjected to be approved by the competent ministries-entities (Project approval entities) including the PISC (the Provincial Investment Sub-committee).

The Relevant regulations of the EIA system in Cambodia are summarized in **Table 3.3-1**

Table 3.3-1 EIA Relevant regulations

Year	Relevant regulations	Key description
1996	Environmental Protection and Natural Resources Management, 1996	<ul style="list-style-type: none"> • Providing provision for the application of environmental and social considerations in project development • Prescribing projects and activities both private and public sector required to conduct EIA, including the existing activities and projects which are under process and for which their environmental impacts have yet to be assessed
1999	Sub-decree on Environmental Assessment Process, No. 72 ANRK. BK, Royal Government, Council of Ministers, Phnom Penh, dated 11 August 1999	<ul style="list-style-type: none"> • Enforcing the EIA requirements on all private and public sector projects; • Empowering the (MoE) with the responsibility to oversee the EIA process before projects were submitted to the Government • Prescribing types and sizes of proposed projects and on-going activities both private and public sector that need to carry out Initial Environmental Impact Assessment (IEIA) or Full Environmental Impact Assessment (FEIA) (total 80 projects excluding their variants covering 12 sectors) • Encouraging the public participation in the EIA process to collect comments and feedback for consideration in the approval process
2005	Sub-Decree on the Establishment of the Sub-Committee on Investment of the Provinces-Municipalities, No. 17 ANK/BK, Royal Government, Phnom Penh, dated 9 February, 2005	<ul style="list-style-type: none"> • Prescribing investment with capital exceeding 2,000,000 US Dollars is subjected to be approved by the Council for the Development of Cambodia (CDC) , otherwise this investment will be approved by the competent ministries-entities (Project approval entities) including the PISC (the Provincial Investment Sub-committee)

Year	Relevant regulations	Key description
2009	Prakas on General Guidelines for Developing Initial and EIA Reports, MOE, N. 376 BRK.BST Phnom Penh, 02 September 2009	<ul style="list-style-type: none"> • Prescribing procedures for preparing Initial EIA (IEIA), EIA reports and related documents. Government approval process also prescribed • Prescribing contents of IEIA and EIA report
2014	Prakas on Establishment of Technical Working Group for Reviewing and Commenting on EIA Report, Ministry of Environment, No. 063 Pr.K MoE, Phnom Penh, 18 February 2014	<ul style="list-style-type: none"> • Establishing Technical Working Group, consisting of representatives from each of the General Departments and Departments of MoE appointed by the Minister for Reviewing and Commenting on EIA Report

3.4 Types and Sizes of Projects Requiring and EIA Reports

The Sub-decree on Environmental Assessment Process, No.72 ANRK.BK, 1999 provides a list of types and sizes of projects or activities require an IEIA or EIA (Total 80 projects excluding their variants covering 12 sectors, listed in **Annex A** of this report. They will consider studying FEIA or IEIA by MoE. Environmental Impact Assessment Department or Provincial Department of Environment have to screen and select projects based on conditions as mentioned in project screening process.

3.5 EIA Report Component

According to Prakas (Declaration) on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, Ministry of Environment, N. 376 BRK.BST, 2009, Project Developers shall follow the General Guidelines for Report Preparation on Annex I of the declaration are listed in **Annex B**, that the contents of EIA Report Environmental Impact Assessment are:

1. Executive Summary which summarizes the whole report including project objectives, Project activities, the existing environmental resources, output of public consultation, scope of environmental and social impacts and mitigation measures, the environmental management plans, conclusions and recommendations to mitigate environmental impacts shall be provided.
2. Main Report, which includes:
 - Chapter 1 : Introduction (Project overview and objectives)
 - Chapter 2 : Legal frameworks Reference to all environmental regulations and standards)
 - Chapter 3 : Project Description (Background, Project Site, Type, Scope and schedule of project activities, and work plan)

- Chapter 4 : Description of Existing Environment (Physical Resources, Biological Resources, and Socio-Economic Aspects)
- Chapter 5 : Public participation (Dissemination, Feedback, Comments, and Consultations with affected Local Communities, Non-Governmental Organizations (NGOs), and local authorities; conclusions of public consultations)
- Chapter 6 : Environmental Impacts and Mitigation Measures (description of negative and positive environmental and socio-economic impacts)
- Chapter 7 : Environmental Management Plan (EMP) (Environmental Monitoring Plan for construction, operation and closure periods)
- Chapter 8 : Economic Analysis and Environmental Value (benefits of the project in relations to scope and value of environmental damages)
- Chapter 9 : Conclusions and Recommendations (Project Owner will provide assurance and responsibility for their EIA Reports with relevant recommendations for the development project) References and Annexes

While, there is no specific requirement with respect to contents of IEIA report, overall content of the IEIA will be generally based on the contents of EIA report but in less detailed information. Referring to the Prakas (Declaration) on General Guidelines for Developing Initial and EIA Reports, MoE, N. 376 BRK.BST (2009), the IEIA is the preliminary assessment of primarily secondary data of physical, biological and socio-economic environment and resources on the area within or in the surrounding the project site, while the EIA is the detailed assessment of physical, biological and socio-economic environment and resources, based mainly on primary data on the area within or in the surrounding the project site .

3.6 EIA Process System

3.6.1 EIA Developer

The IEIA and EIA Report should be prepared by a consulting company with sufficient and qualified professional capacity and should be registered with the Ministry of Commerce and be recognized by the Ministry of Environment in according to Prakas (Declaration) on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, Ministry of Environment, N. 376 BRK.BST, Phnom Penh, 02 September 2009.

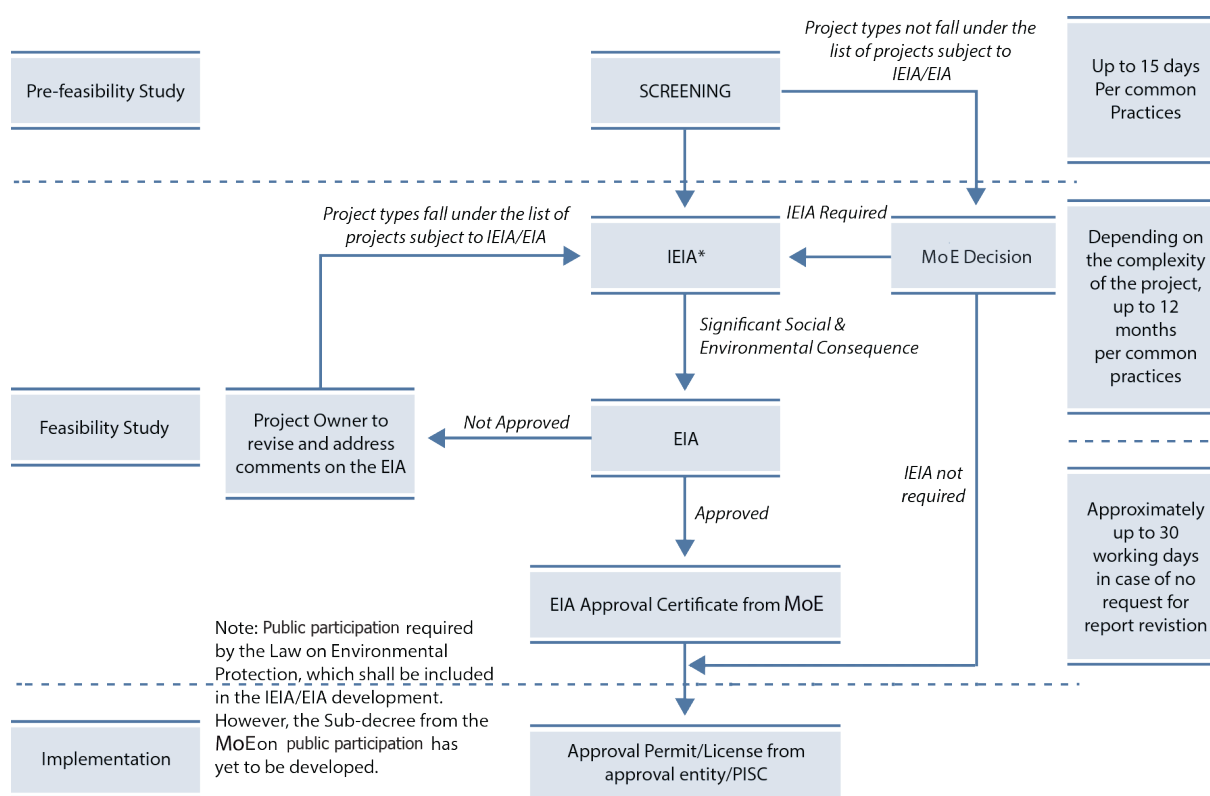
3.6.2 EIA Preparation and Timeline

In accordance to the Sub-decree on Environmental Assessment Process, No. 72 ANRK. BK, Royal Government, Council of Ministers, Phnom Penh, August 11, 1999, EIA process in Cambodia includes four main steps: (a) Screening, (b) IEIA or EIA Report Preparation, (c) Public Consultation and Disclosure, and (d) IEIA or EIA Report Appraisal and Approval Process. The overall EIA process in Cambodia is shown in **Figure 3.6-1** and Details of each step is summarized as following:

Screening

The Project Owner shall check the List of projects, required the IEIA or EIA preparation by the Sub-decree on Environmental Assessment Process (1999) to decide whether such proposed project is obligated to IEIA or EIA. If IEIA of a proposed project reveals that the project has severe social and environmental consequences, the Project Owner will be required to prepare an EIA. In case IEIA do not reveal severe social and environmental consequences, such IEIA report will be approved by the MoE to obtain EIA approval certificate for the registration certificate. For the project which type is not fall under the list of projects subject to IEIA or EIA, the Department of EIA Monitoring and Review or concerned Provincial Department of Environment will make a visit to and comment on the project site and decide whether an IEIA or EIA report is required.

Figure 3.6-1: The EIA Process in Cambodia



Note: * In case IEIA report do not reveal severe social and environmental consequences, EIA report is not required and such IEIA or EIA report will be approved by the MoE to obtain EIA Approval Certificate prior to granting Approval Permit/License from approval entity/PISC. Estimate timeline of each EIA process is based on factual information specified under the law and ERM experience working in the country. This is for reference only and the actual timeline can be changed depending on project situation and/or complexity of the project.

IEIA & EIA Report Preparation

Preparation of the EIA Report constitutes the main responsibility of the Project Owner and his Consultant. An IEIA or EIA report shall be prepared in both Khmer and English together with Pre-feasibility study reports of the Project. The IEIA or EIA Report shall include the Environmental Management Plan (EMP) and involve public participation. The contents of the IEIA & EIA Report is mentioned on section 3.5 and detailed in **Annex B** on this report.

Public Consultation and Disclosure

In Cambodia, the Project Owner shall include public consultation during the preparation of the IEIA or EIA. Feedback from relevant ministries/ agencies/ and local authorities are expected to be described in the EIA Report. Public participation does include dissemination of project information by the Project Owner (but what information, when and where are not specified by the Sub-decree or Prakas). The Sub-decree does not specify how the feedback is to be made available to or used by the Project Owner. The Guidelines call for comments from relevant NGOs and consultation with affected local communities, but without details of how these comments are to influence or be included in project plans developed by the Project Owners. No mention is made about how project information shall be made available to stakeholders (in what form to ensure that the information is understandable to them). However, all IEIA or EIA reports are to be made available in both Khmer and in English.

Public consultation and participation are recognized as important parts of the EIA process to build understanding and acceptance of the project. The law recognizes that the public should be informed of the development plan of the project and the possible environmental and social impacts. The Declaration mention that opinions from project affected people should be obtained to better understand and consider valued environmental components. The MoE needs to develop a new Sub-decree clarifying public participation in the EIA Process of Cambodia.

3.6.3 EIA Approval Process and Timeline

IEIA & EIA Report Appraisal and Approval Process

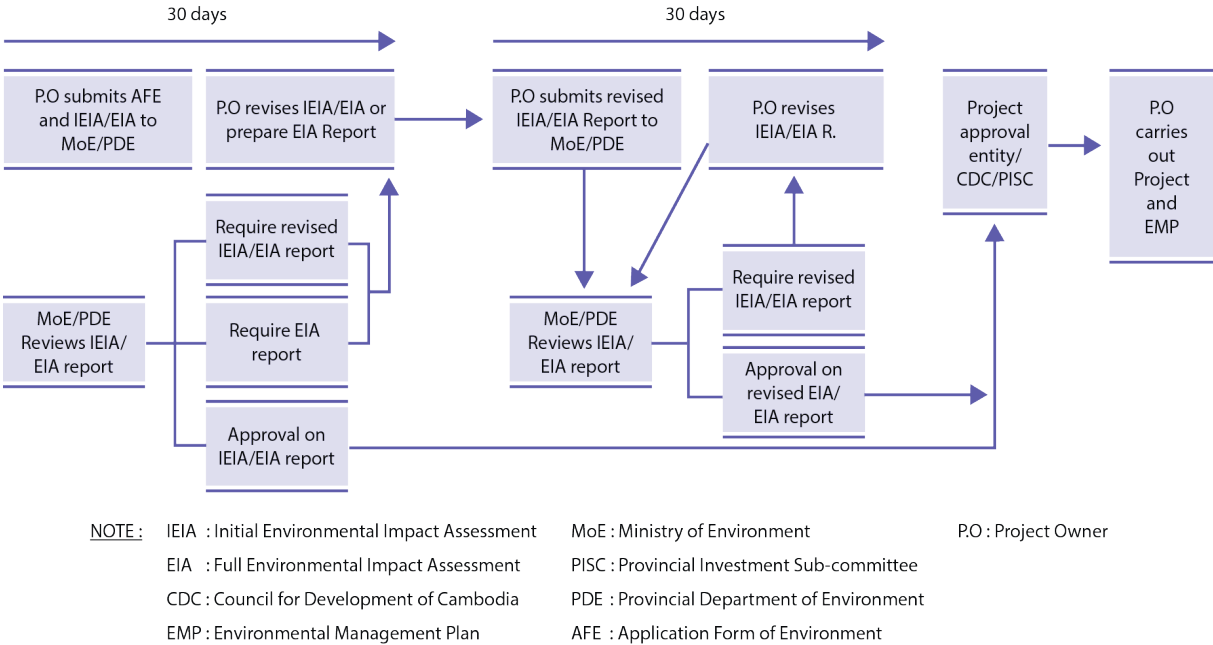
The Project Owners shall submit an application form requesting review and comment on IEIA or EIA Report to the Ministry of Environment or Provincial Department of Environment with supporting documents as detailed in Article 8, Prakas (Declaration) on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports (2009). Supporting documents are different for public projects and private sector projects. The Project Owner shall secure authenticity over the copied documents from the municipal-provincial government office. Article 9 states that the Department of Environmental Impact Assessment Monitoring and Review or concerned Provincial Department of Environment will review and comment on the IEIA or EIA Report following the General Guidelines within 30 working days from the date of official receipt of the report. During the 30 day period, a multi-stakeholder meeting chaired by the Ministry or Director of the Provincial Department of Environment will be held with representation from relevant government ministries/agencies, local authorities, NGOs, and other stakeholders concerned with the investment project. Where request for revision is made, the Project Owner will be required to amend

the EIA Report and a second review shall be made by the MoE or Provincial DoE within 30 working days upon official receipt of the revised report. The revised and approved EIA Report will then be submitted to the project approval entity/PISC (see **Figure 3.6-2**).

The Project Owner shall make available sufficient funds and establish an Environmental and Social Management team with adequate skills and expertise, equipment, and a schedule for monitoring environmental quality in close collaboration with relevant ministries in order to implement measures to minimize adverse socio-economic and environmental impacts.

Review of IEIA or EIA shall include a site visit and comments made by technical officials at the project site as part of the review and clearance procedures. Details of the review and clearance procedures are provided in Articles 11 & 12 of the declaration. However, the project not seeking investment incentives, Licenses, permits, etc. are issued by competent ministries-entities (Project approval entities) including the PISC (the Provincial Investment Sub-committee).

Figure 3.6-2: Process for EIA Clearance for Proposals with Endorsement from Project Approval Entity/CDC or by Provincial Investment Sub-Committee



Notes: CDC is the Council for the Development of Cambodia. The Council is the Cambodian government agency designated by the Law on Investment (2003) to receive the Investment Proposal from the Project Owner. CDC will issue a Conditional Registration Certificate specifying the approvals, authorizations, licenses, permits or registrations required for the qualified investment project, project seeking investment incentives such as tax exemptions, to operate as well as the government entities responsible to issues such approvals licenses, permits, etc. All Conditional Registration Certificates issued by the CDC have thus far stated that EIA is a legal requirement to be done by the Project Owners and reviewed and evaluated by the Ministry of Environment. Issuance of a Final Registration Certificate does not release the Project Owner from doing EIA. The Conditional Registration Certificate and the Final Registration Certificate are separate documents issued by the CDC, which decides and issues the registration certificates for such qualified investment project.

The Ministry of Environment has just recently issued a new Declaration which establishes a Technical Working Group for reviewing and commenting on EIA reports (Prakas on Establishment of Technical Working Group for Reviewing and Commenting on EIA Report, Ministry of Environment, No. 063 Pr.K MoE, Phnom Penh, February 18, 2014). This Technical Working Group consists of representatives from each of the General Departments and Departments of MoE appointed by the Minister. Responsibilities include:

- Reviewing and commenting on investment projects that are required to prepare IEIA or EIA report for the MoE to check and make decision
- Providing license to Consulting Firms to do the studies required to prepare the EIA Report
- Appointing a Working Group to examine development project sites to verify the IEIA and EIA Report
- Reviewing, commenting and approving IEIA and EIA report
- Preparing IEIA and EIA Approval Certificate after receiving the approval in accordance with regulations in effect
- Examining and proposing terms and conditions of Environmental Protection Contract for the Minister of Environment to make decision
- Preparing draft Guidelines and other terms and conditions that are necessary to strengthen the quality and effectiveness of EIA
- Undertaking other duties assigned by the Minister of Environment

Article 4 permits the Technical Working Group (TWG) to ask for written opinion on EIA report from expert committee, expert officials, national or international NGOs, and other professionals, whose work is related to the projects and to use such written opinions as an additional basis in issuing its decision. The Technical Working Group shall seek an absolute unanimous agreement in order to issue its decision. In cases where unanimous agreement cannot be found, all decisions of the TWG cannot be valid unless there is an absolute-majority approval of all the members attending the meeting. Article 5 states that the TWG shall establish one or more Multi Skilled Working Groups based on necessity and with appropriate composition to respond to technical demand as well as scale and type of investment project. Members of the Multi Skilled Working Groups will be selected from subordinate department of the MoE. These Multi Skilled Working Groups will be assigned the monitoring implementation of investment projects that have been approved, among other duties assigned by the TWG. Lastly, Article 8 states the EIA Department is the secretariat for the Technical Working Group for Reviewing and Commenting on the EIA Report and shall provide administrative and financial support, including budget and financial plan preparation.

The Multi Skilled Working Group is thus a Cambodian model of the Technical Review Team used in other GMS countries for technical review and written comments on the evaluation of EIA Reports. In the Cambodian case, the experts selected will all be members of the MOE. The Ministry is thus using its best educated and experienced staff (from any department within the Ministry) to undertake the review and evaluation of EIA reports. The views of the experts serving in these groups will be taken into account by the TWG when making their decision on the EIA Report.

3.7 Basic Questions about EIA

Questions	Answers
1) What formal legislation exists concerning requirement of EIA?	<ul style="list-style-type: none"> • Law on Environmental Protection and Natural Resource Management ,1996 • Sub-Decree on Environmental Impact Assessment Process ,1999 • Prakas (Declaration) on General Guideline for Preparing Initial Environmental Impact Assessment and Full Environmental Impact Assessment Report ,2009
2) Which type of projects are required to undertake EIA?	There are 80 projects excluding their variants covering 12 sectors which is required an IEIA or EIA report, listed on the Annex I of Sub-decree on Environmental Assessment Process, No. 72 ANRK.BK, 1999
3) What are the components of the EIA report?	<p>The EIA report shall compose of 9 main subject as follow;</p> <p>Chapter 1: Introduction</p> <p>Chapter 2: Legal framework</p> <p>Chapter 3: Description of Existing Environment</p> <p>Chapter 4: Description of the Surrounding Environment</p> <p>Chapter 5: Public participation</p> <p>Chapter 6 : Environmental Impacts and Mitigation Measures</p> <p>Chapter 7: Environmental Management Plan (EMP)</p> <p>Chapter 8: Economic Analysis and Environmental Value</p> <p>Chapter 9: Conclusions and Recommendations</p>
4) What authority involve in EIA procedure in Cambodia?	<ul style="list-style-type: none"> • Environmental Impact Assessment Department, Ministry of Environment • Provincial Department of Environment • Technical Working Group (TWG), appointed by Minister of Environment
5) When will EIA be prepared?	IEIA and EIA shall be prepared and approved prior to granting approval permit/license from approval entity or the Provincial Investment Sub-committee.
6) What are the steps of EIA in Cambodia?	<p>According to the Sub-decree on Environmental Assessment Process, No. 72 ANRK.BK, (1999), there are four main steps on the EIA Process which are:</p> <p>(a) Screening,</p> <p>(b) IEIA/EIA Report Preparation,</p> <p>(c) Public Consultation and Disclosure, and</p> <p>(d) IEIA/EIA Report Appraisal and Approval Process.</p>

Questions	Answers
7) What are the tools of EIA?	<ul style="list-style-type: none"> • Initial Environmental Impact Assessment (IEIA) • Full Environmental Impact Assessment (FEIA)
8) Who is EIA developer?	IEIA/EIA should be prepared by a consulting company with sufficient and qualified professional capacity and should be registered with the Ministry of Commerce and be recognized by the Ministry of Environment in accordance to Prakas on the registration of EIA consultancy Firm, 2014
9) Is there any requirement for public consultation in EIA?	<p>The Public Participation in EIA shall be followed on Annex I of Prakas (Declaration) on General Guidelines for Developing Initial and EIA Reports (2009), of which comprise:</p> <ul style="list-style-type: none"> • disseminate by the project owner with local authorities and local communities of the development project • gather feedback from relevant ministries/agencies/departments and relevant local authorities and also comments from relevant non-government organization (NGOs) • conduct consultation with affected local communities
10) How timing in approval process?	30 working days: In case of no request for report revision Up to 12 months per common practices depending on the complexity of the project.
11) Fee to approval process	As prescribed in Sub-decree on Environmental Assessment Process (1999), the project sponsor shall bear the cost of the project review and monitoring fees. There service fees shall be approved by the Ministry of Economy and Finance pursuant to a proposal of the Ministry of Environment.
12) How long is EIA valid?	Not specified
13) Penalties	Not specified

Annex A : Project Applicable to EIA

List of the Projects Require an IEIA or EIA, according to Sub-decree on Environmental Assessment Process, No. 72 ANRK.BK, Royal Government, Council of Ministers, Phnom Penh, 11 August 1999

No	Type and Activities of the Project	Project Scale
A. Industrial		
1.	Food Drink, and Tobacco	
1.1	Food Processing and Canned Foods	≥500 Tones/year
1.2	All Fruit Drinks manufacturing	≥1,500 Litres/year
1.3	Fruit Manufacturing	≥500 Tones/year
1.4	Orange Juice Manufacturing	All sizes
1.5	Wine manufacturing	All sizes
1.6	Alcohol and Beer Brewery	All sizes
1.7	Water Supply	≥10,000 users
1.8	Tobacco Manufacturing	≥10,000 boxes/day
1.9	Tobacco Leaf Processing	≥350 tones/year
1.10	Sugar Refining	≥3,000 tones/year
1.11	Rice Mills and Cereal Grains	≥3,000 tones/year
1.12	Fish, Soy, Bean, Chilli and Tomato Sources	≥500,000 tones/year
2.	Leather Tanning, Garments and Textiles	
2.1	Textile and Dyeing factories	All sizes
2.2	Garments, Washing, Printing and Dyeing	All sizes
2.3	Leather Tanning and Glue	All sizes
2.4	Sponge-Rubber Factories	All sizes
3.	Wood production	
3.1	Plywood	≥100,000 m ³ /Year
3.2	Artificial Wood	≥1,000 m ³ /Year
3.3	Saw Mills	≥50,000 m ³ /Year
4.	Paper	
4.1	Paper Factories	All sizes
4.2	Pulp and Paper Processing	All sizes

No	Type and Activities of the Project	Project Scale
5.	Plastic, Rubber, Chemicals	
5.1	Plastic Factories	All sizes
5.2	Tire Factories	≥500 tones/year
5.3	Rubber and Chemicals	≥1,000 tones/year
5.4	Battery Industry	All sizes
5.5	Chemical Products	All sizes
5.6	Chemical Fertilizer Plants	≥10,000 tones/year
5.7	Pesticide Industry	All sizes
5.8	Paint Manufacturing	All sizes
5.9	Fuel Chemicals	All sizes
5.10	Liquid, Powder, and Solid Soap Manufacturing	All sizes
6.	Mining Production other than Metal	
6.1	Cement Industry	All sizes
6.2	Oil refining	All sizes
6.3	Gas factories	All sizes
6.4	Construction of Oil and Gas Pipeline	≥2 km
6.5	Oil and Gas Separation and Storage Facilities	≥1,000,000 Litres
6.6	Fuel Stations	≥20,000 Litres
6.7	Mining	All sizes
6.8	Glass and Bottle Factories	All sizes
6.9	Bricks and Roofing Tile Manufacturing	≥150,000 Piece/month
6.10	Flooring Tile Manufacturing	≥90,000 Piece/month
6.11	Calcium Carbide Plants	All sizes
6.12	Production of Construction Materials (Cement)	900 Tones/month
6.13	Lubricant and Motor Oil	All sizes
6.14	Manufacturing Petroleum Study Research	All sizes

No	Type and Activities of the Project	Project Scale
7.	Metal Industries	
7.1	Mechanical Industries	All sizes
7.2	Mechanical Storage factories	All sizes
7.3	Mechanical and Shipyard enterprises	All sizes
8.	Metal Processing Industries	
8.1	Manufacturing of Nails, Barbed Wire, and Nets.	All sizes
8.2	Steel Iron, and Aluminium Mills	All sizes
8.3	All Kinds of Smelting	All sizes
9.	Other Industries	
9.1	Manufacturing of Nails, Barbed Wire, and Nets	All sizes
9.2	Steel, Iron and Aluminum Mills	All sizes
9.3	Power Plants	≥5MW
9.4	Hydropower	≥1MW
9.5	Cotton Manufacturing	≥15 Tones/month
9.6	Animal Food Processing	≥10,000 Tones/month
B. Agriculture		
1.	Concession forests	≥10,000 Hectares
2.	Logging	≥500 Hectares
3.	Land Covered by Forests	≥500 Hectares
4.	Agriculture and Agro-industrial Land	≥10,000 Hectares
5.	Flooded and Coastal Forests	All sizes
6.	Irrigation Systems	≥5,000 Hectares
7.	Drainage Systems	≥5,000 Hectares
8.	Fishing Ports	All sizes

No	Type and Activities of the Project	Project Scale
C. Tourism		
1.	Tourism Areas	≥50 Hectares
2.	Golf Courses.	≥18 Holes
D. Infrastructure		
1.	Urbanization Development	All size
2.	Industrial Zones	All size
3.	Construction of Bridges and Roads	≥30 Tones weight
4.	Buildings Height	Height >12 m or floor>8,000m ²
5.	Restaurants	≥ 500 Seats
6.	Hotels	≥60 Rooms
7.	Hotels Adjacent to Coastal Areas.	≥40 Rooms
8.	National Road Construction	≥100 Kilometres
9.	Railway Construction	All sizes
10.	Port Construction	All sizes
11.	Airport Construction	All sizes
12.	Dredging	≥ 50,000 m ³
13.	Dumping Sites	≥200,000 people

Reference: Sub-decree 72 ANKr.BK dated 11 August 1999

Annex B : Guideline of EIA Content

According to Annex I: Environmental Impact Assessment in the Prakas (Declaration) on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, Ministry of Environment, N.376 BRK.BST, Phnom Penh, 02 September 2009

IEIA & EIA Report Component

The contents of the IEIA report are similar to the contents of the EIA report but the information is less detailed as indicated earlier. The IEIA/EIA Report shall include the following chapters and content:

Content of EIA Report

Executive Summary

In this chapter, a summary of the whole report including project objectives, project activities, the existing environment resources, output of public consultation, scope of environmental and social impacts and mitigation measures, the environmental management plans, conclusions, and recommendations to mitigate environmental impacts shall be provided.

Chapter 1: Introduction

- Project overview: summary of project background, rationale for development of the project, and general situation on the project site;
- Objectives of the present EIA report;
- Methodologies and Scope of study: To describe the information and data need, and methodologies of data collection and data analysis. For EIA report, the project owner shall provide for detailed methodologies as a separate chapter.

Chapter 2: Legal Frameworks

In this chapter, project owners shall provide a description of laws, sub-decrees and various policies related to project type to be implemented. All provisions of law and the regulation as described above have to be relevant to environmental protection, natural resource management, and the development project.

Environmental regulation and standards referred to in the project shall have clear reference.

Chapter 3: Project Description

In this chapter shall provide detailed description as stipulated in the pre-feasibility study or feasibility study report or a master plan of the company including the following:

- Background and experiences of the project owners/ company;
- Project site (attached with local administration map and project location);
- Project type/scope and schedule of project activities (project pre-operation, operation and closure);

- Work plan:
 - (1) sources and quantity of input to be used;
 - (2) machinery requirements;
 - (3) local and foreign work force requirements;
 - (4) quantity of final products;
 - (5) income and expenditure;
 - (6) production chain of the project; and
 - (7) Overall waste management plan etc;
- Activities program of the project.

Chapter 4: Description of Existing Environment

The chapter provides description of the natural environment and socio-economic aspects (based on primary and secondary data) within and in the surrounding environment of the project location including:

4.1 Natural Environment

4.1.1 Physical Resources

- Soil: geology, soil formation/ topology, soil types, soil erosion and sedimentation. For EIA, a detailed seismology and geology study (mine resources, if applicable) shall be provided;
- Climate: temperature, rainfall, wind speed and pattern, air pressure, wind direction and humidity;
- Air quality (ambient air quality in the project location), noise and vibration (noise and vibration level in the project location);
- Hydrology: Quality and quantity of surface and under-ground water (including an analysis of the water quality in the project area), flow and discharge.

4.1.2 Biological Resources

- Forest: area of forest land, forest cover types, and forest classification;
- Wildlife species, rare species, endangered and endemic species and their migratory pattern;
- Habitats;
- Biodiversity and ecological systems;
- Wetland systems (attached with relevant maps).

4.2 Socio-economic aspects

- Demography and settlement;
- Economic status: employment and income (primary and secondary);
- Land use;
- Water use;
- Energy use;
- Infrastructure;
- Education;
- Public health and well-being;

- Cultural heritages, historical monuments, ancient temples, pagodas, customs/ traditions, ethnic minority or indigenous people, etc; and
- Tourism destinations

Chapter 5: Public Participation

The chapter describes in details public consultation with the following content:

5.1 Introduction

5.2 Public participation

- Dissemination by the project owner with local authorities and local communities of the development project;
- Feedback from relevant ministries/ agencies/ departments and relevant local authorities;
- Comments from relevant non-government organizations (NGOs);
- Consultation with affected local communities.

5.3 Conclusions on results of the public consultation

Chapter 6: Environmental Impacts and Mitigation Measures

This chapter describes both positive and negative environmental and socio-economic impacts arising from their project activities, including:

- 6.1 Description of the negative environmental and socio-economic impacts during the project pre-operation (the project design and construction), operation and closure with mitigation measures;
- 6.2 A summary of point 6.1 on the scope of negative environmental impacts and mitigation measures as in the check list provided in the Annex 2 of the Prakas (Declaration) on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, Ministry of Environment, N.376 BRK.BST, Phnom Penh, 02 September 2009;
- 6.3 For EIA report, cumulative impacts should be provided; and
- 6.4 Description of the position environmental and socio-economic impacts.

Chapter 7: Environmental Management Plan (EMP)

As part of project, the project owner shall make available sufficient fund and a unit/ team with sufficient skills and expertise, equipment, methodology, and schedule for monitoring environmental quality in close collaboration with relevant ministries/ agencies in order to implement measure to minimize adverse socio-economic and environmental impacts.

The EMP shall consist of:

- A summary of main negative environmental impacts and mitigation measure;
- Training to be provided;
- Environmental monitoring program for the construction, operation and closure periods illustrating the following:
 - Agency responsible for project monitoring;
 - Identified parameters to be monitored;

- Monitoring methodology;
- Environmental standards or guidelines to base for monitoring;
- Schedule and cycle which be control;
- Assessment of monitoring results;
- Quarterly report to be submitted to Ministry of Environmental and relevant ministries/agencies.

Chapter 8: Economic Analysis and Environmental Value

For EIA report, the project owners shall provide a description of the benefits of the project in relation to scope and value of environmental damage arising from the project activities.

Chapter 9: Conclusion and Recommendation

The conclusion from environmental impact assessment study shall indicate adverse impacted mitigated with regards physical, biological and socio-economic aspects. It is important that the investment project recommend adverse environmental impacts mitigation that can sustain positive environmental impacts and promote local livelihood with the development projects in the area.

The Chapter shall provide project owner's assurance and responsibility for their environmental impact assessment reports with relevant recommendations for the development project.

References

Annexes

Note:

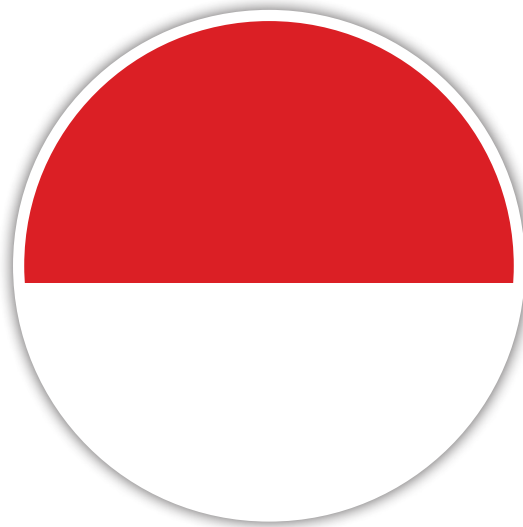
Chapter 7: Environmental Management Plan (EMP) mentions the Environmental Monitoring Program for the construction, operation and closure periods must illustrate the Agency responsible for project monitoring". This implies that all monitoring of project impacts is the responsibility of the MoE.

Article 14 of the Prakas on General Guidelines, 2009 states "the Department of EIA Monitoring and Review or Provincial Department of Environment shall be responsible for follow-up, monitoring and taking appropriate measures to ensure compliance by the Project Owner of the Environmental Management Plan (EMP) during project construction, operation and closure as stated in the IEIA or EIA Report approved by the Ministry of Environment or the Provincial Department of Environment." The Prakas on General Guidelines, 2009 thus places the responsibility for monitoring of the development project and for compliance monitoring to ensure that the Project Owner implemented the committed EMP with the MoE. The monitoring of air pollution, noise, water and wastewater pollution is clearly stated as the responsibility of the Ministry of Environment (Article 17, Sub-decree on Air Pollution Control and Noise, Council of Ministers, No. 42 ANKr.BK Phnom Penh, July 10, 2000, and Article 18, Sub-decree on Water Pollution Control, Council of Ministers, No. 27 ANKr.BK Phnom Penh, April 06, 1999).

There is no clear directive from the Ministry of Environment that the Project Owner is responsible to monitor the project's mitigation measures and compare residual project impacts against commitments or national environmental standards. Hence, monitoring of project's mitigation measures by the Project Owner is not required and the responsibility for monitoring of mitigation measures to compare the impacts against environmental standards is the responsibility of the MoE.

4

EIA in **Indonesia**



4 EIA in Indonesia



4.1 Definitions

Environmental Impact Analysis (AMDAL) refers to the analysis of future businesses and/or activities which has a significant impact on the environment. This analysis is a necessitate decision to launch them or not.

Environmental Management and Monitoring Efforts (UKL-UPL) refers to the management and monitoring of businesses and/or activities which defined significant impacts on the Environment. This is also a necessitate decision to launch them or not.

Statement of Management and Environmental Monitoring Ability (SPPL) refers to a statement letter addressing the willingness with fully covered an analysis including parties to actions for assure the sustainable and application strategic are applied. They are also out of AMDAL/ UKL-UPL list where there are small scale businesses and/or activities.

Environmental Permit refers to the environmental permitted document which granted to the owner of businesses and/or activities who need to submit the AMDAL or UKL-UPL. This document is a compulsion before submit other environmental permitted documents.

Strategic Environmental Assessment (KLHS) means analysis and forecast of impacts on the environment to be exerted by draft development strategies, planning and to propose countermeasures in order to reduce negative impacts to the environment, being the basis and integrated in development strategies, planning and plans to attain the target of sustainable development.

4.2 Introduction

Indonesia concerned on environment was started back to 1972 after Indonesia delegation attended the UN World Conference on Environment in Stockholm in June 1972. After the Stockholm Conference, in September 1972, University of Padjadjaran in Bandung established Ecology Research Centre, with main focus was environmental studies. Preparation of draft on environmental law in Indonesia was initialized in 1976, thereafter several Environmental Research Centres were established in the universities among others at Bogor Agricultural University and Bandung Institute of Technology. Based on the Presidential Decree No 28 Year 1978 and the Presidential Decree No. 35 Year 1978, a State Minister for Environment for the first time was appointed in the Development III Indonesia Cabinet. In 1980, Minister of Internal Affairs issued Decree No 240 whereas in this decree at each provincial government a Population Environmental Bureau was established. The first environmental act in Indonesia was Law No. 4 Year 1982, enacted in 11 March 1982, thereafter environmental laws and regulations in Indonesia has continually evolved.

Since late 2014, the Ministry of Environment and Ministry of Forestry was merged into Ministry of Environment and Forestry. However, Environment and Forestry management has been an official government concern since Presidential Decree No. 16 1972 established the

Committee Perumus and Work Plan to the Government in the Field of Environment following the 1972 World Environment Conference in Stockholm, Sweden

The main Indonesian regulations on the environmental impact assessment process which are currently applicable are:

- Law No. 32 Year 2009 regarding Protection and Management of the Environment
- Government Regulation No. 27 Year 2012 regarding Environmental Permit
- Regulation of the State Minister of the Environment (MOE) No. 05 Year 2012 regarding Type of Business Plan and/or Activity that are Required to Possess an Environmental Impact Assessment Document
- Regulation of the State Minister of the Environment No. 16 Year 2012 regarding Guidelines for Preparing Environmental Documents
- Regulation of the State Minister of the Environment No. 17 Year 2012 regarding Guidelines for Community Engagement in the EIA and Environmental Permit
- Regulation of the State Minister of the Environment No. 08 Year 2013 regarding Procedure of Environmental Document and Environmental Permit Issuance Assessment and Evaluation; and
- Regulation of the State Minister of the Environment No. 24 Year 2009 regarding Guidelines of EIA Document Evaluation.

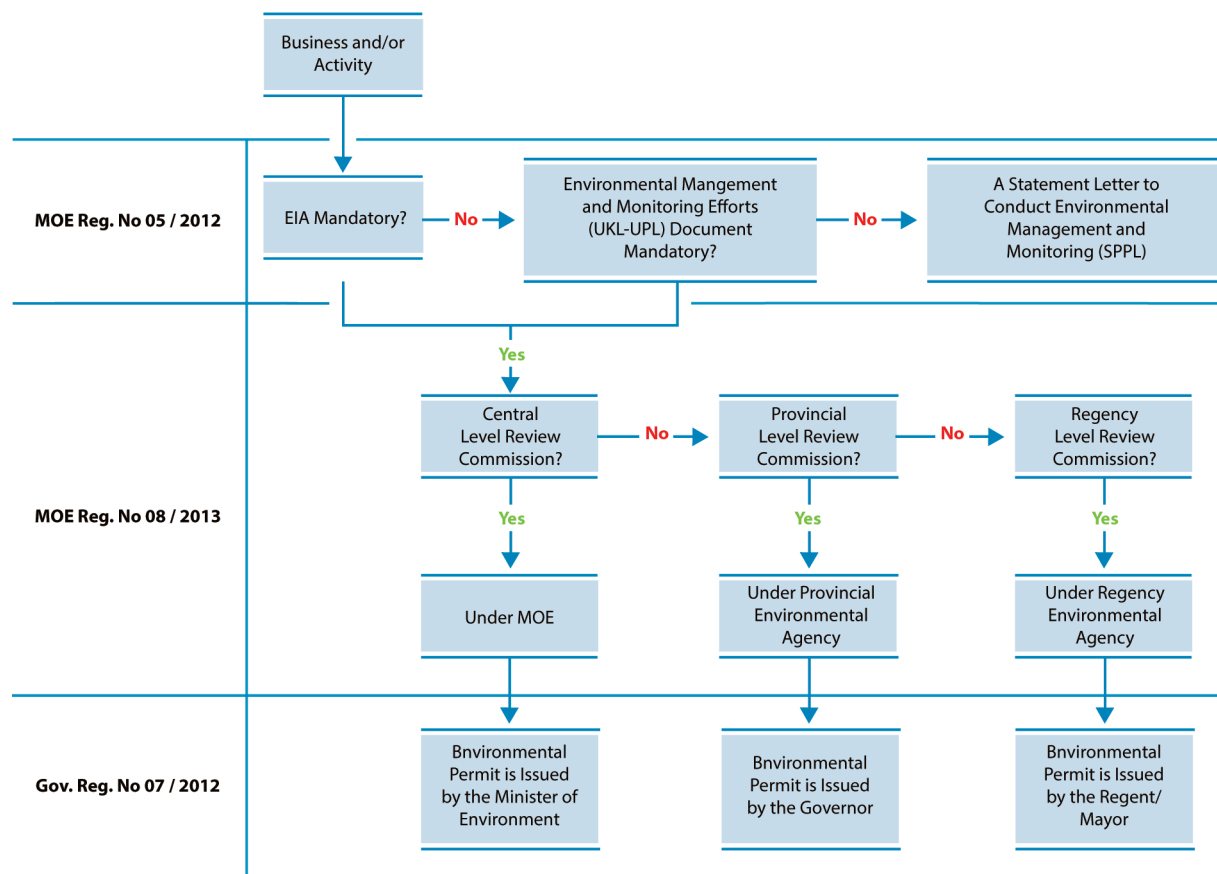
The ministerial regulations or regional government regulations are derived from laws/acts or government regulations or from presidential regulations. Trigger and need for EIA (called AMDAL) under Indonesia legislation is stipulated in Laws No. 32 Year 2009 - Paragraph 5 Article 22 states 'EIA should be carried out for the proposed activities which are expected to have significant environmental impacts'. The requirement of environmental documents for business and/or activity (shortly "activity") is further stipulated in Government Regulation (GR) No 27 Year 2012 regarding Environmental Permit.

List of project (total 74 projects excluding their variants covering 14 sectors) which are mandatory to have EIA document is addressed in Appendix I of the MOE Regulation No. 05 Year 2012. Screening on type of environmental document (either EIA/AMDAL, UKL-UPL or SPPL) to be possessed by an activity is described in the form of flowchart in Appendix II of MOE Regulation No. 05 Year 2012. If an activity is not mandatory to have an AMDAL (EIA), it may require UKL-UPL (Environmental Management and Monitoring Efforts) document, or it may require SPPL (a statement letter addressing the willingness and ability to conduct environmental management and monitoring). AMDAL is required for a project considered to cause significant impacts to the environment, whereas project which does not need to have AMDAL may require to prepare UKL-UPL document or SPPL. It should be noted that SPPL is applicable to project/business that is not necessary to be equipped with AMDAL or UKL-UPL which is considered to have very limited impacts to the environment and is the mandatory document required to obtain the license to operate such project/business from the government. Types of projects that need SPPL depend on Regional/Local Environmental Agency. SPPL is granted by the Regency/City Environmental Agency.

In accordance with MOE Regulation No. 16 Year 2012, AMDAL can be prepared during pre-feasibility study or after feasibility study is completed. The appraisal process of environmental document (AMDAL or UKL-UPL) may fall under central government (MOE), or provincial level, or regency level. Authority to appraise environmental document is stipulated in the MOE Regulation No. 08 Year 2013.

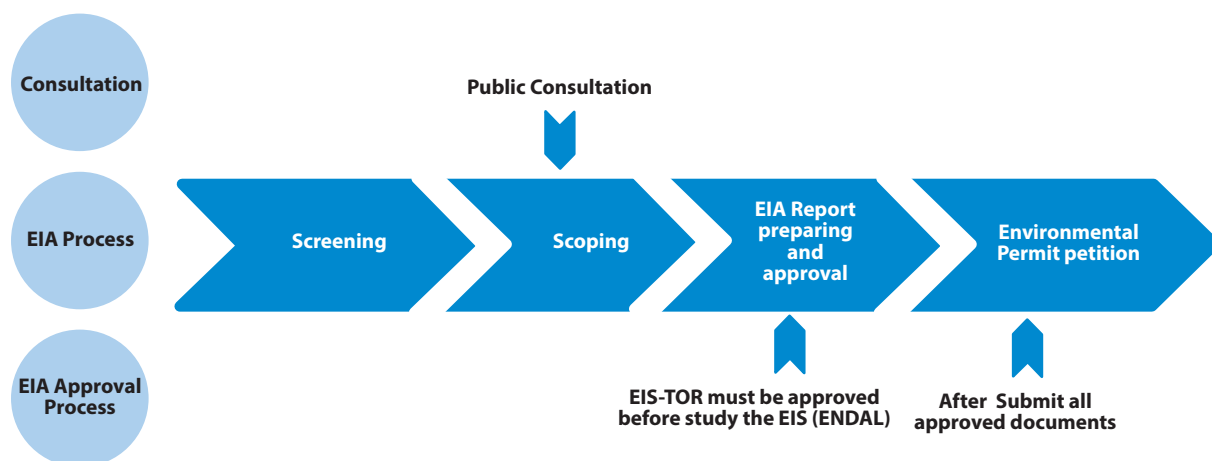
Summary of screening and appraisal level of environmental documents as well as authority to issue environmental permit is shown in **Figure 4.2-1**.

Figure 4.2-1: Summary of EIA Screening, Appraisal Level and Environmental Permit Issuance in Indonesia



An overview of Indonesia's EIA process proposed is shown in **Figure 4.2-2** and the key elements are described in the following sections.

Figure 4.2-2 Simplified Overview of Indonesia's EIA Process



4.3 EIA Legal Framework

Currently law and regulations which are currently applicable are:

- 1) Law No. 32 Year 2009 regarding Protection and Management of the Environment
- 2) Government Regulation No. 27 Year 2012 regarding Environmental Permit
- 3) Regulation of the State Minister of the Environment (MOE) No. 05 Year 2012 regarding Type of Business Plan and/or Activity that are Required to Possess an Environmental Impact Assessment Document
- 4) Regulation of the State Minister of the Environment No. 16 Year 2012 regarding Guidelines for Preparing Environmental Documents
- 5) Regulation of the State Minister of the Environment No. 17 Year 2012 regarding Guidelines for Community Engagement in the EIA and Environmental Permit
- 6) Regulation of the State Minister of the Environment No. 08 Year 2013 regarding Procedure of Environmental Document and Environmental Permit Issuance Assessment and Evaluation
- 7) Regulation of the State Minister of the Environment No. 24 Year 2009 regarding Guidelines of EIA Document Evaluation.
- 8) Government Regulation 16 of 2015 on Environmental Protection and Management
- 9) Ministry Regulation (Permen) LHK 18/Men LHK-II of 2015

The history and key milestones of the development of the EIA system in Indonesia is summarized in **Table 4.3-1** below

Table 4.3-1 EIA Relevant Regulations

Year	Relevant regulations	Key description
1982	Law No. 4 Year 1982 regarding Principal Stipulation about Environmental Management	<ul style="list-style-type: none"> • The first environmental Act in Indonesia • Preliminary stipulation regarding environmental management and protection
1986	Government Regulations No. 29 Year 1986 regarding Environmental Impact Assessment	<ul style="list-style-type: none"> • First basis regarding Environmental Impact Assessment guideline, of which the implementation process was centralized.
1997	Law No. 23 Year 1997 regarding Environmental Management Year 1999 regarding Environmental Impact Assessment	<ul style="list-style-type: none"> • Provided stipulation regarding environmental management and protection guidelines. • Delegated the authority to regional/decentralized, including appraisal which might be conducted either in central, provincial or regional level.
1999	Government Regulations No. 27 Year 1999 regarding Environmental Impact Assessment	<ul style="list-style-type: none"> • Prescribed environmental impact assessment guidelines. • Delegated the authority to regional/decentralized, including appraisal which might be conducted either in central, provincial or regional level.
2009	Law No. 32 Year 2009 regarding Protection and Management of the Environment	<ul style="list-style-type: none"> • Determining Framework about environmental protection and management including planning, utilization, control, preservation, supervision and law enforcement. • Describing EIA and UKL-UPL are instruments to prevent environmental pollution and/or damage. • Increasing the Supervision aspect and law enforcement such as the violation penalty; environmental supervisor official regulation, etc. • Emphasizing environmental permit as a requirement to obtain business/activity permit.

Year	Relevant regulations	Key description
2012	Regulation of the State Minister of the Environment (MOE) No. 05 Year 2012 regarding Type of Business Plan and/or Activity that are Required to Possess an Environmental Impact Assessment Document	<ul style="list-style-type: none"> Prescribing screening of a project whether it requires EIA according to type, area, production capacity etc. including the appraisal process in central, provincial or regency/city level.
	Regulation of the State Minister of the Environment No. 16 Year 2012 regarding Guidelines for Preparing Environmental Documents	<ul style="list-style-type: none"> Prescribing the guideline, outline and format of environmental document preparation as well as statement letter about ability to manage and monitor environment (SPPL).
	Regulation of the State Minister of the Environment No. 17 Year 2012 regarding Guidelines for Community Engagement in the EIA and Environmental Permit	<ul style="list-style-type: none"> Provision the guidelines to involve community during EIA process, public consultation including format and content of announcement, community representative appointment, etc.
	Government Regulation No. 27 Year 2012 regarding Environmental Permit	<ul style="list-style-type: none"> Prescribing guideline to obtain environmental permit for those projects which require EIA or UKL-UPL, guideline for EIA appraisal and UKL-UPL evaluation, EIA appraisal committee, environmental permit application and issuance. Strengthening technical committee in EIA evaluation and community participation Applying the Legal consequences to authority and proponent.
2013	Regulation of the State Minister of the Environment No. 08 Year 2013 regarding Procedure of Environmental Document and Environmental Permit Issuance Assessment and Evaluation	<ul style="list-style-type: none"> Prescribing requirements for environmental impact assessment Prescribing appraisal process of environmental document

Year	Relevant regulations	Key description
2015	Ministry Regulation (Permen) LHK 18/Men LHK-II of 2015	<ul style="list-style-type: none"> The AMDAL, environmental management and monitoring measures (UKL-UPL), and Environmental Permit process are now responded to the Directorate of Prevention for Environmental Impact of Business and Activities of the Ministry of Environment and Forestry (MOEF). But, the implementation authority still has been shared to district and provincial environment agencies as their authority.

Remark : Since late 2014, the Ministry of Environment (MOE) and Ministry of Forestry (MOF) was merged into Ministry of Environment and Forestry (MOEF)

4.4 Types and Sizes of Projects Requiring EIA Reports.

Types and sizes of projects or activities follow by Regulation of the State Minister of the Environment (MOE) No. 05 Year 2012 (regarding Type of Business Plan and/or Activity that require Environmental Impact Assessment). There are 74 types excluding their variants covering 14 sectors and business plan and/or activity, located in 20 protected areas are required EIA. The category was shown in the following table in **Annex A** of this report

For the Strategic Environmental Assessment (SEA) or KLHS have been developed and supported from the State Minister of the Environment (MOE) since 1998. According to Law No. 32 Year 2009 regarding Protection and Management of the Environment in article 15, the government and regional government shall be obliged to make KLHS to ascertain that the principles of sustainable development have become a basis of and been integrated into the development of a region and/or policy, plan and/or program. The regulation also called for assessment of social, cultural, and economic issues as an earliest stage of any developing plan and policy.

4.5 EIA Report Component

Environmental Impact Statement (AMDAL) Report Preparation including Environmental Management and Monitoring Plan (RKL-RPL). Draft EIS (AMDAL) together with Environmental Management and Monitoring Plan (RKL-RPL) documents that are prepared based on the approved EIS-TOR must be submitted to the Environmental Management Agency (MOE for central level, BLH/Environmental Agency for provincial or regency/city level).

The guidelines for impact assessment methodology, environmental management and monitoring plan are regulated in MOE Regulation No. 16 Year 2012 regarding Guidelines for Environmental Document Compilation, which described on the **Annex B** of this report. The EIA or AMDAL guideline consists of Terms of Reference of Environmental Impact Statement (KA-AMDAL), Environmental Impact Statement (AMDAL) and Environmental Management and Monitoring Plan (RKL-RPL). The report shall consist of following topics;

Content of EIA/ AMDAL Report

Terms of Reference of Environmental Impact Statement (EIS-TOR)

Chapter 1 : Introduction

Chapter 2 : Scoping

Environmental Impact Statement (EIS)

Chapter 1 : Introduction

Chapter 2 : Business and/or Project Plan

Chapter 3 : Environmental Baselines

Chapter 4 : Scope of Study

Chapter 5 : Prediction of Significant Impacts

Chapter 6 : Evaluation of Significant Impacts

Environmental Management Plan and Environmental Monitoring Plan

Chapter 1 : Introduction

Chapter 2 : Environmental Management Plan

Chapter 3 : Environmental Monitoring Plan

Content of UKL-UPL Report

Chapter 1 : Introduction

Chapter 2 : Description of Activity Plan

Chapter 3 : Estimated Environmental Impact

Chapter 4 : Environmental Management and Monitoring Plan

Bibliography

Annex

4.6 EIA Process System

4.6.1 EIA Developer

Project Proponent is responsible to prepare the EIA document as stated in Acts No. 32 Year 2009 regarding Environmental Protection and Management. In accordance with Clause 10 and 11 of Government Regulation No 27 Year 2012, Project Proponent can compile the AMDAL document by their own or request assistance from third party, usually by consultant or by an individual. If the Project Proponent decides to hire an individual or a consultant to compile the AMDAL document; the individual or consultant should meet the requirements stipulated in Regulation of the State Minister of the Environment No. 07 Year 2010 regarding Competency Requirement of EIA Document Compilation and Competency Requirement of Training Institution for EIA Document Compiler. The consultant as AMDAL compiler has to be licensed by Ministry of Environment. The AMDAL team leader has to be licensed and certified in which the certificate is issued by an institution appointed by Ministry of Environment.

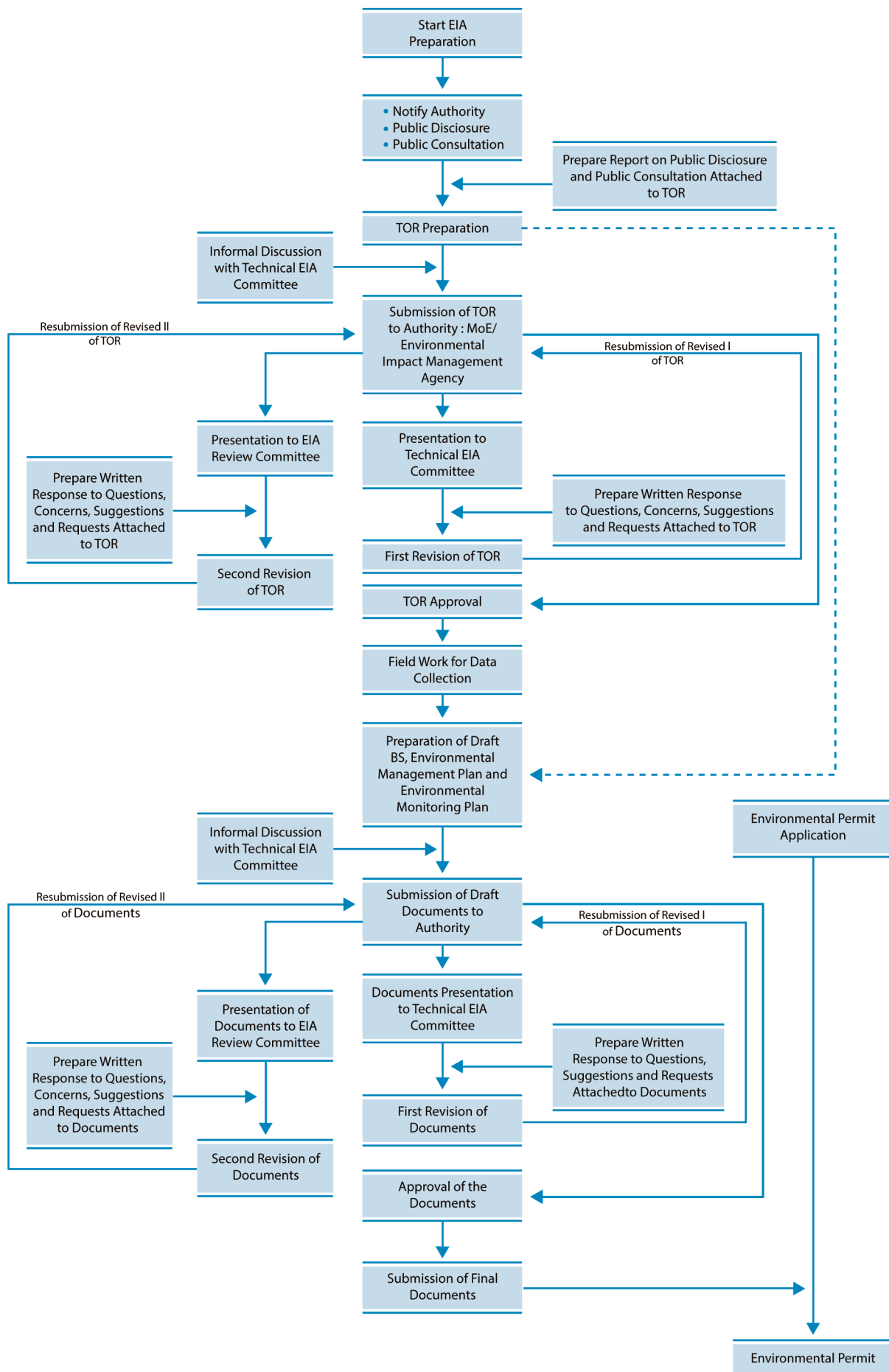
4.6.2 EIA Preparation and Timeline

In accordance with Government Regulation No. 27 Year 2012, EIA (AMDAL) consists of three interlinked documents:

- (a) EIA-TOR (KA-ANDAL),
- (b) ANDAL (EIS/Environmental Impact Statement), and
- (c) Environmental Management and Monitoring Plan (RKL-RPL). Clause 8(1) of Government Regulation No. 27 Year 2012 states there are three (3) types of AMDAL:
 - a) Single AMDAL: Defined as AMDAL for one project where the authority falls under one ministry or non-ministerial institution (example: coal mining without supporting facilities, or a factory).
 - b) Integrated AMDAL: Defined as AMDAL for a multi projects where their plan and management linked one with the other, located in one stretch area, and the authority falls under more than one ministries or more than one non-ministerial institutions (example: petroleum refinery with supporting facilities i.e. seaport, airstrip, power plant, base camp, etc.) .
 - c) AMDAL for Estates/Zone: Defined as AMDAL for more than one projects where their plan and management linked one with the other, located in a zone of estate development, and it is managed by the developer (example: industrial estate, real estate, etc.) .

AMDAL appraisal process is governed by Government Regulation No. 27 Year 2012 and MOE Regulation No. 08 Year 2013. AMDAL writing format is following MOE Regulation No. 16 Year 2012. Summary of EIA appraisal process in Indonesia is presented in **Figure 4.6-1**

Figure 4.6-1 EIA Process in Indonesia



As general practice, EIA/AMDAL preparation may take approximately 12 months; however, the preparation may take up to 2 years depending on the complexity of the project. Details of each step are described in the following sections:

Screening

Indonesia government imposes a “positive list” for a business and/or activity that obligatory to possess EIA in accordance with type, scale and location of the activity through MOE Regulation No. 05 Year 2012. List of activity based on its type and scale that requires AMDAL is depicted in Appendix I on this regulation. The screening process is directed to know whether a project requires AMDAL document or UKL-UPL document or SPPL. The full screening process in the form of flowchart is shown in Appendix II on this regulation.

Types of activity that require full process of EIA (AMDAL) are defined in this regulation covering sectors of:

- (1) Multisector (5 projects)
- (2) Defense sector (3 projects)
- (3) Agriculture (3 projects)
- (4) Fishery and marine (2 projects)
- (5) Forestry (2 projects)
- (6) Transportation (5 projects)
- (7) Satellite technology (5 projects)
- (8) Industry (8 projects)
- (9) Public works (12 projects)
- (10) Housing and settlement (1 project)
- (11) Energy and mineral resources (18 projects)
- (12) Tourism (2 projects)
- (13) Nuclear (4 projects) and
- (14) Hazardous waste processing (4 projects)

Activity located at the border or inside protection area, no matter of its type and scale of the project, is obliged to conduct AMDAL. Type of protection area is listed in Appendix III of MOE Regulation No 05 Year 2012.

Activities (according to their type, scale and location) that are not obliged to do AMDAL, are obliged to do or to have Environmental Management and Monitoring Efforts (UKL-UPL) document. If the activity is not obliged to have UKL-UPL document, the proponent shall submit a statement letter addressing the willingness and ability to conduct environmental management and monitoring (SPPL). In general, activities which are obliged to have UKL-UPL Document or SPPL are considered do not have significant impacts to the environment.

Besides type of environmental document, screening is also to determine the appraisal level to process the environmental document.

According to MOE Regulation No. 08 Year 2013, EIA Evaluation Authorities are divided into:

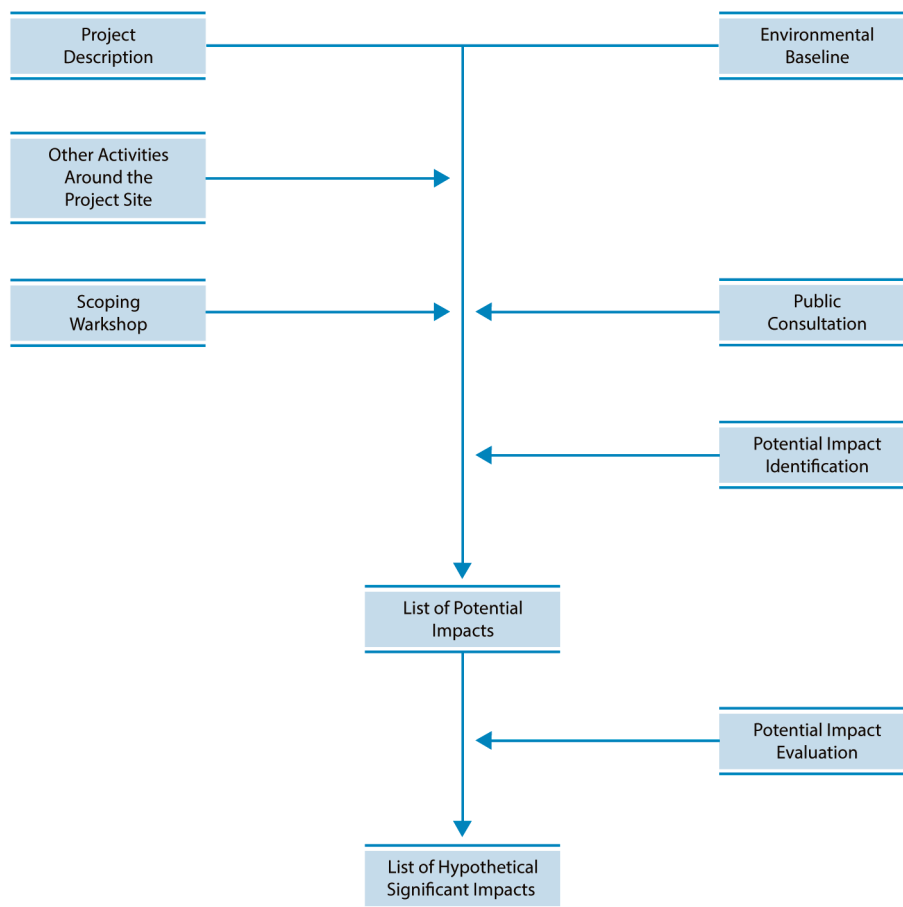
- 1) Central EIA Evaluation Commission, authorized to evaluate activities/projects that are:
 - Nationally strategic and listed in Appendix II of the regulation such as oil and gas sector (include petroleum and refinery), nuclear energy development, hazardous and toxic waste management
 - As listed in Appendix III, IV and V which are not separated from this regulation and are located within more than one province, territory of the Republic of Indonesia being in conflict with other countries, territorial sea more than 12 nautical miles measured from shoreline toward offshore, and/or cross border with other countries.
- 2) Provincial EIA Evaluation Commission, authorized to evaluate activities/projects that are:
 - Strategic based on Appendix III of this regulation, such as forestry, transportation, mineral and coal mining, etc. and/or
 - Listed in Appendix IV and V (such as agriculture, fishery, transportation, public works, etc.) located within more than one regency/city, cross regency/city and/or territorial sea as of 12 nautical at the furthest from shorelines toward offshore and/or archipelagic waters.
- 3) Regency/City EIA Evaluation Commission, authorized to evaluate activities/projects that are:
 - Strategic as listed in Appendix IV
 - Located within one regency/city
 - Territorial sea as of 1/3 (one third) from provincial authorized territorial sea, and/or
 - Not strategic as listed in Appendix V.

Scoping

Prior to conducting EIS (ANDAL) study, in accordance with Government Regulation No 27 Year 2012 and MOE Regulation No 16 Year 2012, it is required to prepare Terms of Reference of the EIS (KA-ANDAL) and gets approval from EIA Appraisal Commission. The scoping process and results shall be addressed in the TOR-EIS.

Scoping is conducted to ensure that all potential impacts from the project plan are identified as part of the EIA study process. Scoping is carried out to identify hypothetical significant impacts caused by project activities to be assessed and studied further in the EIS (ANDAL). The stages of the scoping process are briefly presented in **Figure 4.6-2**. Scoping is preceded by Public Consultation, which is one of the most important steps in the scoping process that is followed up by a Scoping Workshop. Scoping Workshop usually conduct between Project Proponent and the Consultant. Information obtain from the Public Consultation (i.e. comments, concern, etc.) will be used as an input for the Scoping Workshop. Scoping can actually be conducted without a workshop. Hence, Scoping Workshop is not mandatory but commonly conducted as part of scoping process. Outcome from the Scoping Workshop will also be used as information for the preparation of the EIS-TOR (KA-ANDAL).

Figure 4.6-2 The stages of the scoping process



In accordance with MOE Regulation No. 16 Year 2012 regarding Guidelines for Preparing Environmental Documents (Appendix I – Guideline for TOR-ANDAL compilation), study boundary is derived from four boundaries that are project boundary, ecological boundary, social boundary and administrative boundary. Study boundary is the outer boundary resulted from the overlay of those four boundaries;

- Project boundary is a boundary where all project activities will take place;
- Ecological boundary is a boundary where environmental components (water, air, soil, etc.) will be affected by the project
- Social boundary is a boundary where community interactions take place and community affected by the project
- Administrative boundary is an official governmental boundary (village, sub-district, district/regency, province) where those three boundaries are located.

Scoping is conducted prior to the preparation of the EIS -TOR (KA-ANDAL) through a workshop involving Proponent's project key personnel and AMDAL's Team key personnel.

Preparation of EIS-TOR is in accordance with the MOE Regulation No. 16 Year 2012 regarding Guidelines for Preparing Environmental Documents. EIS-TOR is presented first in front of the Technical Team then followed by presentation or hearing at the AMDAL Evaluation Commission. During this process, the commission evaluates the adequacy of the EIS-TOR. EIS (ANDAL) study can proceed after EIS-TOR has been approved by the authority.

Stakeholder Engagement

Stakeholder engagement process is regulated in MOE Regulation No. 17 Year 2012 regarding Guidelines for Community Engagement in the EIA and Environmental Permit.

Every project that is required to be equipped with an EIA shall firstly conduct “Public Disclosure” to announce the project plan to the community. This can be through mass media (particularly the newspaper), leaflet, and announcement in the strategic place within the project area (i.e. poster at local environmental agency). Once “Public Disclosure” is completed, a “Public Consultation” with potential affected community shall be followed. As general practice, “Public Consultation” is usually in form of formal meeting. Approach to conduct “Public Consultation” is also described in the MoE Regulation No. 17 Year 2012 regarding Guidelines for Community Engagement in the EIA and Environmental Permit. The objectives of the public consultation are:

- Community receives information concerning the project/activity and its important impacts to environment
- Community can convey suggestions, concerns and/or opinions on the project plan that may cause important impacts to environment
- Community can involve in the decision making process related to environmentally feasible or non-feasible of the project that may cause important impacts to environment
- Community can provide suggestion, opinion and/or response to environmental permit process
- To ensure transparency in all EIA compilation processes

Basically, proponent has to announce:

- Proponent name and its address
- Type of business and/or activities
- Scale of the project plan
- Project plan location
- Identified potential impacts of the project plan
- Announcement date and the deadline of input and suggestion submission to proponent and authority

Communities to be involved in stakeholder engagement are:

- Affected community
- Environmental NGO (environmental observer)
- Communities that may be affected by any form decision in EIA process

4.6.3 EIA Approval Process and Timeline

Approval process is regulated in Government Regulation No. 27 Year 2012 regarding Environmental Permit as illustrated in **Figure 4.6-1** above. Generally, EIA/AMDAL or UKL-UPL shall be approved prior to Environmental Permit issuance. Hence, approval process of either EIA/AMDAL or UKL-UPL document is the same but different in approval level. Once the EIA/AMDAL or UKL-UPL is approved, it may take up to 3 months to obtain Environmental Permit per common practice.

In general, EIA in Indonesia consists of 3 documents, Term of Reference (TOR), Environmental Impact Statement (EIS), Environmental Management Plan and Environmental Monitoring Plan. All of these documents for the appraisal process shall be in Bahasa Indonesia version. EIA document assessment and evaluation process:

- (1) TOR administrative acceptance and assessment
- (2) TOR assessment in front of the technical team, followed by assessment in front of evaluation commission
- (3) TOR approval
- (4) EIS, Environmental Management and Monitoring Plan administrative acceptance and assessment
- (5) EIS, Environmental Management and Monitoring Plan assessment in front of the technical team, followed by assessment in front of evaluation commission and
- (6) Feasibility assessment according to the document

During EIS-TOR Preparation, the commission evaluates the adequacy of the EIS-TOR, draft the EIS(AMDAL), Environmental Management Plan and Environmental Monitoring Plan EIS study can proceed after EIS-TOR has been approved by the authority by collect all the needed data. For draft EIS (AMDAL) together with Environmental Management and Monitoring Plan (RKL-RPL) documents that are prepared based on the approved EIS-TOR must be submitted to the Environmental Management Agency (MOE for central level, BLH/Environmental Agency for provincial or regency/city level).

The approving authority has maximum 30 working days starts from the date of receipt of EIS-TOR. In the case approving authority fails to issue the decision at the time frame (30 working days), therefore the concerned proposed project is assumed as environmentally feasible. The proponent can proceed with the project.

Meanwhile for EIS and Environmental Management and Monitoring Plan the approving authority has maximum 75 working days starts from the date of receipt of EIS and Environmental Management and Monitoring Plan. In the case approving authority fails to issue the decision at the time frame (75 working days), therefore the concerned proposed project is assumed as environmentally feasible. The proponent can proceed with the project.

Environmental Permit

Environmental Permit is granted to every party who commits Business and/or activities which is mandatory to do EIA or UKL-UPL in order to protect and manage the environment.

Environmental Permit is regulated in Government Regulation No. 27 Year 2012. Proponent is to apply for Environmental Permit parallel with the EIA document approval process. Environmental Permit application has to be equipped by:

- (1) Final EIA document
- (2) Business and/or activity development
- (3) Business and/or activity profile

The legal binding of the approved AMDAL document and environmental permit are the Bahasa Indonesia version.

4.7 Basic Questions about EIA

Questions	Answers
1) What formal legislation exists concerning requirement of EIA?	<ul style="list-style-type: none"> • Law No. 32 Year 2009 regarding Protection and Management of the Environment • Regulation of the State Minister of the Environment (MOE) No. 05 Year 2012 regarding Type of Business Plan and/or Activity that are Required to Possess an Environmental Impact Assessment Document
2) Which type of projects are required to undertake EIA ?	<ul style="list-style-type: none"> • According to Regulation of the State Minister of the Environment (MOE) No.05 Year 2012 regarding Type of Business Plan and/or Activity, 72 project types and Business Plan and/or Activity conducted in 20 protected areas shall undertake Environmental Impact Assessment Report and submitted to EIA assessment report authorities for approval
3) What are the components of the EIA report?	<p>The Environmental Impact Assessment reports will be divided as EIA or AMDAL, compose with</p> <ul style="list-style-type: none"> • Terms of Reference of Environmental Impact Statement (EIS-TOR) <ul style="list-style-type: none"> Chapter 1, Introduction Chapter 2, Scoping • Environmental Impact Statement (EIS) <ul style="list-style-type: none"> Chapter 1, Introduction Chapter 2, Business and/or Project Plan Chapter 3, Environmental Baselines Chapter 4, Scope of Study Chapter 5, Prediction of Significant Impacts Chapter 6, Evaluation of Significant Impacts • Environmental Management Plan and Environmental Monitoring Plan <ul style="list-style-type: none"> Chapter 1, Introduction Chapter 2. Environmental Management Plan Chapter 3, Environmental Monitoring Plan • UKL-UPL Report, compose with <ul style="list-style-type: none"> Chapter 1, Introduction Chapter 2, Description of Activity Plan Chapter 3, Estimated Environmental Impact Chapter 4, Environmental Management and Monitoring Plan Bibliography and Annex

Questions	Answers
4) What authority involve in EIA procedure in Indonesia?	<p>According to Regulation of the State Minister of the Environment (MOE) No. 08 Year 2013, EIA Evaluation Authorities are divided into;</p> <ol style="list-style-type: none"> 1) Central EIA Evaluation Commission, authorized to evaluate activities/projects that are: <ul style="list-style-type: none"> • Nationally strategic and listed in Appendix II of the regulation such as oil and gas sector (include petroleum and refinery), nuclear energy development, hazardous and toxic waste management • As listed in Appendix III, IV and V which are not separated from this regulation and are located within more than one province, territory of the Republic of Indonesia being in conflict with other countries, territorial sea more than 12 nautical miles measured from shoreline toward offshore, and/or cross border with other countries 2) Provincial EIA Evaluation Commission, authorized to evaluate activities/projects that are: <ul style="list-style-type: none"> • Strategic based on Appendix III of this regulation, such as forestry, transportation, mineral and coal mining, etc. and/or • Listed in Appendix IV and V (such as agriculture, fishery, transportation, public works, etc.) located within more than one regency/city, cross regency/city and/or territorial sea as of 12 nautical at the furthest from shorelines toward offshore and/or archipelagic waters 3) Regency/City EIA Evaluation Commission, authorized to evaluate activities/projects that are: <ul style="list-style-type: none"> • Strategic as listed in Appendix IV • Located within one regency/city • Territorial sea as of 1/3 (one third) from provincial authorized territorial sea, and/or • Not strategic as listed in Appendix V
5) When will EIA be prepared ?	<p>Regarding to their processes, the EIA should be prepared as early as possible to be able to take into consideration any comments from the TOR. Then, the EIA developer will be able to start collecting the data and draft EIA report.</p>

Questions	Answers
6) What are the steps of EIA in Indonesia ?	<p>There are 4 steps to conduct environmental impact assessment Indonesia. The steps are presented as listed below;</p> <ul style="list-style-type: none"> • Screening • Scoping • EIA Report Preparing and Approval • Environmental Permit Petition
7) What are the tools of EIA?	<ul style="list-style-type: none"> • Environmental Impact Analysis (AMDAL) • Environmental Management and Monitoring Efforts (UKL-UPL) • Statement of Management and Environmental Monitoring Ability (SPPL)
8) Who is EIA developer?	<p>The individual or consultant should meet the requirements stipulated in Regulation of the State Minister of the Environment No. 07 Year 2010 regarding Competency Requirement of EIA Document Compilation and Competency Requirement of Training Institution for EIA Document Compiler. The consultant as AMDAL compiler has to be licensed by Ministry of Environment and forest</p>
9) Is there any requirement for public consultation in EIA process?	<p>According to MOE Regulation No. 17 Year 2012 regarding Guidelines for Community Engagement in the EIA and Environmental Permit, Public Consultations are required for EIA process as following;</p> <ul style="list-style-type: none"> • During TOR • Scoping process
10) How timing in approval process?	<p>According to Government Regulation No. 27 year 2012,</p> <ul style="list-style-type: none"> • The environmental permit will be obtaining within 3 months after EIA/AMDAL or UKL-UPL is approved • Within maximum 30 working days from the date of receipt of EIS-TOR. • Within maximum 75 working days from the date of receipt EIS and Environmental Management and Monitoring Plan.
11) Fee of approval process	<p>Not specified, However, Article 27 number 2 in government regulation of the republic Indonesia number 51 of 1993 has addressed that the environmental management and monitoring costs shall be charged to the operational budget of the relevant business or activity.</p>

Questions	Answers
12) How long is EIA valid?	After businesses and/or activities are approved, a project owner must launch their businesses and/or activities immediately or within 3 years. If the project owners propose their project longer than 3 years, their environmental permit as well as project will be rejected.
13) Penalties	Not specified

Annex A: Project Applicable to EIA

List of the Projects Require an EIA, according to Regulation of the State Minister of the Environment (MOE) No. 05 Year 2012, Minister of Environment of the Republic of Indonesia

Types and sizes of projects requiring EIA reports

Item	Types of projects or activities	Size
Multi-sector Project		
1.	Reclamation of coastal areas and small islands, with	
	a. Size of reclamation area,	> 25 ha
	b. volume of backfilled material, or	> 500,000 m ³
	c. Length of reclamation	> 50 m (perpendicular seaward of the coastline)
2.	Hill cutting and land backfilling with Volume	> 500,000 m ³
3.	Intake of clean water from lakes, rivers, springs, or other surface waters	
	- Intake Discharge	≥ 250 l / sec, equivalent to need for clean water of 250,000 people
4.	Intake of underground water (shallow ground wells, underground wells)	≥ 50 liters / sec (From one or some wells in the area of < 10 ha)
5.	Development of buildings	
	- Area of land, or	≥ 5 ha
	- Building	≥ 10,000 m ²
Defense Project		
6.	Development of Navy Base	Class A and B
7.	Development Air Force Base	Class A and B
8.	Development of Combat Training Center	
	- Area	> 10,000 ha
Agricultural Project		
9.	Cultivation of food plants with or without the processing unit, in size of	> 2,000 ha
10.	Cultivation of horticulture plants with or without the processing unit, in area of	> 5,000 ha

Item	Types of projects or activities	Size
11.	Cultivation of plantation	
	a. In a season with or without the processing unit:	
	1) In non- forestry cultivation area, area of	≥ 2,000 ha
	2) In convertible forest production area (HPK), area of	≥ 2,000 ha
	b. Yearly with or without the processing unit:	
	1) In non- forestry cultivation area, area of	≥ 3000 ha
	2) In convertible forest production area (HPK), area of	≥ 3000 ha
Fisheries and Maritime Project		
12.	Fishery Aquaculture	
	a. Aquaculture of shrimp / fish of advanced and medium technology level with or without processing unit	
	- Area	≥ 50 ha
	b. Aquaculture of fishery (the floating nets and pen system):	
	- In fresh water (Lake)	
	- Area, or	≥ 2.5 ha
	- Quantity	≥ 500 units
	- In sea water	
	- Area, or	≥ 5 ha
	- Quantity	≥ 1,000 units
Forestry Project		
13.	Utilization of Forest Products	
	a. Business of Utilization of Woods Forest Product (UPHHK) from Natural forests (HA)	All quantities
	b. Business of Utilization of Woods Forest Product (UPHHK) from Plant forests	≥ 5,000 ha
Transportation Project		
14.	Development of Railway, with or without stations	
	a. On ground (at-grade), length	≥25 km
	b. Underground, length	all scale
	c. Above the ground (Elevated), length	≥ 5 km
15.	Development of passenger terminal and cargo terminal on road transport	≥ 5 ha

Item	Types of projects or activities	Size
16.	a. Dredging of waters by capital dredging - Volume	$\geq 500,000 \text{ m}^3$
	b. Dredging in river and / or sea by capital dredging that cut the stone, except for reef material.	$\geq 250,000 \text{ m}^3$ or all quantities that use explosives
	c. placement of dredging results in the sea - Volume, or - Area of dredging placement	$\geq 500,000 \text{ m}^3$ $\geq 5 \text{ ha}$
17.	Development of port with one of following facilities: a. Dock in construction of sheet pile or open pile - Length, or - Size	$\geq 200 \text{ m}$ $\geq 6,000 \text{ m}^2$
	b. Dock with massive construction	All quantities
	c. Wave Barrier (talud) and / or wave breaker in Length	$\geq 200 \text{ m}$
	d. (Floating Facility)	$\geq 10,000 \text{ DWT}$
18.	Development of Airport for fixed wing and the facilities - Runways length - Terminal passengers or cargo terminal Area	All development of airport with the study results on the approved main plan $\geq 1,200 \text{ m}$ $\geq 10,000 \text{ m}^2$
Satellite Technology Project		
19.	Development and Operation of Aerospace Port	- All quantities - For the purposes of satellite launching for commercial or noncommercial (National interest)
20.	Development of the ground rocket launching facility and other purposes.	- Range > 300 Km - Capacity > 500 km - Speed > 1,000 km / hour

Item	Types of projects or activities	Size
21.	Development of facilities for propellant rocket manufacturing	- Large-scale - Aim to fulfill the needs of aerospace port and rocket launching which is included as mandatory of EIA
22.	Rocket Factory	All quantities
23.	Development of static test facility and rocket launching facility	All quantities
Industry Project		
24.	The cement industry (through clinker production)	All quantities
25.	Pulp industry or and pulp and paper industry integrated with Industrial Plant Forests, Capacity	$\geq 300,000$ tons of pulp per year
26.	Upstream Petrochemical Industry	All quantities
27.	Industrial Estate (Including the integrated industrial complex)	All quantities
28.	Shipbuilding industry with graving dock system	$\geq 50,000$ DWT
29.	Industry of Propellant, ammunition and explosives	All quantities
30.	Lead smelting industry	All quantities
31.	Industrial activities not included in numbers 1 through 7 in the area of:	
	a. Urban:	
	- Metropolitan, area	≥ 5 ha
	- Big city, area	≥ 10 ha
	- Cities are, area	≥ 15 ha
	- The small town, area	≥ 20 ha
	b. Rural / rural, area	≥ 30 ha
Public Works Project		
32.	Development of Dam / Reservoir or other Types of Water Reservoirs	
	1) height; or	≥ 15 m
	2) capacity of reservoir, or	$\geq 500,000$ m ³
	3) size of inundation, or	≥ 200 ha

Item	Types of projects or activities	Size
33.	Irrigation areas	
	a. new construction in area of	$\geq 3,000$ ha
	b. Enhancement with additional area	≥ 1000 ha
	c. Arrangement of fields, area (per group)	≥ 500 ha
34.	Swamp development: Swamp reclamation for irrigation	$\geq 1,000$ ha
35.	Development of Coastal safety and improvement of the estuary:	
	- Perpendicular distance of coast	≥ 500 m
36.	Normalization of River (Including sodetan) and construction of Flood Canal	
	a. Big City / metropolitan	
	- Length, or	≥ 5 km
	- Volume of dredging	$\geq 500,000$ m ³
	b. Medium City	
	- Length, or	≥ 10 km
	- Volume of dredging	$\geq 500,000$ m ³
	c. Rural	
	- Length, or	≥ 15 km
	- Volume of dredging	$\geq 500,000$ m ³
37.	Development and / or improvement of highway which requires land acquisition outside rumija (right of way) with scale / quantity of length (km) and scale / quantity of area of land acquisition (ha):	
	a. in city metropolitan / large:	
	- Length of road with area of land acquisition; or	≥ 5 km with land acquisition ≥ 10 ha
	- Area of land acquisition	≥ 30 ha
	b. in medium city	
	- Length of road with area of land acquisition; or	≥ 5 km with land acquisition ≥ 20 ha
	- Area of land acquisition	≥ 30 ha
	c. in rural	
	- Length of road with area of land acquisition; or	≥ 5 km with land acquisition ≥ 30 ha
	- Area of land acquisition	≥ 40 ha

Item	Types of projects or activities	Size
38.	Development and / or improvement of highway with extension which requires land acquisition (outside rumija):	
	a. in city metropolitan / large	
	- Length of road with area of land acquisition; or	≥ 5 km with land acquisition > 20 ha
	- Area of land acquisition	≥ 30 ha
	b. in medium city	
	- Length of road with area of land acquisition; or	≥ 5 km with land acquisition ≥ 30 ha
	- Area of land acquisition	≥ 40 ha
	c. in rural	
	- Length of road with area of land acquisition; or	≥ 5 km with land acquisition ≥ 40 ha
	- Area of land acquisition	≥ 50 ha
39.	a. Development of subway /underpass, tunnel, flyover, of length	≥ 2 km
	b. Development of bridge, in length	≥ 500 m
40.	Waste	
	a. Construction of domestic disposal waste landfill with the system of controlled landfill / sanitary landfill including the supporting structures	
	- Total area of landfill, or	≥ 10 ha
	- Total capacity	$\geq 100,000$ tons
	b. Landfill in the tidal area,	
	- Landfill area, or	All capacities / scales
	- Total capacity	
	c. Development transfer Station	
	- Capacity	≥ 500 tons / day
	d. Development of Integrated Waste Processing Installation	
	- Capacity	≥ 500 tons / day
	e. Processing with incinerator	
	- Capacity	All capacities
	f. Composting Plant	
	- Capacity	≥ 500 tons / day

Item	Types of projects or activities	Size
41.	Domestic Waste Water	
	a. Development of Fecal Sludge Processing Installation (IPLT), including its supporting facilities	
	- Area, or	> 2 ha
	- Capacity	> 11 m ³ / Day
	b. Development of Wastewater Processing Installation (WWTP) for domestic waste including its supporting facilities	
	- Area, or	≥ 3 ha
	- Organic load	≥ 2.4 tons / day
	c. Development of wastewater pipeline, service area	
	- Area of services, or	≥ 3 ha
	- Debit of wastewater	≥ 2.4 tons / day
42.	Development of drainage (Primary and / or secondary) in settlement	
	a. Big cities / Metropolitan, length	≥ 5 km
	b. Medium city, length	≥ 10 km
43.	Clean water network in cities / metropolitan	
	a. Development of distribution network Service area	≥ 500 ha
	b. Development of transmission network Length	≥ 10 km
Housing and Settlement Project		
44.	Development of Housing and Settlements with specific manager:	
	a. Metropolitan cities, area	≥ 25 ha
	b. Large cities, area	≥ 50 ha
	c. Medium and small cities, area	≥ 100 ha
	d. For the purposes of transmigration settlement	≥ 2,000 ha

Item	Types of projects or activities	Size
Energy and Mineral Resources Project		
K.1	COAL MINERAL	
45.	Exploitation (Production Operation) of Mineral and Coal	
	a. Area of Licensing	≥ 200 ha
	b. Area opened to mining	≥ 50 ha (cumulative per year)
46.	Exploitation (Production Operation) of Coal	
	a. Capacity, and / or	≥ 1 million tons / year
	b. Amount of material displaced	≥ 4 million bank cubic meter (Bcm) / year
47.	Exploitation (Production Operation) of metal mineral	
	a. Capacity of ore, and / or	≥ 300,000 tons / year
	b. Amount of cover material displaced	≥ 1 million tons / year
48.	Exploitation (Production Operation) of nonmetal mineral or rocks	
	a. Capacity of ore, and / or	≥ 500,000 m ³ / Year
	b. Amount of cover material displaced	≥ 1 million m ³ / Year
49.	Processing and purification:	
	a. Metal mineral	All quantities
	b. Nonmetal mineral	≥ 500,000 m ³ / Year
	c. Rocks	≥ 500,000 m ³ / Year
	d. Coal	≥ 1 million m ³ / Year
	e. Radioactive minerals	All quantities
50.	Exploitation (Production Operation) of radioactive mineral	All quantities (tons / year), except for the purpose research and development
51.	Mining in the sea	All quantities
52.	Carry out the placement of tailings Undersea	All quantities
K.2	OIL AND GAS	
53.	Exploitation of Oil and Gas and production development	
	a. Onshore	
	1) Oil Field	≥ 5,000 BOPD
	2) Gas Field	≥ 30 MMSCFD

Item	Types of projects or activities	Size
	b. Offshore	
	1) Oil Field	≥ 15,000 BOPD
	2) Gas Field	≥ 90 MMSCFD
		Total fields of all wells
54.	Pipelines of oil, gas and fuel oil at sea	
	a. Length, or	≥ 100 km
	b. Pressure	≥ 16 bar
55.	Construction of Refinery	
	a. Liquefied Petroleum Gas (LPG)	≥ 50 MMSCFD
	b. Liquefied Natural Gas (LNG)	≥ 550 MMSCFD
	c. Oil	≥ 10,000 BOPD
56.	LNG Degasification Terminal (onshore/offshore)	≥ 550 MMSCFD
57.	Refinery of lubricants (including the supporting facilities)	≥ 10,000 tons / year
58.	Development of field of Coal Bed Methane (CBM) / Coal Methane Gas on the phase of exploitation and production development including:	All quantities
	a. Drilling of production Well;	
	b. Development of production facilities and supporting facilities;	
	c. Production Operations, and	
	d. Post-operations	
K.3 ELECTRICITY		
59.	Development of transmission network	
	a. High Voltage Air Line	≥ 150 kV
	b. High Voltage Cable Channels	≥ 150 kV
	c. High Voltage Underwater Cables	≥ 150 kV
60.	Development of	
	a. Diesel Power Plant / Gas Power Plant / Steam Power Plant / Gas and Steam Power Plant	≥ 100 MW (In one location)
	b. Development of Geothermal Power Plant	≥ 55 MW
	c. Development of Hydropower with:	
	- Height of dam, or	≥ 15 m
	- Area of inundation, or	≥ 200 ha
	- capacity of power (Direct Flow)	≥ 50 MW

Item	Types of projects or activities	Size
	d. Waste Power Plant (PLTSa) with methane harvesting	≥ 30 MW
	e. Development of power plant of other types (for example: Solar, wind, Biomass / Peat, Wind)	≥ 10 MW (In one location)
K.4 NEW AND RENEWABLE ENERGY		
61.	Geothermal Exploitation Phase:	
	a. Area permitting (Geothermal WKP),	≥ 200 ha
	b. Opened Area for geothermal business, or Development of geothermal steam and / or development of PLTP (Geothermal Development)	≥ 50 ha ≥ 55 MW
62.	Development of Biofuel Refinery	≥ 30,000 tons / year
Tourism Project		
63.	a. Tourism Area	All quantities
	b. Recreation Park, an area of	≥ 100 ha
64.	Golf course (Not including driving range)	All quantities
Nuclear Project		
65.	Development and operation of nuclear reactor, including:	
	a. Power Reactor	All Capacities
	b. Non-Power Reactor	≥ 100 kW thermal
66.	Development and operation of non-nuclear reactor installation, including the following activities:	
	a. enrichment of nuclear material, conversion of nuclear material, and / or purification of nuclear material	All capacities (Except for research and development purposes)
	b. reprocessing of spent nuclear fuel	All capacities
	c. temporary storage of spent nuclear fuel	≥ 3,000 Thermal MW
	d. permanent storage	All capacities
67.	Development and Operation of Radioactive Waste Treatment Installation, that include the construction and operation:	
	Processing of low and moderate level of radioactive waste and disposal of low and moderate level of radioactive waste	All capacities (Except for research and development purposes)

Item	Types of projects or activities	Size
68.	Production of Radioisotopes	All capacities derived from fission reaction
Hazardous Waste Management Project		
69.	Industry of hazardous waste management services that combine 2 (two) or more activities including: utilization, processing, and / or landfill of hazardous waste	All quantities
70.	Hazardous waste utilization	
	a. Hazardous waste utilization as synthetic fuel on kiln in cement industry, except for the utilization of self-produced hazardous wastes and derived from one location of activity	All quantities
	b. Utilization of hazardous waste in production of synthetic fuel (fuel blending) from hazardous waste	All quantities
	c. Utilization of hazardous waste as an alternative material in cement industry, unless the utilization which use only the fly ash	All quantities
	d. Utilization of hazardous waste of used oil as raw material for lubricant recycling industry, including as raw material of base oil making	All quantities
	e. Utilization of hazardous waste of used solvents for the solvent recycling industry	All quantities
	f. Utilization of hazardous waste of used batteries through lead (Pb) smelting	All quantities
	g. Utilization of hazardous waste of used batteries and / or dry batteries by formation of ingot	All quantities
	h. Utilization of hazardous waste of used catalysts in the form of recycle and / or recovery	All quantities

Item	Types of projects or activities	Size
71.	Hazardous waste processing	
	a. Hazardous waste thermal processing using incinerator, except for self-produced hazardous waste and derived from 1 (one) location of activity	All quantities
	b. Hazardous waste processing biologically (composting, bio pile, land farming, bioventing, bio sparging, bio slurping, alternate electron acceptors, and / or phytoremediation), as the primary activities (services of hazardous waste processing)	All quantities
	c. Injection and / or ReInjection of hazardous waste into formation	All quantities
72.	Hazardous landfill of class 1, class 2, and / or class 3	All quantities

Protected Areas which projects or activities requiring EIA reports

Item	Types of projects or activities
1.	Protected forest areas
2.	Peat moss area
3.	Water catchment area
4.	Coastal border
5.	River border
6.	Area around the lake or reservoir
7.	Wildlife and marine life
8.	Nature reserves and marine sanctuaries
9.	Coastal mangrove forest
10.	National parks and marine parks
11.	Botanical garden forest
12.	Natural park and marine park
13.	Areas of cultural and scientific heritage
14.	Areas of geological natural reserve
15.	Augmentation of ground water
16.	Springs border
17.	Area of germplasm protection
18.	Wildlife migration area
19.	Coral reefs
20.	Corridor area for protected species of wildlife or marine life

Note:

1. Class A: Activities of dredging and reclamation are potential to change the marine and coastal ecosystems.
Class B: The Base activities are potential to cause impacts from liquid wastes and solid wastes.
2. BOPD: Barrels of oil per day
3. MMSCFD: Million metric square cubic feet per day Reference: 1) Regulation of the State Minister of the Environment (MOE) No. 05 Year 2012

Annex B : Guideline of EIA Content

According to regulation of the State Minister of the Environment (MOE) No.16 Year 2012, regarding Guidelines for Preparing Environmental Documents

EIA Report Component

The EIA/ AMDAL and UKL-UPL report shall consist of following topics;

Terms of Reference of Environmental Impact Statement (EIS-TOR)

Chapter 1 : Introduction

- 1.1. Background
- 1.2. Objectives and Benefits
- 1.3. Project Proponent and EIA Compiler Identity

Chapter 2 : Scoping

2.1. Project Description

This includes EIA study status, the location conformity with spatial planning, and description of the project emphasizing on project activity which potentially causing environmental impact.

2.2. Environmental Setting

This includes geo-physic-chemical, biology, socio-economic-culture and public health

2.3. Community Engagement Result

Input and opinion of the community are processed and the result is used for scoping process.

2.4. Hypothetical Significant Impact

The process to obtain hypothetical significant impact is basically initiated by potential impact identification. Then, potential impacts are evaluated to define whether or not potential impacts will become hypothetical significant impact.

The example of scoping process is shown in this table.

2.5 Study Boundary and Impact Study Timeline

No.	Project Description which Potentially Creates Environmental Impact	Initial	Affected Environmental Component	Scoping			Study Area	Impact Study Time Limit
				Potential Impact	Potential Impact Evaluation	Hypothetical Significant Impact		

Content of EIA/ AMDAL Report

Environmental Impact Statement (EIS)

Chapter 1 : Introduction

- 1.1. Background
- 1.2. Objectives and Benefits

Chapter 2: Business and/or Project Plan

- 2.1. Identity of Proponent and EIA Compiler
- 2.2. Description of Business and/or Project Plan
- 2.3. Other Activities around the Project Location
- 2.4. Project Alternatives

Chapter 3: Environmental Baselines

- 3.1. Physical-Chemical
- 3.2. Biology
- 3.3. Socio-Economic and Socio-Culture
- 3.4. Public Health

Chapter 4: Scope of Study

- 4.1. Significant Impact Reviewed
- 4.2. Study Boundary and Time Line

Chapter 5: Prediction of Significant Impacts

- 5.1. Preconstruction Stage
- 5.2. Construction Stage
- 5.3. Operation Stage
- 5.4. Post Operation Stage

Chapter 6: Evaluation of Significant Impacts

- 6.1. Review of Significant Impacts
- 6.2. Selection of the Best Alternatives
- 6.3. Impact Review as a Basis for Environmental Management
- 6.4. Recommendation of Environmental Feasibility

Environmental Management Plan and Environmental Monitoring Plan

Chapter 1 : Introduction

Chapter 2 : Environmental Management Plan

Explanation regarding environmental management plan to be conducted, matrix of environmental management plan format is presented in Table below.

No.	Project Description which Potentially Creates Environmental Impact	Initial	Affected Environmental Component	Scoping			Study Area	Impact Study Time Limit
				Potential Impact	Potential Impact Evaluation	Hypothetical Significant Impact		

Chapter 3 : Environmental Monitoring Plan

Explanation regarding environmental monitoring plan to be conducted, matrix of environmental monitoring plan format is presented in Table.

No.	Monitored Environmental Impact			Environmental Monitoring			Environmental Monitoring Institution	
	Impact Type	Indicator/Parameter	Source of Impact	Data Collection and Analysis	Monitoring Location	Period and Frequency	Supervisor	Report Recipient

Content of UKL-UPL Report

1. Proponent Identity

2. Business and/or Activity Plan

2.1. Name of Business and / or activity plan

2.2. Location of the business and / or activity plan including the map corresponding with cartographic rules and / or illustration of location in adequate scale.

2.3. Scale / magnitude of business and / or activity plan

2.4. Outline of the components of business and / or activity plan

3. Environmental Impacts and Environmental Management and Environmental Monitoring Efforts (note that example of template to be used in this Section is illustrated in table below)

Source of Impact	Type of Impact	Magnitude of Impact	Type of Environmental management Efforts	Location of Environmental management	Period of Environmental management	Type of Environmental Monitoring Efforts	Location of Environmental Monitoring	Period of Environmental Monitoring	Institution of Environmental management and Monitoring	Description

4. Number and Type of PPLH Permit Required

5. Statement Letter

6. Bibliography

7. Appendices

Chapter 1: Introduction

1.1. Name of Activity

1.2. Identity on Proponent and Author

Chapter 2: Description of Activity Plan

2.1. Project Description

2.1.1. Pre-operation

2.1.2. Operation Stage

2.1.3. Post-Operation Stage

Chapter 3: Estimated Environmental Impact

- 3.1. Pre-Operation Stage
- 3.2. Operation Stage
- 3.3. Post-Operation Stage

Chapter 4: Environmental Management and Monitoring Plan

- 4.1. Environmental Management Plan
 - 4.1.1. Operation Stage
- 4.2. Monitoring Plan of the Environment
 - 4.2.1. Operation Stage
 - 4.2.2. Post-Operation Waste
- 4.3. Execution and Supervision
 - 4.3.1. Execution and Financing
 - 4.3.2. Management and Environmental Monitoring Organization
 - 4.3.3. Acceptance of Report

Bibliography

Annex

5

EIA in Lao PDR



5. EIA in Lao PDR

5.1 Definitions

Initial Environmental Examination (IEE) means the data examination, exploration and analysis to anticipate possible minor environmental impacts, while identifying appropriate methods and measures to prevent, avoid or mitigate environmental impacts from investment projects or activities including considerations of climate change.

Environmental and Social Impact Assessment (ESIA) means the studying, surveying, researching, analyzing and estimating of possible positive and negative impacts on the environment and society, including short and long term impacts on health created by the large investment projects classified in Group 2 of Ministerial Agreement No. 8056/MONRE (2013), as well as offering appropriate alternatives, environmental management and monitoring plan (EMMP), and social management and monitoring plan (SMMP) to prevent and mitigate possible impacts which are likely to happen during construction and operation of the investment projects.

Project Screening means study and analysis of data contained in an investment project (document) to determine whether the proposed investment project requires initial environmental examination or environmental impact assessment or not

Scoping of the study means the process to determine the scope of the environmental impact assessment (EIA) and the data needed to be collected and analyzed, to assess the impacts of the investment project on the environment, in which, such study requires terms of reference (TOR) to prepare a report on environmental impact assessment.

Terms of Reference (TOR) means all works needed to be done when carrying out environmental impact assessment, in accordance with the scope of the study for assessing environmental impact.

Environmental Management and Monitoring Plan (EMMP) means a plan formulated in a ESIA report which defines main environmental activities, measures on prevention, minimization and mitigation of environmental impacts, as well as organizational structures and responsibilities, schedule and sufficient budget for implementation of the environmental management and monitoring activities, during a project's construction, operation and termination period.

Social Management and Monitoring Plan (SMMP) means a plan formulated in ESIA report which defines main social activities, measures on prevention, minimization and mitigation of social impacts, as well as measures on compensation, resettlement and restoration of living conditions of the people who are (will be) affected by the investment project, organizational structures and responsibilities, schedule and sufficient budget for the implementation of social monitoring activities, during a project's construction, operation and termination period.

Environmental Management and Monitoring Plan (EMMP) means a plan formulated in EIA report which defines main environmental and social activities, measures on prevention, minimization and mitigation of environmental and social impacts, as well as organizational structures and responsibilities, schedule and sufficient budget for implementation of the environmental and social management and monitoring activities, during a project's construction, operation and termination period.

Project Developer means any person, legal entity or organization, from the public or private sector, who/which is licensed to undertake study, survey, design, construction and operation of an investment project.

Stakeholders mean any person, legal entity or organization who/which are interested in, involved in or have interests in an investment project, in an activity or a matter (related to the project) because they are involved in or (are likely to be) affected by the investment project.

Environmental Compliance Certificate (ECC) means a legal document issued for approval on IEE/ESIA report, an Environmental Management and Monitoring Plan (EMMP), and a Social Management and Monitoring Plan (SMMP).

5.2 Introduction

The Environmental Protection Law (EPL), 1999 established a framework for management of environmental resources with the objective of conserving and facilitating the sustainable use of natural resources; however, The first EIA regulation was firstly issued in 2000 by the EIA Decree No. 1770/STEA and followed by the Decree on the Implementation of the Environmental Protection Law in 2002. Then, Lao PDR government revised the EIA regulation in 2010 by Decree on Environmental Impact Assessment No.112/PM, 2010, prescribing the thematic issues to be covered and the outputs expected at the different stages of the EIA process (pre-construction, construction, operation and termination stages), also, dividing two categories of investment projects requiring environmental and social assessments:

- Category 1: Investment projects, which are small or create fewer impacts on the environment and society, and require Initial Environmental Examinations (IEE)
- Category 2: Large investment projects which are complicated or create substantial impacts on the environment and society, and require EIAs.

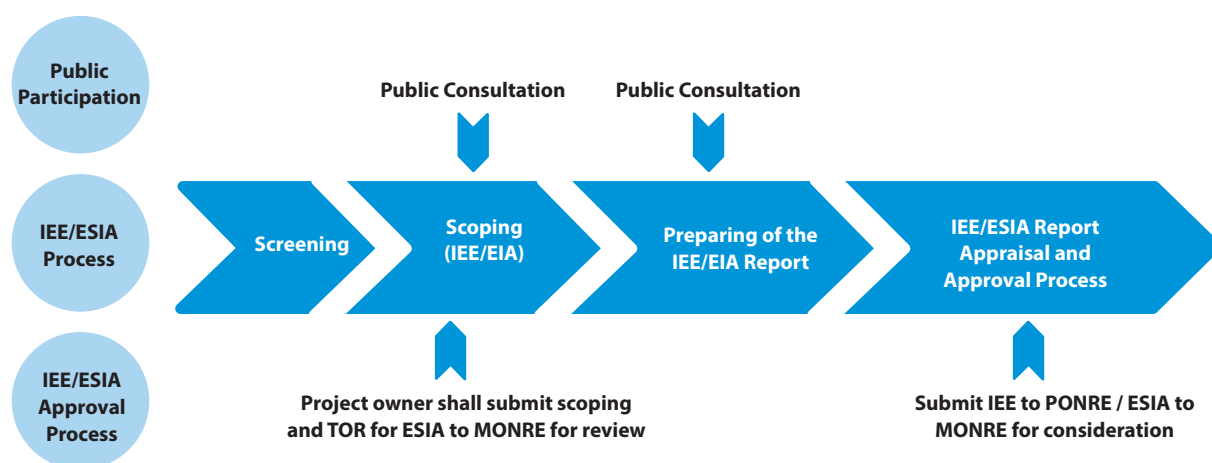
This decree also superseded other Ministerial regulations for implementation of EIA policy, but this Decree was superseded as well by two Ministerial Instructions, which state the MONRE is the responsible Laos government agency to manage the ESIA process and to issue an Environmental Compliance Certificate for IEE or ESIA report meeting its requirements prior to the construction of proposed investment project or activities.

Until MONRE revised the Environmental Protection Law in 2012 which induce the Ministerial Instruction on ESIA and the Ministerial Instruction on IEE in 2013. These regulation maintain the distinction between the IEE and EIA process but separate the processes. In addition, MoNRE issued The Ministerial Agreement on the Endorsement and Promulgation of List of Investment Projects and Activities Requiring for Conducting the Initial Environmental Examination or Environmental and Social Impact Assessment, 2013, which is prescribed the

types and sizes of projects that are in Group 1 (IEE Required investment projects) and Group 2 (ESIA Required Investment Projects)

An overview of Lao's IEE/EIA process proposed is shown in **Figure 5.2-1** and the key elements are described in the following sections.

Figure 5.2-1 Simplified Overview of Lao PDR's EIA Process



5.3 EIA Legal Framework

The First EIA regulation was Decree on Environmental Impact Assessment , 2000, revised Decree of Environmental Impact Assessment , 2010 which is currently the main legal framework for ESIA system in Lao PDR. The key milestones of the development of the ESIA system in Lao PDR is summarized in **Table 5.3-1** as below

Table 5.3-1 EIA Relevant Regulations

Year	Relevant regulations	Key description
1999	The Environmental Protection Law (EPL), Presidential Decree No. 09/ PO, dated 26 April 1999	<ul style="list-style-type: none"> • Provided obligation to protect the environment; • Prescribed the development projects that could potentially affect the environment required to submit an Environmental Impact Assessment report and obtain an Environmental Compliance Certificate (ECC) before commencing the project • Issued the general requirements on procedures and methods for environmental impact assessment; and included participation of local administrations, mass organizations, and the people likely to be affected by the development projects in environmental impact assessment.
2000	Decree on Environmental Impact Assessment No. 1770/STEA	<ul style="list-style-type: none"> • The first introduction of Environmental Impact Assessment System in Lao PDR.

Year	Relevant regulations	Key description
2002	Decree on the Implementation of the Environmental Protection Law	<ul style="list-style-type: none"> • Provided guidelines and standards for EIA process • Prescribed the roles and responsibilities of government agencies in the EIA process; and • Required government ministries to develop their own set of EIA procedures.
2010	Decree on Environmental Impact Assessment, Prime Minister's Office, No. 112/PM	<ul style="list-style-type: none"> • Superseding all EIA procedures previously developed by line Ministries and to place the responsibility for the EIA process with MONRE for implementation of EIA policy • Prescribed the two categories of investment projects requiring environmental and social assessments: <ul style="list-style-type: none"> - Category 1: Small Investment projects require Initial Environmental Examinations (IEE) - Category 2: Large investment projects require EIA
2012	Environmental Protection Law (EPL) No: 29/NA	<ul style="list-style-type: none"> • Revising the EPL, 1999 on the definition and regulation of IEE, EIA and Environmental Compliance Certificate
2013	Ministerial Instruction on the Process of IEE of the Investment Projects and Activities No.8029/MONRE	<ul style="list-style-type: none"> • Prescribing the MONRE to responsible for managing EIA process and issuance of Environmental Compliance Certificate for IEE or ESIA project
	Ministerial Instruction on the Process of ESIA of the Investment Projects and Activities, No. 8030/MONRE	<ul style="list-style-type: none"> • Prescribing the rule, principles and regulation on IEE and EIA Process
	Ministerial Agreement No. 8056/MONRE on Endorsement and Promulgation of List of Investment Projects and Activities Requiring For Conducting the IEE or ESIA	<ul style="list-style-type: none"> • Classification of EIA systems into 2 groups: <ul style="list-style-type: none"> - Group 1 require to conduct IEE for investment project or activities that are anticipated to cause the insignificant or minimal environmental and social impacts - Group 2 require to conduct environmental and social impact assessment (ESIA) for investment projects and activities that are anticipated to cause the significant or major environmental and social impacts. Amendment types of projects required to conduct IEE or ESIA

5.4 Types and Sizes of Projects Requiring EIA Reports.

MONRE recently revised its Screening List of Projects and sizes required to conduct the IEE or ESIA, No.8056/MONRE, 2013, which is provided in **Annex A** of the report

5.5 EIA Report Component

The content of IEE or ESIA report for the investment project, required IEE/ESIA preparation by law, shall follow the Guideline from Ministerial Instruction No. 8029/MONRE and No. 8030/MONRE and the EIA Guidelines of MONRE, which summarized as follows;

Content of IEE Report

There is no detailed requirement for the content of the IEE report that all Project Developers must follow. Based on experience of Lao registered consultant, content of IEE report shall include the key sections and actions summarised as follows:

- Chapter 1: Introduction
- Chapter 2: Description of the Project
- Chapter 3: Resettlement Component of the Project (if any)
- Chapter 4: Description of the Environment
- Chapter 5: Screening of Potential Environmental Impacts and Mitigation Measures
- Chapter 6: Institutional Requirements and Environmental Monitoring Plan
- Chapter 7: Public Consultation and Information Disclosure
- Chapter 8: Findings and Recommendations
- Chapter 9: Conclusion

Content of ESIA Report

Detailed requirements for the content of the ESIA report that all Project Developers must follow are presented in the EIA Guidelines, MONRE, June 2012, detailed in the **Annex B** of this document. The ESIA Report shall include the key sections and summarised as follows:

- Chapter 1: Overview
- Chapter 2: Executive Summary
- Chapter 3: Context of the Project
- Chapter 4: Policy, Legal and Institutional Framework
- Chapter 5: Description of Project and Alternatives
- Chapter 6: Description of the Environment
- Chapter 7: Impact Assessment and Mitigation Measures
- Chapter 8: Risk Assessment
- Chapter 9: Cumulative Impact Assessment
- Chapter 10: Public Consultation and Disclosure
- Chapter 11: Development Plans

However, There are no industry specific guidelines for preparing ESIA in Lao PDR. The Ministerial Instructions, and the EIA Guidelines, MONRE, June 2012, can be considered as the key guidelines for ESIA preparation for all types of projects in Lao PDR

5.6 EIA Process System

5.6.1 EIA Developer

An IEE or ESIA shall be conducted only by a qualified Consultant, either Lao national or foreigner firm, who is registered with the MONRE and meets the conditions specified in Article 44 Environmental Services and Article 45 Qualifications of Environmental Service Providers of the Environment Protection Law, No. 29/NA, 18 December 2012.

5.6.2 EIA Preparation and Timeline

The Project Developer is responsible for the IEE or ESIA process and must obtain an Environmental Compliance Certificate (ECC) from MONRE prior starting construction works, or before any operating permit can be issued.

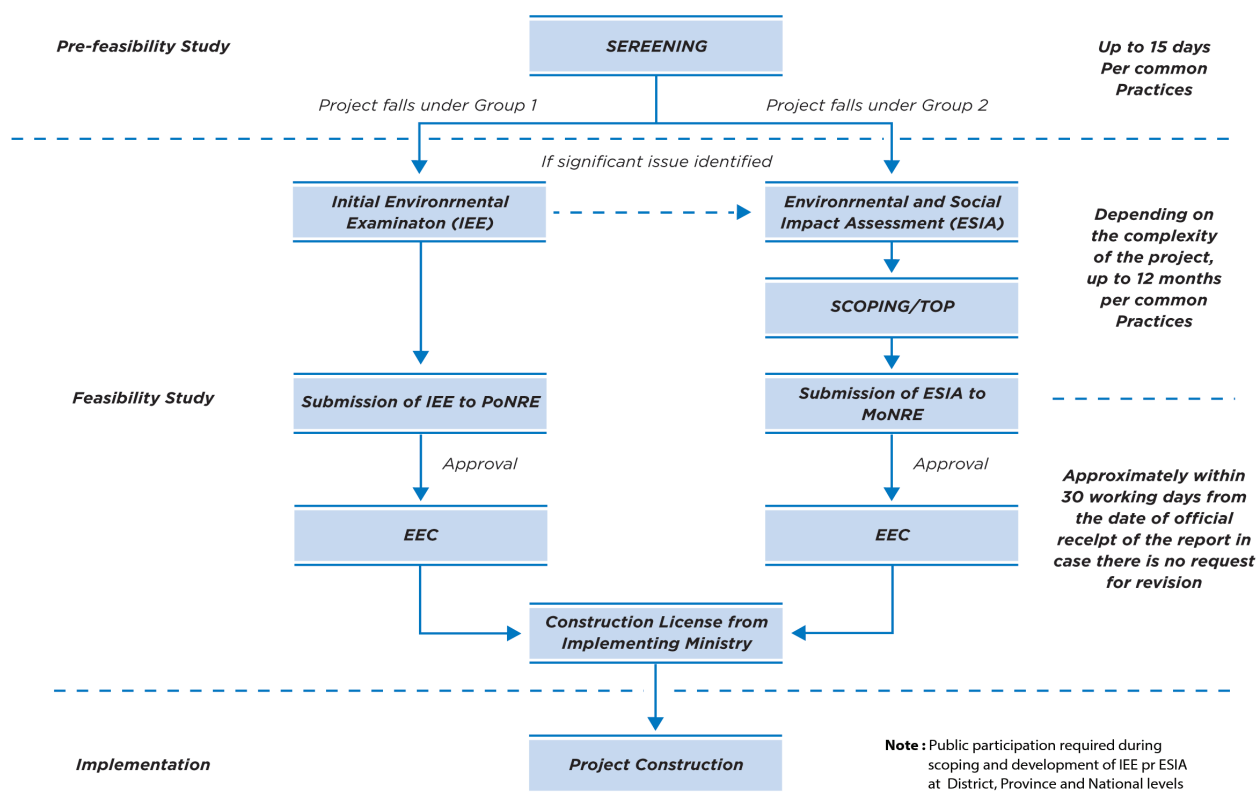
The simplified ESIA system in Lao PDR is illustrated in **Figure 5.6-1**. Based on the Ministerial Instructions and in the EIA Guidelines, MONRE, June 2012, the ESIA steps that need be undertaken in each phase of project planning are shown together with the investigation and consultation activities required to minimize the environmental and social impacts of a project. Thus during the Pre-Feasibility Stage of project planning, the Project Developer refers to the Screening List and obtains guidance on what type of environmental assessment is necessary for his type and size of project. The EIA Guidelines also shows the duties of MONRE as they relate to the EIA process: reviewing, monitoring and approving the documents and activities carried out by the project developer. The first consultations with stakeholders begin during this phase of environmental impact assessment which is linked to the Feasibility stage of the investment cycle.

Development of the IEE or ESIA study and the EMP is thus carried out during the Feasibility stage when feedback from stakeholders and local authorities can be considered in the design of the proposed project or activity. The Project Developer takes into consideration valued ecosystem components of the communities to be impacted by the proposed project and completes design details and mitigation measures to minimize or offset project impacts. Monitoring by both the Project Developer and MONRE will focus on the implementation during the construction and operation phases of the project cycle to ensure that mitigation measures committed in the ESMMP are implemented and adequate as predicted in the environmental assessment studies.

It should be noted that estimate timeline of each EIA process is based on factual information specified under the law. This is for reference only and the actual timeline can be changed depending on project situation and/or complexity of the project. EIA process in Lao PDR includes five main steps:

- (a) Screening
- (b) Scoping
- (c) IEE/ESIA Report Preparation
- (d) Stakeholder Engagement and Public Disclosure
- (e) IEE/ESIA Report Appraisal and Approval Process.

Figure 5.6-1 Simplified ESIA system in Lao PDR



Note: ECC: Environmental Compliance Certificate
 MONRE: Ministry of Natural Resources and Environment;
 PoNRE: Provincial Office of Natural Resources and Environment

The diagram to illustrate Project Planning Cycle and Environmental/Social Activities of the ESIA process in Lao PDR can be found in the EIA Guidelines, MONRE, June 2012. Details of each step of the ESIA process are summarized in the following sections:

Screening

In the Screening step, the Project Developer refers to the list of projects subject to IEE/ESIA as defined in the Ministerial Agreement on the Endorsement and Promulgation of List of Investment Projects and Activities Required to Conduct the Initial Environmental Examination or Environmental and Social Impact Assessment, No. 8056/MONRE

Scoping

The Project Developer together with his Consultant will prepare a Scoping Report and Term of Reference (TOR) in consultation with the Department of Environmental and Social Impact Assessment, MONRE. MONRE will complete the review within 15 public workdays and inform the project developer of any comments. The project developer shall obtain MONRE's approval of the scoping/TOR before commencing the actual EIA studies.

IEE Report Preparation

IEE Report Preparation is described in the Ministerial Instruction No. 8029/MONRE, 2013, detailed on the **Annex B**. The Project Owner shall ensure that the Environmental and Social Management and Monitoring Plan (ESMMP) are attached as one component in the IEE Report. The IEE shall be prepared in the Lao language to be accepted for review and insurance of an Environmental Compliance Certificate. The public consultation process shall also be applied during the development of the IEE. The Ministerial Instruction includes detailed descriptions of all the duties and responsibilities of the Project Owner (Section 2.8) and the Government Agencies (Section 2.9).

ESIA Report Preparation

The ESIA Report and Environmental and Social Management and Monitoring Plans (ESMMP) preparation are described in the Ministerial Instruction No. 8030/MONRE (2013). The Project Owner will require consultations with local authorities and affected people as described in the Instruction starting in the Scoping Phase in which a Scoping Report and the TOR for the ESIA are required to be submitted and reviewed by the MONRE.

Preparation of a Social Assessment Report is required in cases where resettlement and compensation are important issues based on the requirements stipulated under the Regulations for Implementing Decree on Compensation and Resettlement of People Affected by Development Projects, No. 2432/STEA, Vientiane, 11 November 2005, Article 9. It is also requested that social, economic, cultural and health components be included in the ESIA Report in order to have a full assessment of all project impacts.

The Project Owner shall conduct additional cumulative impact assessment in case its Project and activities are expected to generate cumulative Environmental and Social Impacts to other investment project located in the adjacent areas provided that such cumulative impact assessment shall be conducted pursuant to the related technical guidelines. The Project Owner shall conduct additional transboundary impact assessment in case its Investment Project and Activities are expected to cause transboundary social and environmental impacts to other neighboring countries; provided that such transboundary impact assessment shall be conducted pursuant to the related regulations and technical guidelines. Both requirements would need to be considered for business depending on its size and location during the Scoping Report and TOR for ESIA phase.

The ESIA Report may be presented in a series of volumes and specialist reports according to the complexity of the project. Specific environmental and social studies (e.g., fisheries, resettlement, etc.) may be presented in separate reports, but should be summarized and their results included in the ESIA Report. Also, the report should contain the main sections summarized as follows:

- Executive Summary
- Context of the Project
- Policy, Legal and Institutional Framework
- Project Description and Alternatives
- Description of the Environment (including social aspects)

- Impact Assessment and Mitigation Measures
- Cumulative Impact Assessment
- Risk Assessment
- Stakeholder Engagement and Public Disclosure
- Development Plans

An Environmental and Social Management and Monitoring Plans (ESMMP) shall be prepared for each ESIA Report. The ESMMP should be presented in a separate volume attached as an appendix to the ESIA Report. The Ministerial Instruction requires that the ESMMP is prepared in both Lao and English languages.

In accordance with the Ministerial Instruction No. 8030/MONRE, the Project Developer is required to prepare an Operational Phase ESMMP and submit this plan to MONRE for review and approval six (6) months prior to commencement of operations. The Project Developer plan shall revise the Operational Phase ESMMP every 2-5 years and submit the revised plan to MONRE for review and approval. In addition, complicated projects, such as hydropower and mining projects, may also be required to prepare a separate Construction Phase ESMMP.

MONRE will conduct an administrative and technical review of the ESIA Report, ESMMP and development plans. The Project Developer will be required to revise the ESIA Report, ESMMP and development plans to comply with the consolidated comments provided by MONRE and those of the technical review committee. The Project Owner is to be responsible for all costs associated with the review process including the costs of engaging a technical committee both domestic and foreign consultants to assist the MONRE for the review of the ESIA Report for the complicated Investment Projects and Activities.

Stakeholder Engagement and Public Disclosure

In the Lao PDR, the project developer shall undertake a process of consultation during the ESIA study involving the affected communities and the project stakeholders. This consultation shall be conducted in coordination with local authorities on a continuous basis starting as early in the ESIA process as possible as prescribed under the EIA Guidelines, MONRE, June 2012. The EIA study should include the following sub-sections in the “Stakeholder Engagement and Public Disclosure” section:

- Methodology and Approach
- Summary of Consultation Activities Undertaken
- Overview of consultation activities
- Summary of the opinions of the people or communities consulted
- Results of Consultations During Project Scoping
- Issues identified by stakeholders and groups affected by the project
- How these issues were taken into account
- Recommendations for Consultations to be Undertaken During the ESIA Studies

To facilitate meaningful consultation with groups affected by the project and local NGOs, the Ministerial Instruction No 8030/MONRE, 2013, requires that suitable information be made available to stakeholders in a language and form that is understandable to them.

The Project Owner must provide stakeholders sufficient time to review and understand the project and its issues to enable them to participate effectively during consultation.

Stakeholders are defined as persons, groups or communities external to the core operations of a project who may be affected by the project or have interest in it. This may include individuals, businesses, communities, local government (IFC,2012).There are three main groups of organizations and individuals who should be consulted during scoping process.

These are:

- Government authorities (National, provincial, district and local authorities)
- Other interested organizations (international, national, and local environmental, social, and development interest groups; local business and local mass organizations, like the Lao Women Union, Lao Youth Union)
- The general public (landowners, residents, ethnic groups in the affected areas)

Stakeholder engagement is an important responsibility of the Project Proponent and is recognised as a crucial step to build understanding and acceptance of the project by the stakeholders. Stakeholder engagement provides the Project Proponent with feedback information about “valued environmental components” of the project affected communities. According to the Ministerial Instructions and the EIA Guidelines, MONRE, June 2012, stakeholder engagement should be conducted at different times during the preparation of the ESIA as illustrated in the diagram presented in the Guidelines. At the Scoping stage, village dissemination meetings should be organized by the Project Developer and the District Authorities to inform the villagers of the development plan of the project and the possible environmental and social impacts as well as to collect opinions of the project affected people by the investment project. Summary of the stakeholder engagement meetings shall be enclosed in the Scoping Report and thereafter in the ESIA Report.

All summary reports of stakeholder engagement shall be signed by the chairperson and main officers. The minutes of each meeting must also be signed by the Project Developer and the consultant which prepare the report. The name of the participants and the information regarding the organisation of the meetings shall be provided in the Summary Report. A summary of the results of each stakeholder engagement shall be presented including the opinion of the participants, the comments from the stakeholders, and the response from the project developer.

During preparation and review of the ESIA report, including the ESMMP, consultation meetings shall be organized by the Project Developer and the local administration to inform villages of the development plan of the project and possible environmental and social impacts as well as to collect opinions of the project affected people. Only the population from project affected villages (directly and indirectly) will be consulted. The *Ministerial Instruction* requires the Project Owner and its Consultant to collaborate with local administrations, Provincial and Central Offices (DoNRE, PoNRE, MONRE) to organize dissemination meetings to explain general situation of the investment project, benefits, and

impacts which may arise from the investment project and measures to prevent and minimize impacts on the environment and society, and summarize the comments and opinions given in the meetings to incorporate into the report. Other key stakeholders to be included at these consultation meetings include the development project responsible agencies (implementing Ministries of the investment project, e.g. Ministry of Industry & Commerce)

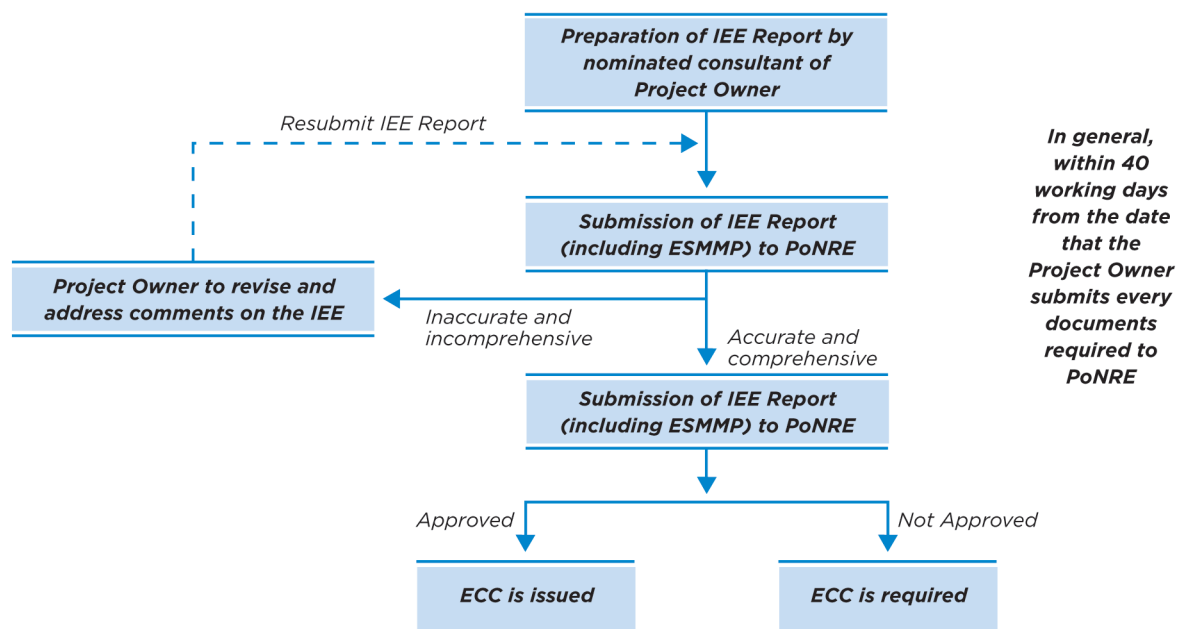
5.6.3 EIA Approval Process and Timeline

IEE/ESIA Report Appraisal and Approval Process

The Review of the IEE Report shall be completed within 40 business days from the date that the Project Owner submits every documents required above to the Provincial/Capital Department of Natural Resources and Environment; provided that such timeline will not include the period of time that the Project Owner takes to revise the IEE Reports. For investment projects requiring an ESIA, the Project Owner must submit an application, together with the ESIA report, the environmental management and monitoring plan (EMMP), the social management and monitoring plan (SMMP), amended after district consultation meeting, to the MONRE to review and consider to issue an Environmental Compliance Certificate. MONRE will examine these reports within 15 working days, to ensure that they are correct and comprehensive, and then notify the Project Owner in writing as to their correctness and comprehension. MONRE will review the accepted reports on the environmental impact assessment, the environmental management and monitoring plan, and the social management and monitoring plan, in general, within 95 working days, and within 120 working days for the investment project which is complicated. For review of an investment project which is complicated, MONRE will establish a technical committee of domestic or foreign experts to review the technical aspects of the ESIA documents. Comments received from the technical committee are considered confidential and there is no clear statement that their comments must be considered in the decision by MONRE to accept or reject the ESIA reports.

Once MONRE is satisfied with the ESIA reports and ESMMP, the Environmental Compliance Certificate will be issued, including specific conditions if required. The review and decision making process of IEE and ESIA in the Lao PDR based on the Ministerial Instructions is shown in **Figure 5.6-2** and **Figure 5.6-3**, respectively.

Figure 5.6-2 IEE approval process in Lao PDR



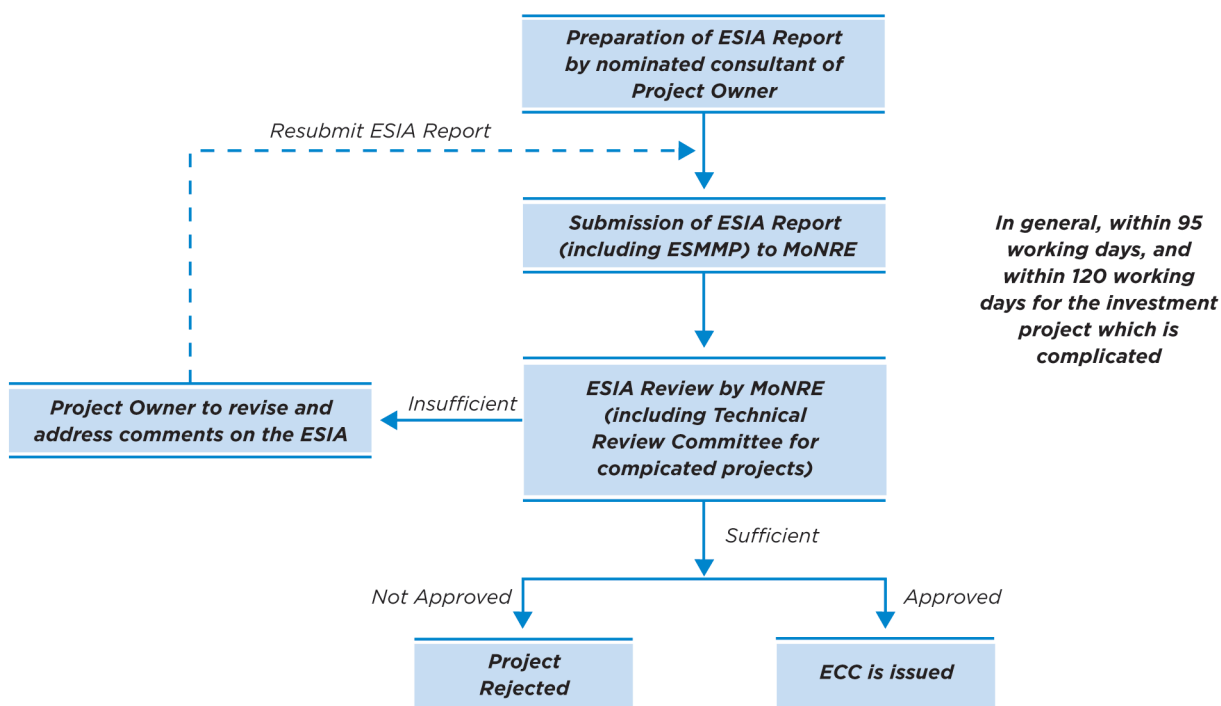
Note: ECC: Environmental Compliance Certificate

ESMMP: Environmental and Social Management and Monitoring Plan

MONRE: Ministry of Natural Resources and Environment

PoNRE: Provincial Office of Natural Resources and Environment

Figure 5.6-3 ESIA approval process in Lao PDR



Note: ECC: Environmental Compliance Certificate

ESMMP: Environmental and Social Management and Monitoring Plan

MONRE: Ministry of Natural Resources and Environment;

5.7 Basic Questions about EIA

Questions	Answers
1) What formal legislation exists concerning requirement of EIA?	Environmental Protection Law (EPL) (Revised Version) No: 29/NA, Vientiane Capital City, 18 December 2012
2) What types of investment projects are required to undertake EIA?	<p>According to The Ministerial Agreement No.8056/MONRE on Endorsement and Promulgation of list of investment projects and activities requiring for conducting the IEE or ESIA, dated 17 December 2013</p> <ul style="list-style-type: none"> • Group 1: Investment projects, which are small or create fewer impacts on the environment and society, and require initial environmental examinations (IEEs) and • Group 2: Large investment projects which are complicated or create substantial impacts on the environment and society, and require ESIA.
3) What are the components of the EIA report?	<ul style="list-style-type: none"> • IEE Reports shall include as follows : <ul style="list-style-type: none"> Chapter 1: Introduction Chapter 2: Description of the Project Chapter 3: Resettlement Component of the Project (if any) Chapter 4: Description of the Environment Chapter 5: Screening of Potential Environmental Impacts and Mitigation Measures Chapter 6: Institutional Requirements and Environmental Monitoring Plan Chapter 7: Public Consultation and Information Disclosure Chapter 8: Findings and Recommendations Chapter 9: Conclusion • ESIA Reports shall include as follows : <ul style="list-style-type: none"> Chapter 1: Overview Chapter 2: Executive Summary Chapter 3: Context of the Project Chapter 4: Policy, Legal and Institutional Framework Chapter 5: Description of Project and Alternatives Chapter 6: Description of the Environment Chapter 7: Impact Assessment and Mitigation Measures Chapter 8: Risk Assessment Chapter 9: Cumulative Impact Assessment Chapter 10: Public Consultation and Disclosure Chapter 11: Development Plans

Questions	Answers
4) Which authority involve in EIA procedure in Lao PDR?	<ul style="list-style-type: none"> Ministry of Natural Resources and Environment (MONRE) is responsible for ESIA appraisal process and will conduct an administrative and technical review of the ESIA and relevant reports. Once the reports are approved, MONRE will issue ECC for the project owner prior starting construction works, or before any operating permit The Provincial Department of Natural Resources and Environment (PONRE) is responsible for IEE appraisal process and will conduct an administrative and technical review of the IEE report. Once the report is approved, MONRE will issue ECC for the project owner
5) When will EIA report be prepared?	IEE or ESIA Report shall be prepared and submitted to relevant authorities to obtain an Environmental Compliance Certificate (ECC) prior to sign any Concession Agreement (CA) or starting construction works, or before any operating permit can be issued.
6) What are the steps of EIA in Lao PDR?	<p>There are 3 main steps as follows:</p> <ul style="list-style-type: none"> Screening, refers to the Screening List and obtains guidance on what type of environmental assessment is necessary Scoping & IEE/ESIA preparing Reviewing and approving by MONRE/PONRE
7) What are the tools of EIA?	<ul style="list-style-type: none"> Initial Environmental Examination (IEE) Environmental and Social Impact Assessment (ESIA)
8) Who is EIA developer?	An IEE or ESIA shall be conducted only by qualified consultant, either Lao national or foreigner firm, who is registered with the Ministry of Natural Resources and Environment and meets the conditions and qualifications of Environmental Service Providers of the Environment Protection Law, No 29/NA, 18 December 2012
9) Is there any requirement for public consultation in IEE/ESIA process?	<p>According to Environmental Impact Assessment Guidelines, June 2012, Public Consultations are required for ESIA process as the following processes:</p> <ul style="list-style-type: none"> during TOR and Scoping process on the preparation of the ESIA report on the first draft of the ESIA report during EIA review process <p>According to Ministerial Instructions No. 8029/MONRE (2013). Public Consultations are required for IEE report preparation and IEE review processes.</p>

Questions	Answers
10) How timing in approval process?	<ul style="list-style-type: none"> • IEE : In general within 40 working days from the date that the Project Owner submits every documents required to PONRE • ESIA: Review by MONRE In general within 95 working days and within 120 working days for the Investment project which is complicated
11) Fee of approval process ?	The Water Resources and Environment Administration or the local administration which issues environmental compliance certificate has the duty to collect fee and services charges, as provided in the Executive Decree of The President of The Lao People's Democratic Republic on Fees and Services Charges (Amended 2012) No. 003/PS , dated 26 December 2012
12) How long is EIA valid?	2 years from the date it obtained the environmental compliance certificate for both IEE and ESIA
13) Penalties	Not specified

Annex A : Project Applicable to EIA

List of the Projects Require an IEE or ESIA, according to, No.8056/ MONRE,
Vientiane Capital, dated 17 December 2013

Type of Investment Projects and Activities		Group 1 Shall prepare IEE	Group 2 Shall prepare ESIA
I. Investment Projects and Activities in Energy Sector			
Power Development			
1.1	Electricity generation by Hydro power (Hydropower plants construction)	(a) 1 - 15 MW (installed capacity) or (b) reservoir Volume Capacity < 200 million m ³ or (c) reservoir area ≤ 1,500 ha	(a) ≥ 15 MW (installed capacity) or (b) reservoir volume capacity (full supply level) > 200 million m ³ or (c) reservoir area > 1,500 ha
1.2	Nuclear power plant project, nuclear waste management and disposal		all
1.3	Natural gas or bio gas power plant project	5-50 MW	> 50 MW
1.4	Wind power generation	2-10 unit	> 10 unit
1.5	Coal, oil or biomass power plant project	≤ 10 MW	> 10 MW
Gas and petroleum power generation development			
1.6	Petroleum and gas transmission pipeline		All
1.7	Extraction of oil or natural gas		All
1.8	Oil refinery		All
1.9	Petroleum storage facilities	5,000 – 50,000 m ³	> 50,000 m ³
High Voltage transmission line development			
1.10	High Voltage Transmission Line		
1.10.1	High Voltage Transmission Line >230 Kv	≤ 15 km	> 15 km
1.10.2	High Voltage Transmission Line <230 Kv	All	

Type of Investment Projects and Activities		Group 1 Shall prepare IEE	Group 2 Shall prepare ESIA
1.11	High Voltage Power Distribution Station	< 10 ha	≥ 10 ha
II. Investment Projects and Activities in Agricultural and Forestry Sector			
Tree plantation and crop growing			
2.1	Planting and cutting industrial trees plantation	20-200 ha	> 200 ha
2.2	Industrial crops growing	20-400 ha	> 400 ha
Livestock and Fisheries			
2.3	Livestock raising such as: cattle, buffalo, horse and others	> 500 heads	
2.4	Poultry Raising	≥ 5,000 chicks	
2.5	Pig Raising	≥ 500 heads	
2.6	Fish and aquatic species culture in industrial ponds	≥ 10 ha	
2.7	Fish and aquatic species culture in cages along the river	≥ 300 m ²	
2.8	Crocodile raising	≥ 100 heads	
III. Investment Projects and Activities in the Industrial Processing Sector			
Industrial Food Processing			
3.1	Production, processing and storage of foods (Meats, fish, fruits, cooking oils, animals and animal feeds)	≤ 1 ton/day	> 1 ton/day
3.2	Milk processing factory	≤ 40 tons/day	> 40 tons/day
3.3	Tapioca and tapioca products processing factory	40-80 tons/day	> 80 tons/day
3.4	Sugar processing factory	≤ 30 tons/day	> 30 tons/day
3.5	Alcohol processing factory	≤ 500,000 litres/day	> 500,000 litres/day
3.6	Drinking water processing factory	All	
3.7	Tobacco production factory	All	
Textile, Pulp Paper, and Wood Products Industry			
3.8	Textile, fabric and clothes making and dyeing factory	All	
3.9	Leather soaking and tanning factory	All	

Type of Investment Projects and Activities		Group 1 Shall prepare IEE	Group 2 Shall prepare ESIA
3.10	Leather processing factory	≤ 1 million pieces/yr	> 1 million pieces/yr
3.11	Rattan product processing and bamboo materials for weaving factory	All	
3.12	Plywood processing factory	≤ 100,000 m ² /yr	> 100,000 m ² /yr
3.13	Paper processing factory	≤ 30 tons/day	> 30 tons/day
3.14	Printing factory	All	
Chemical Product Industry and Medical Equipment			
3.15	Petroleum and Hydrocarbon Factory		All
3.16	Chemical Products Production Factory		All
3.17	Medical Equipment and Pharmaceutical Product Factory Using Chemical Reaction and Bio-Chemicals		All
3.18	Cleaning Products, Polishing and making up Equipment Factory	≤ 10 tons/day	> 10 tons/day
3.19	Rubber Processing Factory	50 – 200 tons/yr	> 200 tons/yr
3.20	Plastic Product Production Factory	≤ 400 tons/yr	> 400 tons/yr
Mineral Product Production Industry With No Heavy Metal			
3.21	Glass and products from glass production factory	All	
3.22	Mineral Product Production Factory with No Other Heavy Metals	All	
3.23	Cement, Lime and plaster processing factory	≤ 20 tons/hr	> 20 tons/hr
Metallurgic Industry (Extraction of metal from minerals)			
3.24	Steel and iron smelting factory	≤ 5,000 tons/yr	> 5,000 tons/yr
3.25	Initial metal and non-ferrous metal processing factory		All
3.26	Metal processing factory	≤ 50 tons/day	> 50 tons/day

Type of Investment Projects and Activities		Group 1 Shall prepare IEE	Group 2 Shall prepare ESIA
3.27	Non-ferrous metal processing factory	All	
3.28	Steel products, tanks and iron tubs	All	
3.29	Backup battery processing factory	All	
Other Industries			
3.30	Home Appliances, Office Equipments, and Electrical Tools Processing Factory	All	
3.31	Automotive Battery and Alkaline Battery Factory	≤ 70 tons/yr	70 tons/year
3.32	Spare Parts, Automobile Parts and Related Machines Factory	≤ 1,000 tons/yr	> 1,000 tons/yr
3.33	Bicycle and Disabled Wheelchair Making Factory	≤ 10,000 units/yr	> 10,000 units/yr
3.34	Home Appliances Production Factory	≤ 10,000 units/yr	> 10,000 units/yr
3.35	Water Supply Processing Factory	All	
Waste Management			
3.36	Disposal of Non-Hazardous Waste	≤ 5,000 tons/year	> 5,000 tons/year
3.37	Disposal of Hazardous Waste		All
3.38	Hazardous Waste Minimization		All
3.39	Other Waste Treatment and Management		All
3.40	Construction of Factory for Recycling		All
3.41	Construction of Waste Incinerator and Treatment Factory		All
3.42	Waste Water Treatment Plant of The City	≤ 5,000 people	> 5,000 people
3.43	Industrial Waste Water Treatment Plan		All
3.44	Construction of Sewage Drainage	All	

Type of Investment Projects and Activities		Group 1 Shall prepare IEE	Group 2 Shall prepare ESIA
IV. Investment projects and activities in the infrastructure and service sector			
4.1	Soil filling on lakes, rivers, channels causing impacts to the public		All
4.2	Construction of dormitory and relocation village	> 50 rooms	
4.3	Golf field construction		All
4.4	Construction of Sport Complex Stadium		All
4.5	Construction of hotel and recreation area	≤ 80 rooms	>80 rooms
4.6	Construction of complex hotel	≤ 50 ha	> 50 ha
4.7	Tourism and Recreation Areas Development in critically Social and Environmental Aspects		All
4.8	Special and Specific Economic Zones Construction and Development		All
4.9	Construction of the Hospital	≤ 80 beds	> 80 beds
4.10	Railway Construction		All
4.11	Construction of New Roads (National, Provincial, District, Rural and Special Roads).		All
4.12	Rehabilitation of National, Provincial, District, Rural and Special Road	All	
4.13	Airport Construction		All
4.14	Construction of The Telecommunication Network	All	
4.15	Navigation (Improvement of Navigation Channel Along Rivers)	≤ 200 tons	> 200 tons
4.16	Port Construction		
4.16.1	Port For Public Transport	≤ 500 tons (not include the weight of the vessel)	> 500 tons (not include the weight of the vessel)

Type of Investment Projects and Activities		Group 1 Shall prepare IEE	Group 2 Shall prepare ESIA
4.16.2	Port For Transporting The General Goods	≤ 500 tons (not include the weight of the vessel)	> 500 tons (not include the weight of the vessel)
4.16.3	Port For Transporting The Hazardous Goods		All
4.17	Construction of Embankment	≤ 1 km	> 1 km
V. Investment projects and activities in the minerals sector			
Mineral Extraction and Processing			
5.1	Extraction of Gravel, Sand In Rivers	1,000-5,000 m ³ /day	> 5,000 m ³ /day
5.2	Rock Drilling and Transportation		50 tons/day
5.3	Extraction of Construction Materials (Soil, Gravel, Sand) On The Ground	≤ 100,000 m ³ /yr and area ≤ 20 ha	> 100,000 m ³ /yr or area > 20 ha
5.4	Extraction of Solid Minerals (Without Using Chemicals)		All
5.5	Minerals Extraction and Processing Using Hazardous Chemicals		All
5.6	Solid Minerals Processing	≤ 50,000 tons/yr	> 50,000 tons/yr
Water Management and Administration			
5.7	Extraction and Using of Groundwater for Consumption in Industry, Agriculture and the City	500 – 5,000 m ³ /day	> 5,000 m ³ /day
5.8	Construction of Reservoir and Dams	≤ 200 million m ³ or height of dam ≤ 10m	> 200 million m ³ or height of dam > 10m

Remarks:

1. For any Investment Projects and Activities which consist of many sub-projects that are subject to the conductance of the environmental impact assessment which have proposed to be developed at the same area and approved at the same investment project (Such as: the hydropower project that covers: dam construction, access road construction and transmission line construction or the sugar factory that covers: sugarcane plantation and sugar processing plant or the rubber project covers: rubber plantation and rubber processing factory and others), if these are the cases, the Project Owner shall prepare one ESIA report and put together as one set report covering environmental and social impacts of all project activities and components.

2. For any Investment Projects and Activities which have the same activities but the development is taken place at different locations (Such as: road project, high voltage transmission line construction, other industrial tree plantation projects), disregard of the fact that they may have the same activity or same scale or be owned by the same Project Owner, if these are the cases, the project owner shall prepare the separate IEE or ESIA report based on the scale of the project which may be categorized in group 1 or group 2 for each location. In other words, this means that it is not allowed to prepare one set of report covering different locations, except agreed and certified otherwise by the Natural Resources and Environment Agencies from relevant level

3. For any Investment Projects and Activities that proposes to develop within economic development zone or specific economic zone, in addition to ESIA report that the owner of the zone shall prepare to cover all zones of specific economic zones or specific economic zone, each sub-project owner of each Investment Project and Activities shall conduct additional environmental impact assessment, specifically for each sub-project whether falls under which group. If the project is classified under group 1, IEE report is required or if it is classified under group 2, EIA report is required to be prepared pursuant to the specified technical guideline.

4. If any Investment Projects and Activities will cause on impact that would require the compensation and resettlement of the people as specified in the provision of the Decree on Compensation and Resettlement of People Affected by Development Projects No. 192/PM, dated 7th July 2005 or any superseded legislation, these Investment Projects and Activities is required always to prepare ESIA report pursuant to the conditions set in the Ministerial Instruction and relevant technical guidelines, regardless of whether these projects and activities are categorized into group 1 or group 2 or not falling to this list at all.

5. If any Investment Projects and Activities which is categorized in group 1 are located in the Socially and Environmentally Valuable Site (as defined below), the project owner shall prepare the ESIA report (instead of the IEE) and submit the same Un for consideration and issuance of Environmental Compliance Certificate. The Socially and Environmentally Valuable Site covers areas as follows:

- all areas or the majority of areas which have declared as protection forest, protected areas based on the Law on Forestry, No.06/NA, dated 24 December 2007 or any superseded legislation;
- all areas or the majority of areas which have declared as aquatic and wildlife conservation zone pursuant to the Wildlife and Aquatic Law, No.07/NA, dated 24 December 2008 or any superseded legislation;
- all areas or the majority of areas which have declared as cultural and historical heritage site pursuant to the Law on National Heritage, No.08/NA, dated 9 November 2005 or any superseded legislation;
- all areas or the majority of areas which have declared as water conservation pursuant to the Law on Water and Water Resources, No.02/NA, dated 11 January 1996 or any superseded legislation; and
- other areas which laws have declared for socially and environmentally valuable site from to time to time.

Annex B : Guideline of EIA Content

According to the Ministerial Instructions No. 8029/MONRE, 2013, and the EIA Guidelines, MONRE, June 2012

Content of IEE Report

There is no detailed requirement for the content of the IEE report that all Project Developers must follow. Based on experience of Lao registered consultant, content of IEE report shall include the key sections and actions summarised as follows:

Chapter 1 : Introduction

- 1.1 Purpose of the Report
 - 1.1.1 Identification of the Project and Project Proponent
 - 1.1.2 Project Nature, Size, Location and Importance to the Country
 - 1.1.3 Background Information
- 1.2 Extent of the IEE Study
 - 1.2.1 Scope of the Study
 - 1.2.2 Magnitude of Effort
 - 1.2.3 Agency Performing the Study
- 1.3 Acknowledgements

Chapter 2 : Description of the Project

- 2.1 Type of Project
- 2.2 Category
- 2.3 Need for the Project
- 2.4 Location
- 2.5 Size or Magnitude of Operation
- 2.6 Proposed Implementation Schedule
- 2.7 Description of the Project

Chapter 3 : Resettlement Component of the Project (if any)

- 3.1 Type of Project
- 3.2 Category of Project
- 3.3 Need for the Project
- 3.4 Location
- 3.5 Size or Magnitude of Operation
- 3.6 Proposed Implementation Schedule
- 3.7 Description of the Resettlement Component

Chapter 4 : Description of the Environment

4.1 Physical Resources

4.1.1 Atmosphere (e.g. air quality and climate)

4.1.2 Topography and Soils

4.1.3 Surface Water

4.1.4 Groundwater

4.1.5 Geology and Seismology

4.2 Ecological Resources

4.2.1 Aquatic Biology

4.2.2 Fisheries and Aquatic Resources

4.2.3 Wildlife

4.2.4 Forests

4.2.5 Riparian Vegetation

4.2.6 Rare or Endangered Species

4.2.7 Protected Areas

4.3 Economic Development

4.4 Social and Cultural Resources

4.4.1 Population and Communities

4.4.2 Health Facilities

4.4.3 Education Facilities

4.4.4 Socio-economic Conditions

4.4.5 Physical or Cultural Heritage

4.4.6 Current Use of Lands and Resources for Traditional Purposes by Indigenous Peoples

4.4.7 Structures of Sites that are of Historical, Archeological, Paleontological, or Architectural Significance

Chapter 5 : Screening of Potential Environmental Impacts and Mitigation Measures

5.1 Project Site

5.2 Potential Environmental Impacts (Urban Development Checklist)

5.3 Potential Environmental Impacts (Rural Development)

Chapter 6 : Institutional Requirements and Environmental Monitoring Plan

6.1 Impacts to be Mitigated

6.2 Environmental Monitoring Plan

Chapter 7: Public Consultation and Information Disclosure

Chapter 8: Findings and Recommendations

8.1 IEE Findings

8.2 Recommendations

Chapter 9: Conclusion

Content of ESIA Report (according to the EIA Guidelines, MONRE, June 2012)

Chapter 1: Overview

Chapter 2: Executive Summary

Chapter 3: Context of the Project

- 3.1 Presentation of the Project
- 3.2 Related Projects and Development
- 3.3 Presentation of the Project Developer and the EIA Consultant(s)
- 3.4 Project Developer's Endorsement of the EIA Report(s)
- 3.5 Structure of the EIA Report

Chapter 4: Policy, Legal and Institutional Framework

- 4.1 Corporate Environmental and Social Policies
- 4.2 Policy and Legal Framework
- 4.3 International Conventions, Treaties and Agreements
- 4.4 Lao PDR Government Institutional Framework
- 4.5 International Policies, Guidelines and Standards (if applicable)
- 4.6 Project's Environmental and Social Guidelines and Standards

Chapter 5: Description of Project and Alternatives

- 5.1 Presentation of the Project and Description of Alternatives
- 5.2 Comparison and Selection of the Alternative
- 5.3 Description of the Selected Alternative

Chapter 6: Description of the Environment

- 6.1 Setting the Study Limits
- 6.2 Methodology for Data Collection and Analysis
- 6.3 Description of Environment
- 6.4 Mapping

Chapter 7: Impact Assessment and Mitigation Measures

- 7.1 Impact Assessment Methodology and Approach
- 7.2 Identification of Impacts
- 7.3 Impacts, Mitigation Measures and Residual Impacts

Chapter 8: Risk Assessment

- 8.1 Overview
- 8.2 Context of the Qualitative Risk Assessment
- 8.3 Methodology and Approach
- 8.4 Results of the Qualitative Risk Assessment
- 8.5 Results of the Quantitative Risk Assessment

Chapter 9: Cumulative Impact Assessment

- 9.1 Methodology and Approach
- 9.2 Determination of Valued Ecosystem Components
- 9.3 Determination of a Spatial and Temporal Framework
- 9.4 Cumulative Impact Assessment
- 9.5 Development of a Management Framework

Chapter 10: Public Consultation and Disclosure

- 10.1 Introduction
- 10.2 Methodology and Approach
- 10.3 Summary of Consultation Activities Undertaken
- 10.4 Result of Consultation during the preparation of EIA Report
- 10.5 Result of Consultation on First Draft EIA Report
- 10.6 Result of Consultation during MONRE EIA Review
- 10.7 Recommendations for Future Consultation
- 10.8 Appendixes

Chapter 11: Development Plans



6

EIA in **Malaysia**



6 EIA in Malaysia



6.1 Definitions

Preliminary Environmental Impact Assessment (PEIA) is required for all activities classified as “prescribed activities” and is assessed at the state level Department of Environment (DOE) and other relevant governmental agencies. The “prescribed activities” as listed in the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order.

Detailed Environmental Impact Assessment (DEIA) refers to a procedure undertaken for those projects with major/significant impacts to the environment. Activities which need to go through the Detailed EIA procedure as specified in the DOE bulletin are listed in the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order.

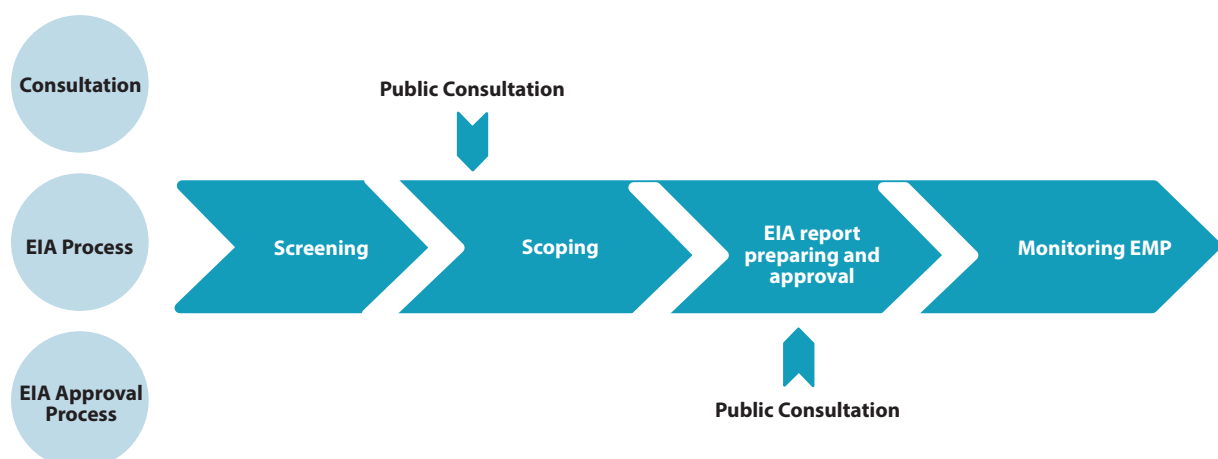
6.2 Introduction

Environmental impact assessment in Malaysia is undertake by Malaysian laws and regulations which are currently applicable composed of:

- 1) Section 34A of the Environmental Quality Act, 1974
- 2) Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order, 1987
- 3) Natural Resources and Environment (Prescribed Activities) (Amendment) Order, 1997 (Sarawak)
- 4) Conservation of Environment (Prescribed Activities) Order 2005 (Sabah)
- 5) Environmental Quality (Amendment) Act, 2012

According to Section 34A(2) of the Environmental Quality Act, 1974, the EIA Report must be prepared in accordance with the relevant EIA Guidelines and submitted to the Director General of Environmental Quality for approval, prior to project implementation. Section 34A(6) prohibits any activity for the proposed project to be carried out prior gotten approval from the Director General of Environmental Quality. The EIA process in Malaysia is presented in **Figure 6.2-1**

Figure 6.2-1: Simplified Overview of Malaysia's EIA Process



6.3 EIA Legal Framework

The Environmental Quality Act has been developed since 1974, and is the first law requiring EIA in Malaysia. The history and key milestones of the development of the EIA system in Malaysia is summarized in **Table 6.3-1** below

Table 6.3-1 EIA Relevant Regulations

Year	Relevant regulations	Key description
1974	Environmental Quality Act, 1974	<ul style="list-style-type: none">This Act states that all prescribed activities must submit an EIA report
1987	Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order	<ul style="list-style-type: none">This Order details the type of prescribed activities which are subject to an EIA
1997	Natural Resources and Environment (Prescribed Activities) (Amendment) Order, 1997 (Sarawak)	<ul style="list-style-type: none">This Order is similar to the Order above but only applies to the state of Sarawak
2005	Conservation of Environment (Prescribed Activities) Order, 2005 (Sabah)	<ul style="list-style-type: none">This Order is similar to the Order above but only applies to the state of Sabah
2012	Environmental Quality (Amendment) Act, 2012	<ul style="list-style-type: none">This Act has been adopted to amend and supplement the Environmental Quality Act, 1974. New sections are added.

6.4 Types and Sizes of Projects Requiring EIA Reports

Refer to Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order, there are 19 project types listed as Prescribed Activities which are required Preliminary EIA (PEIA) and 14 project types listed as Prescribed Activities which are required Detailed EIA (DEIA). In case of complex projects which composed of many prescribed activities, discussion with the DOE is actually recommended as it is up to the DOE to justify whether such component (i.e. power plant, jetty, etc.) shall be required separate EIA. It is usually determined on case by case basis. The category was shown in the following table in **Annex A**.

6.5 EIA Report Component

There are regulations and specific guidelines for Environmental Impact Assessment process and report preparation as followed listed;

- Section 34A of the Environmental Quality Act, 1974
- Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order, 1987
- Natural Resources and Environment (Prescribed Activities) (Amendment) Order, 1997 (Sarawak)

- Conservation of Environment (Prescribed Activities) Order, 2005 (Sabah)
- A handbook of EIA Guidelines.
- EIA Guidelines for Coastal Resort Development Projects.
- EIA Guidelines for Petrochemical Industries.
- EIA Guidelines for Industrial Estate Development.
- Penilaian Kesan Kepada Alam Sekeliling Bagi Pembangunan Padang Golf.
- EIA Guidelines for Thermal Power Generation And/Or Transmission Project.
- EIA Guideline for Fishing Harbours and/or Land Based Aquaculture Projects.
- EIA Guideline for Dam and/or Reservoir Projects.
- EIA Guideline for Mines and Quarries.
- EIA Guideline for Development of resort and hotel facilities in hill station.
- EIA Guidelines for development of tourist and recreational on Island in Marine Parks.
- EIA Guidelines for Industrial Projects.
- EIA Guidelines for Municipal Solid Waste and Sewage Treatment and Disposal Projects.
- EIA Guidelines for Toxic and Hazardous Waste Treatment and Disposal Projects.
- EIA Guidelines for Petroleum Industries.
- EIA Guideline for Forestry.
- EIA Guideline for Coastal and Land Reclamation.
- EIA Guideline for Housing and Township Development Project.
- EIA Guideline for Agriculture.
- EIA Guideline for Risk Assessment.

The format of the EIA report presented in this document is based on format outlined in the DOE published EIA Handbook, 1987. It should be noted that main content of both PEIA and DEIA is the same; however, the depth and details of each section shall be different for PEIA and DEIA depending on the type of project. Reviewing on case by case basis, shall be usually required during the scoping exercise.

For projects which have been determined to require DEIA, the project proponent must submit the terms of reference (TOR) in accordance to the format outlined by the guidelines published by the DOE. The TOR shall be opened for public review through the DOE website and sent to the relevant governmental agencies for review. The TOR, PEIA, DEIA report shall consist of following topics. The details was shown in the **Annex B**.

TOR Content for DEIA

1. Project Proponent
2. List of Consultants/ Study Team
3. Statement of Need
4. Project Description/ Concept
5. Project Options
6. Description of Existing Environment
7. Baseline information on the proposed location
8. Project location and existing land use

9. Potential significant impacts
10. Mitigation and abatement measures
11. Residual impacts
12. Environmental Management Plan

PEIA/DEIA Content

1. Introduction

- 1.1 Project Title
- 1.2 Project Location
- 1.3 Scope of Project
- 1.4 Project approval by approving authority
- 1.5 EIA Report
- 1.6 Project Proponent
- 1.7 EIA Consultant (the format must follow DOE Notice 1/2013)
- 1.8 Statement of Need
- 1.9 History of Project

2. Site Selection Process

- 2.1 Screening of Preliminary Sites
- 2.2 Criteria for Siting and Routing

3. Project Options

- 3.1 Technological Options to Manufacture
- 3.2 Benefit to Cost Analysis

4. Description of Proposed Project

- 4.1 Project Concept
- 4.2 Description of Development and Support Activities (Methods Section)
- 4.3 Description of Manufacturing Process(es) (Systems Section)
- 4.4 Project Implementation Schedule (CHART)

5. Description of Existing Environment

- 5.1 Physical Environment
- 5.2 Biological Environment
- 5.3 Human Environment (Map, scale 1:500–15,000)
- 5.4 Land use (Map, scale 1:500–15,000) (Within a minimum of 3 km from the boundary)
- 5.5 Existing Infrastructure
- 5.6 Environmental Sensitive Areas

6. Potential Significant impacts, Mitigation Measures and Identification of Residual Impacts

- 6.1 Design and Engineering (Pre-construction)
- 6.2 Construction
- 6.3 Commissioning and Start-up
- 6.4 Operation and Maintenance
- 6.5 Decommissioning and abandonment

- 6.6 Socio-economic impact
- 6.7 Ecological Impact
- 6.8 Impact of other activities on Project
- 6.9 Impact of spin-off activities on Environment

7. Residual Impacts

8. Risk Assessment

- 8.1 Hazard Zones
- 8.2 Overall Risk of Plant
- 8.3 Iso-risk Contours of Overall Plant
- 8.4 Risk to Society
- 8.5 Risk Evaluation
- 8.6 Risk Management

9. Environmental Management Plan (EMP)

- 9.1 Construction Stage
- 9.2 Operation Stage
- 9.3 Decommissioning and Abandonment
- 9.4 Emergency Response Plan

10. Summary of conclusions

11. Data Sources

12. List of References

13. Other Information

6.6 EIA Process System

6.6.1 EIA Developer

The EIA shall be conducted by competent individuals who have a valid registration with the Department of Environment under the EIA Consultant Registration Scheme, otherwise EIA shall be rejected by DOE. The project proponent and/or EIA study team leader shall ensure that all members in the EIA study team have valid registration. The list of registered EIA Consultants announce at the DOE homepage (www.doe.gov.my).

6.6.2 EIA Preparation and Timeline

The general sequence of activities required for planning, approval and compliance with environmental approval conditions as well as the agency responsible for the respective activities are mentioned in **Figure 6.6-1**

Screening

During the screening process, the project proponent shall determine whether EIA is required for the proposed project or not. Once it has been confirmed that an EIA is required, the type of EIA (i.e. Preliminary EIA or Detailed EIA) shall be established. The decision is based on lists in the EIA regulation and/or published by the DOE, which takes into account project type and the sensitivity of the project environment.

Scoping

Identification of Project Components and corresponding significant environmental impacts and mitigation/management needs for inclusion in the EIA Study. Stakeholder identification and initial contact (where relevant e.g. for a Detailed EIA project). The scope and extent of the EIA shall also be determined at this phase of the project.

Environmental Study

- Impact Analysis :Analysis of Environmental Impacts of the project activities / implementation
- Mitigation Measures:Formulation of the corresponding mitigation measures based on the assessed impacts of the project activities and the development of an environmental management and monitoring plan (EMP) with the corresponding institutional and financial arrangements.

Report Review & Evaluation

The Preliminary EIA report is reviewed by a Technical Committee headed by the State Director of DOE and comprise the Department of Environment State Offices and other relevant state level government agencies. This process is commonly referred to as a One-Stop-Agency meeting. During this meeting comments and verifications from relevant agencies or departments are sought.

Detailed EIA report shall be reviewed by at Federal level by an ad-hoc Technical Review Panel chaired by the Director General along with the relevant governmental agencies representatives.

Decision Making

Following the latest client charter (Notice 4/2012) the time taken for the respective DOE to review the reports are as follows:

- PEIA - 5 weeks i.e. 25 working days – excluding weekends, public holidays and State holidays; and
- DEIA - 12 weeks i.e. 60 working days – excluding weekends, public holidays and the Federal Territory of Putrajaya holiday.

Public Consultation and Disclosure

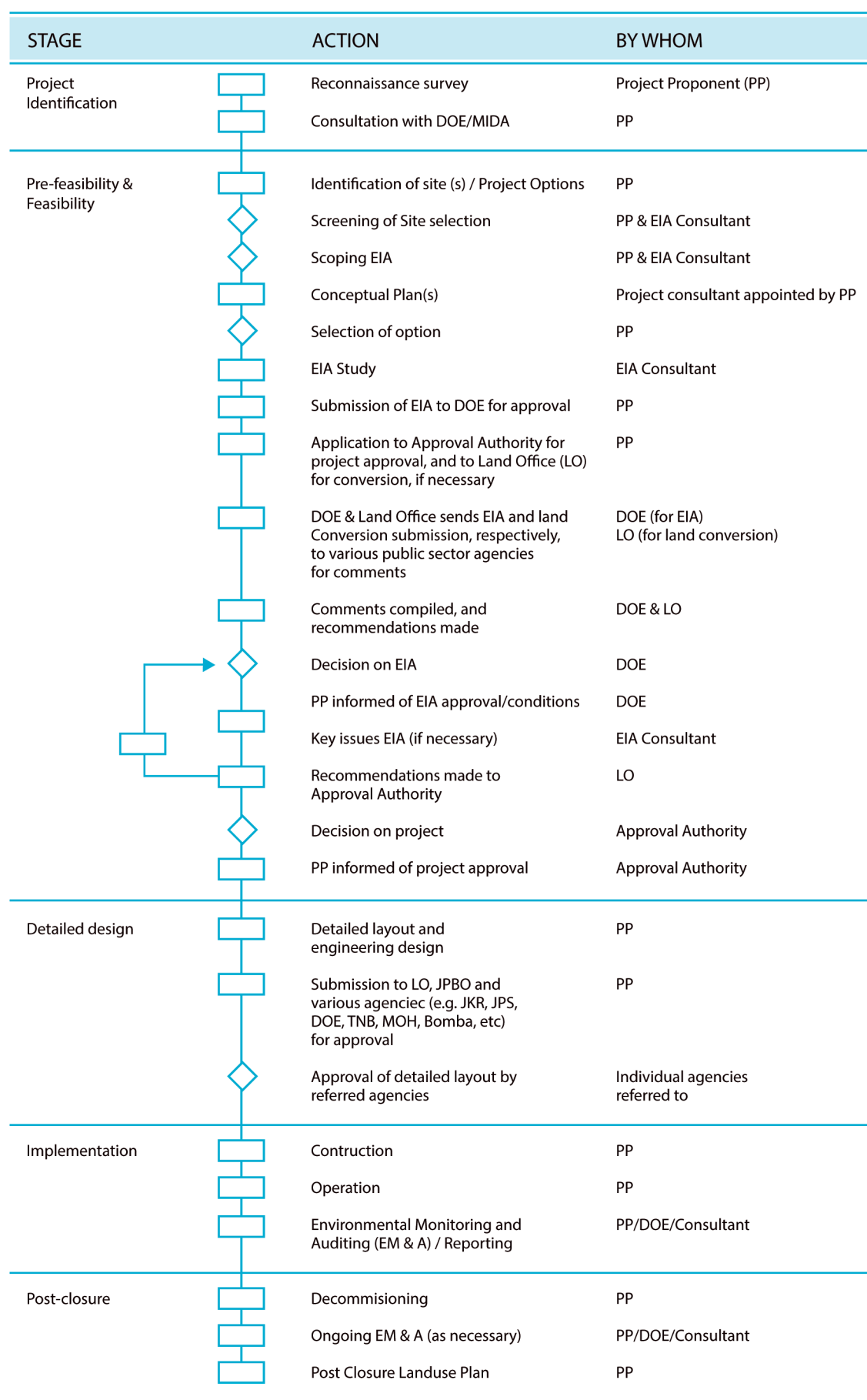
The local community does not play a very active role in the PEIA process. Upon PEIA submission, the Executive Summary in both English and Bahasa Malaysia will be open for display on the DOE website. However, there is no formalised process for commenting and the Executive Summary display is a passive action whereby the interested parties will have to go to the DOE website to see which PEIAs are currently on display.

For the DEIA process however, public participation is more robust. The local community along with other interested parties and stakeholder will be notified via local channels, and notices will be put up in the Local newspaper and DOE website for both the TOR and DEIA. The public will be allowed to view the full DEIA at the DOE offices and other community centres (e.g. local District Office). The TOR and DEIA will be open for public viewing for 3 weeks upon which the comments will be compiled and raised in the OSA meeting.

In some cases, the Project Proponent and the Environmental Consultant may conduct road shows to meet the local stakeholders and present the proposed project. This is usually conducted during the TOR public review period, though the Project Proponent and EIA Consultant may conduct public participation exercise at any time prior to the comment submission to the DOE.

DEIAs also usually hold a Social Impact Assessment (SIA) and Health Impact Assessment (HIA) components. The SIA and HIA will involve the local community participation via interviews and questionnaire. For Non-Governmental Organisations (NGOs), there are several active local environmental NGOs in Malaysia (e.g. Malaysian Nature Society (MNS), World Wildlife Fund (WWF), etc. These NGOs will normally comment on TORs and DEIAs. The NGOs tend to not comment on PEIAs unless the proposed project is located within or near areas of conservation value.

Figure 6.6-1 Planning Approval & Environmental Approval Conditions Sequence of Activities



Source: EIA Procedure and Requirements in Malaysia

Monitoring/ EMP

After the Preliminary/ Detailed EIA has been approved, the project proponent is required to submit an Environmental Management Plan which incorporates all the mitigation measures and monitoring requirements stated in the report as well as any additional approval conditions stipulated by the DOE as a separate document. The DOE will then review the EMP and once approved, the measures outlined in the document shall be implemented immediately.

As of November 2012, the formal EIA process in Malaysia starts with the submission of a Preliminary Site Screening (Penilaian Awal Tapak, PAT) form (AS-PAT 1-12) to the State DOE. This requirement is a governmental (DOE) proclamation and not a formalised regulation, however it falls loosely under Section 34A of the Environmental Quality Act, 1974. The PAT form is compulsory for all new projects and is designed to give the DOE advance notice of all impending development especially for the ones which will require either a PEIA or DEIA.

The main points addressed in the PAT as stated in the official notice (NOTICE 7/2012) are listed below:

- (i) Is the concept of the proposed project in line with any development plan, policies or any decisions of the Government of Malaysia?
- (ii) Is the site located in or adjacent to Environmentally Sensitive Areas (ESAs)?
- (iii) Category of land use– gazetted industrial area? agriculture land? etc.
- (iv) (Existing land use and future land use (Structural and Local Plans etc) within 5 km radius from the site?
- (v) Adequate buffer zones from the project site to sensitive receptors? (based on existing and future land use).

This is followed by either the PEIA report or, for DEIA process, submission of the Terms of Reference (TOR). Any comments received from the State DOE with regards to the PAT must be included in either the PEIA or TOR.

For projects which have been determined to require detailed assessment, the project proponent must submit the terms of reference (TOR) in accordance to the format outlined by the guidelines published by the DOE. The TOR will be open for public review through the DOE website and sent to the relevant governmental agencies for review. Comments to the TOR, upon approval, must be incorporated into the DEIA report. The TOR will be utilised as the formal structure of the DEIA. Approximate timeline for development of the PEIA and DEIA report are indicative and subject to factors such as the complexity of the facility, availability of project information, etc. Approximate timeline for development of the PEIA and DEIA report are 3 - 6 and 6 - 12 months, respectively.

6.6.3 EIA Approval Process and Timeline

The main governmental bodies other than the DOE, involved in the EIA process include the following:

- The National Development Planning Committee for Federal Government sponsored projects;
- The respective State Planning Authorities for State Government sponsored projects;
- The regional Development Authorities for the State Executive Committee (EXCO);
- Ministry of International Trade and Industry (MITI) (with due reference to the Malaysia Industrial Development Authority (MIDA) for industrial projects); and
- Selected relevant government agencies e.g. Department of Irrigation and Drainage (DID), Works Department (JKR), Fisheries Department, etc. (based on project characteristics).

The TOR of a DEIA, and final reports of the PEIA and DEIA will be submitted to all the relevant government agencies for review and comments. The respective government agencies must ensure that the proposed project is in line with their overall objective and does not contravene any departmental policies and/ or regulations. All comments must be submitted to the DOE either before or during the OSA meeting to be included in the EIA. The general flow of TOR submission is shown in **Figure 6.6-2**

Upon approval of the PEIA/DEIA by the DOE, a comprehensive Environmental Management Plan (EMP) must be developed. It is important to note that the EMP is a compulsory document and is considered part of the EIA process. The comprehensive EMP document is separated from the EIA report and shall be needed to be sent for review and approval from the respective DOE prior to the start of any work onsite.

Even though there is no law which specifically states that an EMP needs to be developed and submitted to the DOE for review and approval prior to any work onsite, it is usually specified in the EIA approval conditions.

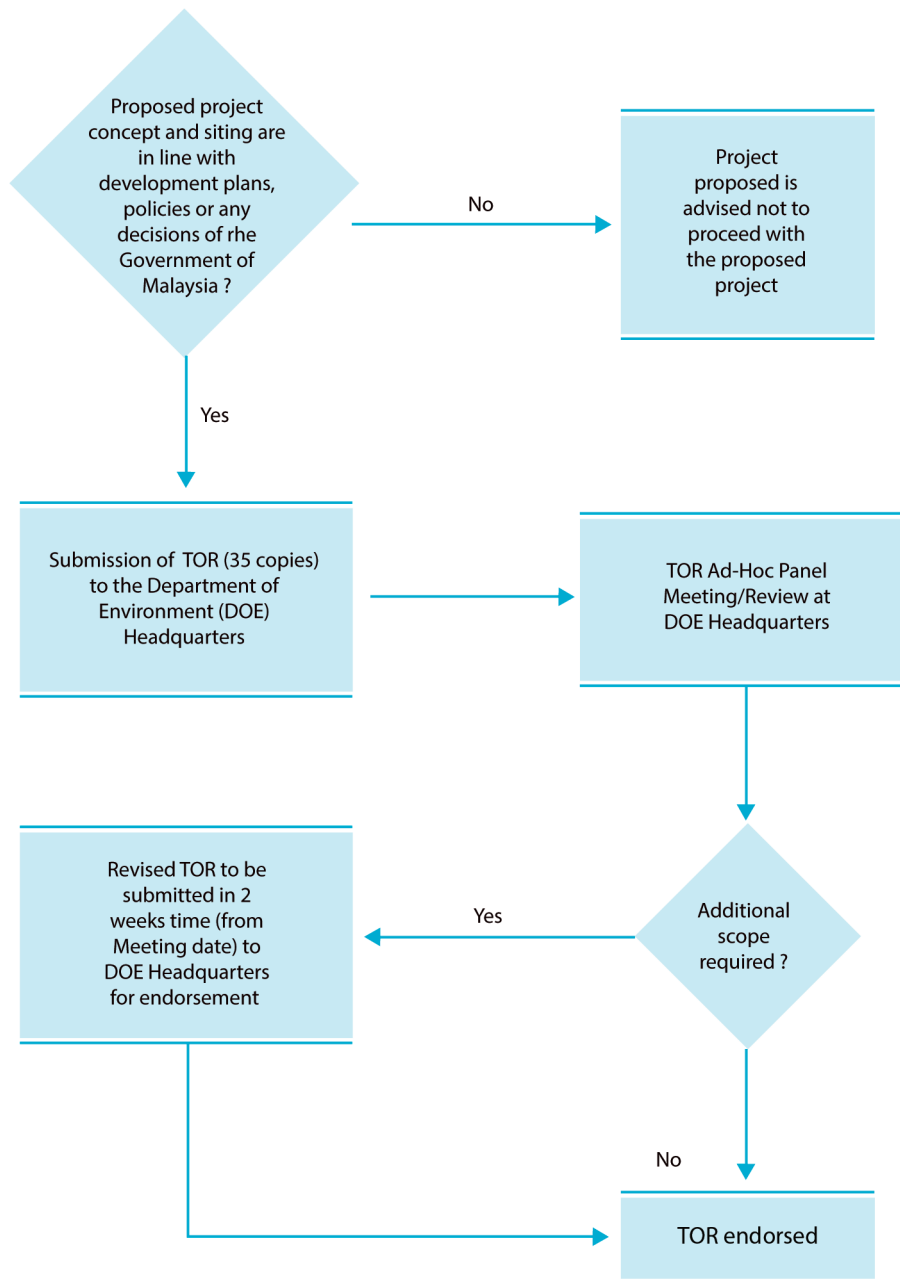
Commonly, an EMP is to be submitted for approval at least 3 months prior to start of work onsite.

The Preliminary EIA is reviewed by a technical committee consisting of the State Department of Environment and other relevant government agencies. 15 copies of the PEIA report are to be submitted to the State DOE and 3 to the DOE Headquarters. The final PEIA's Executive Summary will be open for public review through the DOE website; however, there is no formalized public participation program for PEIA. PEIA is reviewed at state level. The procedure for PEIA is illustrated in **Figure 6.6-3**

Detailed EIA is reviewed by a technical committee consisting of the Federal DOE (Headquarters) along with the State DOE representatives and other relevant governmental agencies. The detailed assessment involves a formalised public review program. The DEIA report will be open for display for the public and affected community to comment. The procedure for PEIA is illustrated in **Figure 6.6-4**

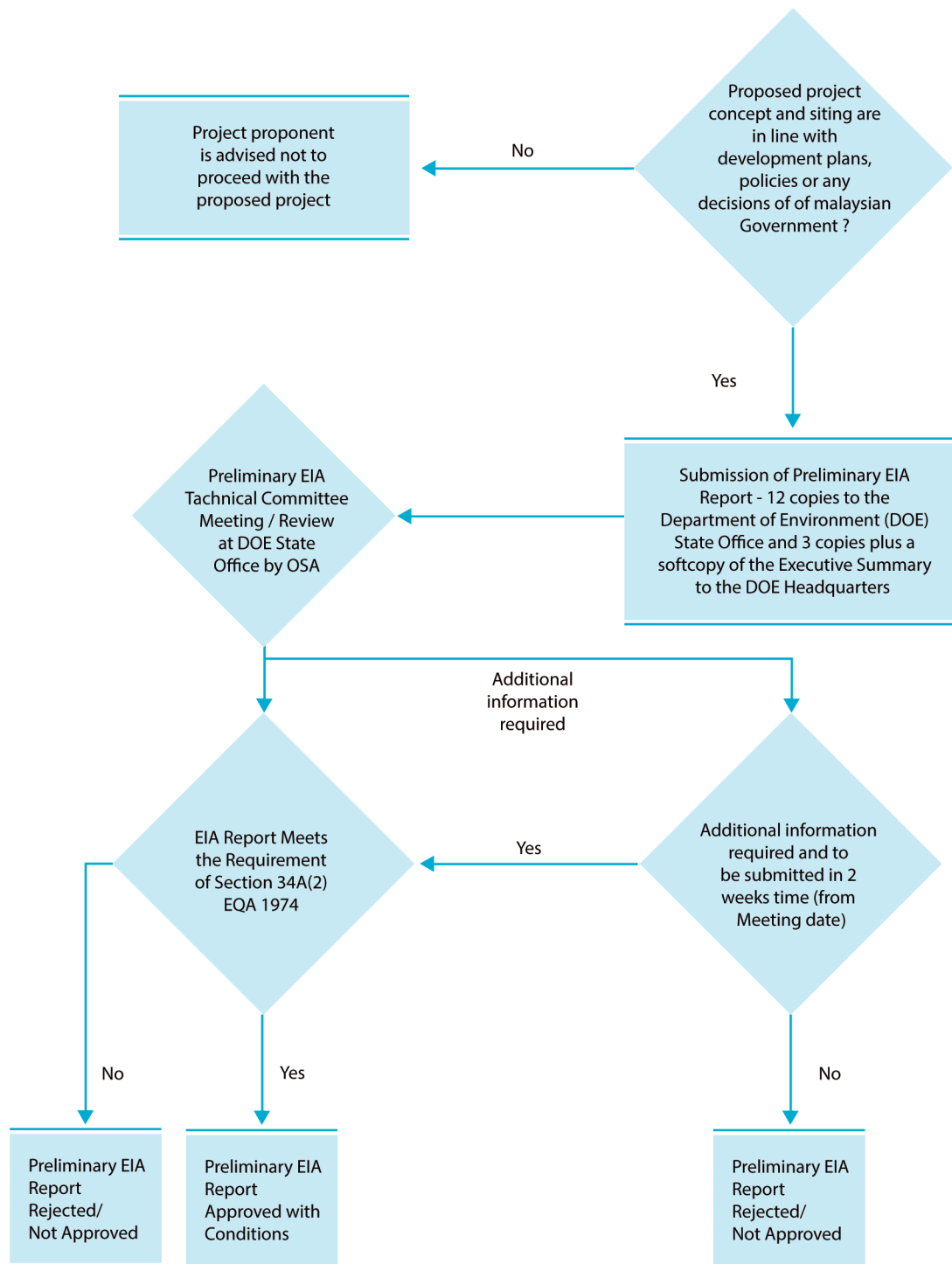
Figure 6.6-2 TOR Submission Process Flow

Procedure for the Submission of TOR



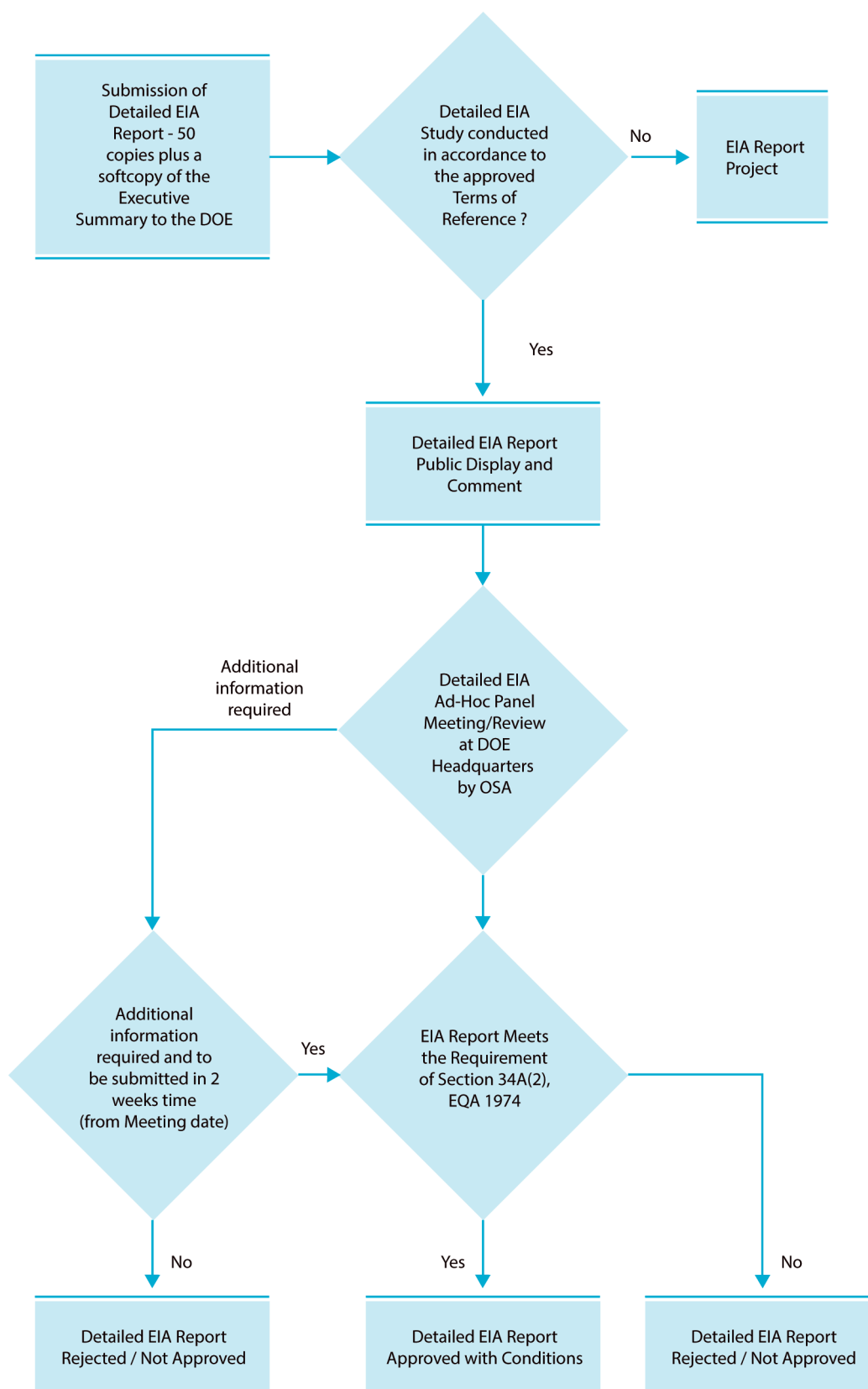
Source: Annex 1 in TOR Guidance Document

Figure 6.6-3 Summary of Preliminary EIA Procedure



Source: EIA Procedures & Requirements in Malaysia

Figure 6.6-4 Summary of Detailed EIA Procedure



Source: EIA Procedures & Requirements in Malaysia

After submission of the PEIA and the period of public display for the DEIAs, the DOE will hold a One-Stop-Agency (OSA) meeting to review and discuss the EIA. All comments will be collated and must be addressed and incorporated in the EIA. Comments from the public and other stakeholders will be also be discussed during the One-Stop-Agency (OSA), addressed and incorporated into the DEIA which will then be resubmitted to the Federal DOE for approval.

The Project Proponent/ EIA consultant are generally given two weeks to finalise the respective document prior to re-submission for approval.

Following the latest client charter (Notice 4/2012) the time taken for the respective DOE to review the reports are as follows:

- PEIA - 5 weeks i.e. 25 working days – excluding weekends, public holidays and State holidays; and
- DEIA - 12 weeks i.e. 60 working days – excluding weekends, public holidays and the Federal Territory of Putrajaya holiday.

EIA reports must be submitted in English; however, the Executive Summary must be submitted in both English and Bahasa Malaysia (Malaysian language).

6.7 Basic Questions about EIA

Questions	Answers
1) What formal legislation exists concerning requirement of EIA?	<ul style="list-style-type: none"> • Environmental Quality Act, 1974 • Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order, 1987 • Natural Resources and Environment (Prescribed Activities) (Amendment) Order, 1997 (Sarawak) • Conservation of Environment (Prescribed Activities) Order, 2005 (Sabah) • Environmental Quality (Amendment) Act, 2012
2) Which type of projects are required to undertake EIA?	<ul style="list-style-type: none"> • According to Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order, 1987, there are 19 project types listed as Prescribed Activities which require Preliminary EIA (PEIA) and there are 14 project types listed as Prescribed Activities which require Detailed EIA (DEIA).
3) What are the components of the EIA report?	<p>Main content of both PEIA and DEIA is the same and divided as</p> <ol style="list-style-type: none"> 1. Introduction 2. Site Selection Process 3. Project Options 4. Description of Proposed Project 5. Description of Existing Environment

Questions	Answers
	6. Potential Significant impacts, Mitigation Measures and Identification of Residual Impacts 7. Residual Impacts Risk Assessment 8. Environmental Management Plan (EMP) 9. Summary of conclusions 10. Data Sources 11. List of References 12. Other Information
4) What authority involve in EIA procedure in Malaysia?	<p>The main governmental bodies involved in the EIA process include the following:</p> <ul style="list-style-type: none"> • Department of Environment (DOE) , Ministry of Energy, Science Technology, Environment & Climate Change • The National Development Planning Committee for Federal Government sponsored projects • The respective State Planning Authorities for State Government sponsored projects • The regional Development Authorities for the State Executive Committee (EXCO) • Ministry of International Trade and Industry (MITI) (with due reference to the Malaysia Industrial Development Authority (MIDA) for industrial projects) • Selected relevant government agencies e.g. Department of Irrigation and Drainage (DID), Works Department (JKR), Fisheries Department, etc. (based on project characteristics).
5) When will EIA be prepared?	<p>According to Section 34A(2) of the Environmental Quality Act, 1974, the EIA Report must be prepared in accordance with the relevant EIA Guidelines and submitted to the Director General for approval, Prior to project implementation. Section 34(A)6 prohibits any activity for the proposed project to be carried out prior to getting approval from the Director General.</p>
6) What are the steps of EIA in Malaysia?	<p>6 Steps to conduct environmental impact assessment in Malaysia. The steps are presented as listed below;</p> <ul style="list-style-type: none"> • Screening • Scoping • Environmental Study • Report Review & Evaluation • Decision Making • Monitoring/ EMP

Questions	Answers
8) Who is EIA Developer?	<ul style="list-style-type: none"> The EIA Study has to be conducted by competent individuals who have a valid registration with the Department of Environment under the EIA Consultant Registration Scheme. The DOE will reject EIA reports which are conducted by individuals who are not registered with the Department. The project proponent and/or EIA study team leader shall ensure that all members in the EIA study team have valid DOE EIA Consultant registration. The list of registered EIA Consultants announce at the DOE homepage (www.doe.gov.my).
9) Is there any requirement for public consultation in EIA process?	<ul style="list-style-type: none"> PEIA, the final PEIA's Executive Summary will be open for public review through the DOE website; however, there is no formalized public participation program for PEIA. DEIA, the detailed assessment involves a formalized public review program. The public will be allowed to view the full DEIA and will be conducted as following; <ul style="list-style-type: none"> During the TOR public review period During DEIA Process
10) How timing in approval process?	<p>Following the latest client charter (Notice 4/2012) the time taken for the respective DOE to review the reports are as follows:</p> <ul style="list-style-type: none"> PEIA - 5 weeks i.e. 25 working days – excluding weekends, public holidays and State holidays; and DEIA - 12 weeks i.e. 60 working days – excluding weekends, public holidays and the Federal Territory of Putrajaya holiday. <p>The EIA review period will start from the date of the EIA report is received (via mail or hand delivered) and recorded at the DOE's office</p>
11) Fee of approval process	Not specified
12) How long is EIA valid?	EIA approval valid for 2 years
13) Penalties	<ul style="list-style-type: none"> Fine not exceeding 500,000 ringgit or imprison for a period not exceeding 5 years or both in any offence For continuous offence, Fine 1,000 ringgit for everyday if the offence continued after a notice has been served by the Director General

Annex A : Project Applicable to EIA

List of the Projects Required an EIA, according to Environmental Quality
(Prescribed Activities) (Environmental Impact Assessment) Order, 1987)

Types and Sizes of Projects Requiring PEIA Reports

Item	Types of projects or activities	Size
Agriculture		
1.	(a) Land development schemes	- An area of 500 hectares or more to bring forest land into agricultural production.
	(b) Agricultural programmes	- The resettlement of 100 families or more
	(c) Development of agricultural estates	- An area of 500 hectares or more involving changes in types of agricultural use
Airport		
2.	(a) Construction of airports	- Having an airstrip of 2,500 metres or longer
	(b) Airstrip development in state and national parks	- All sizes
Drainage and Irrigation		
3.	(a) Construction of dams and man-made lakes and artificial enlargement of lakes	- Surface areas of 200 hectares or more
	(b) Drainage of wetland, wild-life habitat or of virgin forest	- An area of 100 hectares or more
	(c) Irrigation schemes	- An area of 5,000 hectares or more
Land Reclamation		
4.	Coastal reclamation	- An area of 50 hectares or more
Fisheries		
5.	(a) Construction of fishing harbours.	- All sizes
	(b) Harbour expansion	- An increase of 50 percent or more in fish landing capacity per annum
	(c) Land based aquaculture projects accompanied by clearing of mangrove swamp	- An area of 50 hectares or more

Item	Types of projects or activities	Size
Forestry		
6.	(a) Conversion of hill forest land to other land use	- An area of 50 hectares or more
	b) Logging or conversion of forest land to other land use within the catchment area of reservoirs used for municipal water supply, irrigation or hydro-power generation or in areas adjacent to state and national parks and national marine parks.	- All sizes
	(c) Logging	- An area of 500 hectares or more
	(d) Conversion of mangrove swamps for industrial, housing or agricultural use	- An area of 50 hectares or more
	(e) Clearing of mangrove swamps on islands adjacent to national marine parks.	- All sizes
Housing		
7.	Housing development	- An area of 50 hectares or more
Industries		
8.	(a) Chemical	- Where production capacity of each product or of combined products is greater than 100 tonnes/day
	(b) Petrochemicals	- All sizes
	(c) Non-ferrous	- Primary smelting
	- Aluminium	- All sizes
	- Copper	- All sizes
	- Others	- Producing 50 tonnes/day and above of product
	(d) Non-Metallic	
	- Cement	- For clinker through put of 30 tonnes/hour and above
	- Lime	- 100 tonnes/day and above burnt lime rotary kiln or 50 tonnes/day and above vertical kiln

Item	Types of projects or activities	Size
	(e) Iron and Steel	- Require iron ore as raw materials for production greater than 100 tonnes/day; or - Using scrap iron as raw materials for production greater than 200 tonnes/day
	(f) Shipyards	- Dead Weight Tonnage greater than 5000 tonnes.
	(g) Pulp and Paper	- Production capacity greater than 50 tonnes/day.
Infrastructure		
9.	(a) Construction of hospitals without fall into beachfronts used for recreational purposes	- All sizes
	(b) Industrial estate development for medium and heavy industries	- An area of 50 hectares or more
	(c) Construction of expressways	- All sizes
	(d) Construction of national highways	- All sizes
	(e) Construction of new townships	- All sizes
Ports		
10.	(a) Construction of ports	- All sizes
	(b) Port expansion	- An increase of 50 percent or more in handling capacity per annum
Mining		
11.	(a) Mining of minerals in new areas	- Where the mining lease covers a total area in excess of 250 hectares
	(b) Ore processing, including concentrating for aluminium, copper, gold or tantalum.	- All sizes
	(c) Sand dredging	- An area of 50 hectares or more

Item	Types of projects or activities	Size
Petroleum		
12.	(a) Oil and gas fields development.	- All sizes
	(b) Construction of off-shore and on-shore pipelines	- In excess of 50 kilometres in length
	(c) Construction of oil and gas separation, processing, handling, and storage facilities	- All sizes
	(d) Construction of oil refineries	- All sizes
	(e) Construction of product depots for the storage of petrol, gas or diesel (excluding service stations)	- Which are located within 3 kilometres of any commercial, industrial or residential areas and; - Which have a combined storage capacity of 60,000 barrels or more
Power Generation and Transmission		
13.	(a) Construction of steam generated power stations burning fossil fuels	- Having a capacity of more than 10 megawatts
	(b) Dams and hydroelectric power schemes with either or both of the following:	- (i) dams over 15 meters high and ancillary structures covering a total area in excess of 40 hectares; - (ii) reservoirs with a surface area in excess of 400 hectares
	(c) Construction of combined cycle power stations	- All sizes
	(d) Construction of nuclear-fueled power stations	- All sizes

Item	Types of projects or activities	Size
Quarries		
14.	Proposed quarrying of aggregate, limestone, silica quartzite, sandstone, marble and decorative building stone	- Within 3 kilometres of any existing residential, commercial or industrial areas, or any area for which a licence, permit or approval has been granted for residential, commercial or industrial development
Railways		
15.	(a) Construction of new routes	- All sizes
	(b) Construction of branch lines	- All sizes
Transportation		
16.	Construction of Mass Rapid Transport projects.	- All sizes
Resort and Recreational Development		
17.	(a) Construction of coastal resort facilities or hotels	- With more than 80 rooms
	(b) Hill station resort or hotel development	- An area of 50 hectares or more
	(c) Development of tourist or recreational facilities in national parks	- All sizes
	(d) Development of tourist or recreational facilities or islands in surrounding waters which are gazetted as national marine parks.	- All sizes
Waste Treatment and Disposal		
18.	(a) Toxic and Hazardous Waste	- All sizes
	(i) Construction of incineration plant	
	(ii) Construction of recovery plant (off-site)	
	(iii) Construction of wastewater treatment plant (off-site)	
	(iv) Construction of secure landfill facility	
	(v) Construction of storage facility (off-site)	
	(b) Municipal Solid Waste	- All sizes
	(i) Construction of incineration plant	
	(ii) Construction of composting plant	
	(iii) Construction of recovery/recycling plant	
	(iv) Construction of municipal solid waste landfill facility	

Item	Types of projects or activities	Size
	(c) Municipal Sewage (i) Construction of wastewater treatment plant (ii) Construction of marine outfall.	- All sizes
Water Supply		
19.	(a) Construction of dams, impounding reservoirs	- With a surface area of 200 hectares or more
	(b) Groundwater development for industrial, agricultural or urban water supply	- Greater than 4,500 cubic meters per day

Types and Sizes of Projects Requiring DEIA Reports

Item	Types of projects or activities	Size
1.	Iron and steel Industry.	- All sizes
2.	Pulp and paper mills.	- All sizes
3.	Cement plant.	- All sizes
4.	Construction of coal fired power plant.	- All sizes
5.	Construction of dams and hydroelectric power schemes.	- All sizes
6.	Land reclamation.	- All sizes
7.	Incineration plant (scheduled waste & solid waste).	- All sizes
8.	Sanitary landfill.	- All sizes
9.	Project involving land clearing	- Where 50% of the area or more having slopes exceeding 25 degrees (except quarry).
10.	Logging involving	-An area exceeding 500 hectares.
11.	Development of tourist or recreational facilities on islands in surrounding waters which are gazetted as national marine parks.	- All sizes
12.	Construction of recovery plant (off-site) for lead-acid battery wastes.	- All sizes
13.	Scheduled wastes recovery or treatment facility generating significant amount of wastewater which is located upstream of public water supply intake.	- All sizes
14.	Non ferrous	- Primary smelting

Reference: Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order, 1987

Annex B : Guideline of EIA Content

According to EIA Handbook, 1987 (DOE)

EIA Report Component

The format of the EIA report presented here is based on the format outlined in the DOE published EIA Handbook, 1987. It should be noted that main content of both PEIA and DEIA is the same; however, the depth and details of each section will differ for PEIA and DEIA depending on the type of project. It will be reviewed on case by case basis, usually during the Scoping exercise.

For projects which have been determined to require DEIA, the project proponent must submit the terms of reference (TOR) in accordance to the format outlined by the guidelines published by the DOE. The TOR will be open for public review through the DOE website and sent to the relevant governmental agencies for review. The TOR, PEIA, DEIA report shall consist of following topics;

TOR Content for DEIA

1. Project Proponent

Include contact details (complete address, phone and fax numbers) of the appropriate and responsible person(s) to whom enquiries regarding EIA should be directed

2. List of Consultants/ Study Team

Details of each individuals (must be registered with DOE) who will carry out the EIA study, which include:-

- DOE Registration number.
- Academic background.
- Experience.
- Area of study.
- Declaration (signatures).

The EIA consultant team is to be led by a Team/Project leader/ manager who is responsible for the EIA report. Include contact details (complete address, phone and fax numbers) of the appropriate and responsible person(s) to whom enquiries regarding EIA should be directed

3. Statement of Need

The statement of need for a project should be clearly established early in the project planning. The basis and rationale for the proposal would reflect the objective of a project and provide direction during planning. A statement of need also highlights the various benefits of the proposed project.

4. Project Description/ Concept

The project concept must not contradict any development plans, policies or decisions of the Government of Malaysia.

A description of the project must be given, including a description of the preferred project option including:

- Clear description of the proposed project concept, project size, project components, process technologies and development phases including future phase.
- Clear, coloured and readable maps, diagrams and photographs sufficient to enable panel reviewers to clearly understand the nature of the project and the location of all the project components. The location maps should include general location, specific location, project boundaries and project site/layout plan.
- A clear and readable flow chart of the process production and explanation on the process including criteria involved and the maximum capacity, for industrial-based projects.

5. Project Options

A brief discussion on the project options of how the reasonable options were selected and provide the basis for the elimination or options determined to be not reasonable.

6. Description of Existing Environment

The description of the existing environment should identify as appropriate:

- The conditions of the physico-chemical biological and human environment prior to implementation of the project.
- The spatial boundaries within which the "environment has been considered."
- Environmental sensitive areas of special or unique scientific, socio-economic or cultural value that may be affected by the proposed project. The area to be studied (zone of impact) will invariably need to extend beyond the immediate project boundaries as ecological effects can be fairly widespread

7. Baseline information on the proposed location

Outline the sampling methodologies, sampling locations, monitoring stations and sampling parameters in the collection of baseline information.

8. Project location and existing land use

The location of the project must be in accordance to the Guidelines on Siting and Zoning for Industries published by DOE; development plans such as the National Physical Plan, Structural Plan and Local Plan; and other relevant guidelines or requirements from other agencies.

Description of the project location shall include:-

- Exact location of proposed project with clear coordinates.
- Existing land use and constraints.
- Distance of the proposed project site to any environmentally sensitive receptors and areas.
- Macro scale maps (1:50,000 & 1:25,000), plans, photographs or satellite images, clearly identifying the location of the proposed project location.

- The landuse map must be clear, readable and in coloured form. An updated satellite image to indicate the recent existing environment may be used. The coverage of the landuse map must be at least within 5 km radius (interval of 250 m). For large scale project such as the construction of dams or impounding reservoirs, the coverage of the landuse map may be beyond 5 km radius depending on the catchment area.
- Other types of map to be produced in the TOR to describe the existing environment depends on the key and critical issues of the proposed project. They are cadastral map, topography and geological map, bathymetry map, hydrological map, coral population map and etc.

9. Potential significant impacts

- Based on the critical issues of the proposed project, briefly describe the potential significant impacts to be studied and criteria that may be used for impact analysis.
- Outline the methodologies on the impact analysis/ assessment

10. Mitigation and abatement measures

Based on the prediction of impacts to be studied, define the areas of the proposed project activities to be focused when discussing mitigation and abatement measures at these stages:

- Pre-construction (including feasibility studies and design);
- Construction; and
- Post-construction (including operation and maintenance)

11. Residual impacts

Outline potentially significant environmental impacts which may remain after mitigating measures have been applied (long term effects), to be studied in the EIA.

12. Environmental Management Plan

Briefly describe the components to be addressed in the Environmental Management Plan.

PEIA/DEIA Content

1. Introduction

- 1.1 Project Title
- 1.2 Project Location
 - a) Longitude and latitude
 - b) Location map
 - c) Cadastral map with lot numbers
- 1.3 Scope of Project
 - a) total area of project site
 - b) area of individual phases
 - c) geographic scope
 - d) provision for future expansion of project

1.4 Project approval by approving authority

- a) approving authority
- b) date of application approving authority
- c) date of project approval

1.5 EIA Report

- a) legal requirements
- b) date of submission
- c) stage of project at which EIA is conducted

1.6 Project Proponent

- a) name of firm, address and contact details

1.7 EIA Consultant (the format must follow DOE Notice 1/2013)

- a) name of firm, address and contact details
- b) list of team members
- c) registration numbers and expiry
- d) field of expertise

1.8 Statement of Need

- a) principle reasons for proposed project (include supportive documentations, if available)
- b) Project aim

1.9 History of Project

All steps under taken by Proponent prior to undertaking the EIA should be identified, including options to purchase, purchases of land and approvals.

2. Site Selection Process

2.1 Screening of Preliminary Sites

- a) Screening of preliminary sites for environmental sensitivity and importance before purchase
- b) Public involvement

2.2 Criteria for Siting and Routing

- a) Technical/financial
- b) Biophysical/land-use
- c) Infrastructure
- d) Socio-economic
- e) Risk

3. Project Options

3.1 Technological Options to Manufacture

- a) Manufacturing options (maximum 3)
- b) Score for environmental acceptability relative to
 - assessment of risk to habitation and property
 - energy and material balance
 - effluent and emissions
- c) Preferred option (most acceptable option)
- d) Selected option

If not the same as preferred option, justify the selected option, including trade-offs between the preferred and selected options (e.g. cost considerations)

3.2 Benefit to Cost Analysis

4. Description of Proposed Project

4.1 Project Concept

- a) Type and size
- b) Layout Plan (scale and coloured)
- c) Materials utilized and produced
- d) Overall Process Flow

4.2 Description of Development and Support Activities (Methods Section)

- a) Design criteria for construction
- b) Site preparation – clearing and earthworks
- c) Infrastructure and buildings
- d) Drainage systems
- e) Facilities and equipment for receiving, handling and storing non-hazardous and hazardous raw materials/goods
- f) Facilities and equipment for processing feedstock and catalyst into intermediate and final products and by-products
- g) Facilities and equipment for handling, storing and transporting non-hazardous and hazardous products/goods
- h) Construction camp site and workers' service support (water supply, sanitation)
- i) Amenities and security

Note: Illustrate with fully annotated A3 or A4 size drawings per method.

4.3 Description of Manufacturing Process(es) (Systems Section)

- a) Design criteria for all plant processes
- b) Describe unit processes and quantify feed stock, energy and material balance
- c) Describe and quantify:
 - a. Water supply for potable and industrial use: source, storage, delivery, use, treatment, recovery and re-use, discharge
 - b. Process water: use, treatment, effluent discharge
 - c. Domestic water: use, treatment, effluent discharge

- d) Describe and quantify process air: source, use, treatment, emission
- e) Describe and quantify solid waste and sludge generated: source(s), use, treatment (collection, handling and disposal)
- f) Describe and quantify noise generated: source, abatement
- g) Describe and quantify power required: source, delivery, use

Note: Illustrate with fully annotated "FLOW CHART" drawings, A3 and A4 size drawings per system.

4.4 Project Implementation Schedule (CHART)

- a) Design and Engineering
- b) Construction
- c) Commissioning and Start-up
- d) Operations and Maintenance (including down-time)
- e) Decommissioning and Abandonment

5. Description of Existing Environment

5.1 Physical Environment

- a) Topography
 - Terrain classification (landform)
 - Slope classification
 - Erosion hazard
- b) Geology and Soils
 - Constituents
 - Erosivity of materials
- c) Hydrology/Drainage
 - Surface and groundwater
 - Flood history
 - Flow volume
- d) Baseline quality of surface water
 - Upstream of project site
 - Downstream of project site
 - Within project site
 - Compare with "Interim Water Quality Standards of Malaysia"
- e) Ambient air quality and standards
- f) Ambient noise levels and standards

5.2 Biological Environment

- a) Terrestrial habitat, flora and fauna
 - Importance index (IUCN classification)
 - Characteristics of terrestrial habitat
 - Description of rare, endemic, endangered species and species of economic interest; populations, physiognomy, associations of terrestrial flora and fauna

- b) Marine/aquatic habitat, flora and fauna
 - Importance index (IUCN classification)
 - Characteristics of marine/aquatic habitat
 - Description of rare, endemic, endangered species and species of economic interest; populations, physiognomy, associations of marine/aquatic flora and fauna

Note: Where applicable

5.3 Human Environment (Map, scale 1:500–15,000)

- a) Settlements within zone of secondary effect
 - Minimum 3 km from boundary of project site
 - Towns, villages, orang asli
- b) Population
- c) Demographic profile
- d) Socio-economic

5.4 Land use (Map, scale 1:500–15,000) (Within a minimum of 3 km from the boundary of the project site)

- a) Existing land use / water use / marine use
- b) Existing sources of pollution
- c) Proposed land use / water use / marine use
- d) Committed land use
- e) Sites of historic and archaeological importance
- f) Forest reserves and other areas of protected status
- g) Master plan, structure plan and/or local plan

5.5 Existing Infrastructure

- a) Points of access and transportation
- b) Availability of potable water supply
- c) Availability of power
- d) Availability of telecommunications
- e) Wastewater treatment and discharge

5.6 Environmental Sensitive Areas

- a) Physical
- b) Biological
- c) Human

6. Potential Significant impacts, Mitigation Measures and Identification of Residual Impacts

6.1 Design and Engineering (Pre-construction)

- a) Site survey
- b) Soil investigation
- c) Baseline sampling
- d) Resettlement of residents (if relevant)
- e) Historical/cultural monuments (if relevant)

6.2 Construction

a) Site Clearing and Earthworks

- Drainage and flooding
- Soil erosion
- Water pollution
- Air pollution
- Noise
- Dredging/filling activities (if relevant)
- Coastal impacts (if relevant)

b) Modelling/prediction for

- Soil erosion
- Sediment transport
- Water quality
- Air quality (dust dispersion)
- Noise

The Malaysian DOE has provided a guidance document to assist in addressing the aspects of soil erosion and sediment control in the EIA reports. There are no specific requirements for water, air or noise modelling in Malaysia; however, the commonly used methods are listed below:

- River water quality - QUAL2E/QUAL2K Water Quality Models
- Marine water– GESAMP 1991
- Air quality – Gaussian plume type modelling
- For noise modelling, any published and defensible methodology can be utilised.

c) Access and Transportation

- Traffic hazards
- Hazardous material spills
- Air pollution
- Noise

d) Disposal of Construction Wastes

- Burning
- Dumping/landfill

e) Workers' Camp

- Water pollution
- Solid waste disposal
- Utilities
- Socio-cultural impacts
- Health

- f) General Construction
 - Noise and Vibration
 - Air pollution
 - Road surface
 - Safety
- g) Utilities Procurement
 - Availability
 - Excessive use
- 6.3 Transportation of Raw Material and Products
- 6.4 Commissioning and Start-up
 - a) Liquid wastes (effluent, sewage)
 - b) Solid wastes (including sludge)
 - c) Gaseous emissions
 - d) Noise and vibrations
 - e) Hazardous materials handling
- 6.5 Operation and Maintenance
 - a) Liquid wastes (effluent, sewage)
 - b) Solid wastes (including sludge)
 - c) Gaseous emissions
 - d) Noise and vibrations
 - e) Hazardous materials handling spills on access routes
 - f) Traffic congestion on access roads
 - g) Staffing and Manpower
- 6.6 Decommissioning and abandonment
 - a) Economic life of project
 - b) End land-use upon decommissioning and abandonment
 - c) Services and facilities to be decommissioned and/or abandoned and how this will be accomplished
- 6.7 Socio-economic impact
 - a) Demographic profile
 - b) Public consultation
 - c) Perception study
 - d) Sociological study(relocation of residents, compensation)
- 6.8 Ecological Impact
- 6.9 Impact of other activities on Project
- 6.10 Impact of spin-off activities on Environment

7. Residual Impacts

8. Risk Assessment

- 8.1 Hazard Zones
- 8.2 Overall Risk of Plant
- 8.3 Iso-risk Contours of Overall Plant
- 8.4 Risk to Society
- 8.5 Risk Evaluation
- 8.6 Risk Management

9. Environmental Management Plan (EMP)

- 9.1 Construction Stage
 - a) Monitoring
 - Surface water quality
 - Air quality (dust from construction and vehicles)
 - Noise (at perimeter of project site)
- 9.2 Operation Stage
 - a) Audit
 - Wastewater treatment system
 - Solid waste disposal
 - Scheduled waste management
 - Risk management
 - Traffic load, flow and parking
 - Buffer zones
 - Environmentally sensitive areas (e.g. steep terrain, high water tables, marine areas, freshwater source, forest, mangrove, wetlands, wildlife habitat)
- 9.3 Decommissioning and Abandonment
 - Audit to be carried out at decommissioning or abandonment
 - Identify what services/facilities will be decommissioned or abandoned
 - How will this be accomplished?
 - Activities to be recorded and locations mapped relative to the “as built” drawings

Note: The monitoring and audit programme should include:

- Location of monitoring points
 - Frequency of monitoring and audit
 - Parameters to be measured
 - Schedule of budget/finance allocation required
 - Personnel/staffing allocation to ensure compliance
 - Procedures for reporting and enforcement
- 9.4 Emergency Response Plan
 - a) Contingency plan
 - b) Communication procedures
 - c) Evacuation procedures

10. Summary of conclusions

- a) Summary table of Activities. Potential Impacts, Mitigation Measures and Residual Impact
- b) Are there significant residual impacts?
- c) Estimated cost of mitigation and control measures and its maintenance

11. Data Sources

12. List of References

13. Other Information

- a) Estimated cost of proposed project
- b) Cost of EIA study
- c) Number of man-months required for EIA study

7

EIA in
Myanmar



7. EIA in Myanmar



7.1 Definitions

EIA Type Project means a project judged by the Ministry as being likely to have potential for Adverse Impacts. It means generally those which:

- Involve multiple components and many or varied pollution sources and/or pollutant types, requiring integrated EMP to be tailored specifically to mitigate such pollution;
- Are characterized by a high risk of significant, adverse environmental or social impact;
- Are of a type or size for which there is a lack of prior knowledge and experience as to what the potential adverse impacts may be and their size or significance; or
- Where the significance of the potential environmental or social impacts or the sensitivity/vulnerability of the recipients of those impacts requires a high level of environmental and social management expertise and skills, and continued strict control and supervision throughout the life of the Project.

Initial Environmental Examination or IEE Type Project means a Project judged by the Ministry to have some Adverse Impacts, but of lesser degree and/or significance than those for EIA Type Projects. It means generally those which:

- Are limited in scope or size;
- Have well known environmental and social impacts that for the most part are temporary, local and reversible; or
- Have impacts which can be mitigated and managed by well-proven and available technologies and practices but with respect to which specific controls, measures and alternatives must be assessed, designed and implemented.

IEE Report means a report on an IEE Type economic activity prepared in accordance with the requirements stipulated in Article 36 and having a focus on: systematic identification and assessment of potential Adverse Impacts including Cumulative Impacts of the proposed Project, business, service or activity; systematic assessment of feasible Project alternatives; and determination of appropriate measures to mitigate potential Adverse Impacts. IEE Report shall include an EMP.

EIA Report means a report on an EIA Type economic activity prepared in accordance with the requirements stipulated in Article 63 and having a focus on: systematic identification and assessment of potential Adverse Impacts including cumulative impacts of the proposed Project, business, service or activity; systematic assessment of feasible Project alternatives; and determination of appropriate measures to mitigate potential Adverse Impacts. EIA Report shall include an EMP.

EIA Report Review Body means that body to be formed by the Ministry in accordance with Article 58 of the Rules, comprising technical experts from relevant government departments, government organizations, technical organizations and civil society responsible to review and provide comments and recommendations on an EIA Report.

Construction Phase EMP means a detailed and comprehensive EMP for the construction phase of a Project. Such plan shall present all relevant commitments, Emission Limit Values, Environmental Quality Standards and other environmental requirements. The plan shall include a description of the construction works, installations, and infrastructure, and shall present an overview of Adverse Impacts, present mitigation measures and monitoring programs together with time schedules, projected budget use, overview maps, images, aerial photos, satellite images, site layout plans, cross-sections, transects, environmental management and monitoring sub-plans for each construction site, thematic sub-plans, and management procedures, as appropriate.

Operational Phase EMP a detailed and comprehensive EMP for the operational phase of a Project. Such plan shall present all relevant commitments, Emission Limit Values, Environmental Quality Standards and other environmental requirements. The plan shall include a description of the Project operations, installations, and infrastructure, and shall present an overview of Adverse Impacts, present mitigation measures together with time schedules, projected budget use, overview maps, images, aerial photos, satellite images, site layout plans, cross-sections, transects, environmental management and monitoring sub-plans for each Project site, thematic sub-plans, and management procedures, as appropriate.

Environmental Compliance Certificate or ECC means a document having legal effect, through which the Ministry approves an IEE Report, an EIA Report, or an EMP.

Project Proposal means a written document, in form, content and structure in accordance with the Ministry's requirements and guidance, accurately setting forth the key aspects and relevant details (including, inter alia, the nature and size of all known or foreseeable Adverse Impacts) of a Project or Project expansion, as the case may be, which a Project Proponent wishes to undertake, or having commenced to undertake.

Scoping means the process contemplated in Chapter V of this Procedure for determining the scope of an EIA (i.e. the data that need to be collected and analyzed to assess the potential Adverse Impacts of a Project) and producing a terms of reference (TOR) for preparation of an EIA Report.

Prior Permission means the permission issued by the Ministry in respect of Projects listed in Annex1 'Categorization of Economic Activities for Assessment Purposes', setting forth environmental conservation terms and conditions in accordance with Section 24 of the Law.

Strategic Environmental Assessment refers to a range of analytical and participatory approaches that aim to integrate environmental into policies, plans and programs and evaluate the inter-linkages with economic and social considerations. The principle is to integrate environment, alongside economic and social concerns, into a holistic sustainability assessment.

7.2 Introduction

There was no recognized environmental law in Myanmar until The Environmental Conservation Law (ECL) was enacted in 2012. This law contains 14 chapters that define the rights and responsibilities of the Ministry of Natural Resources and Environmental Conservation, including environmental quality standards, environmental conservation,

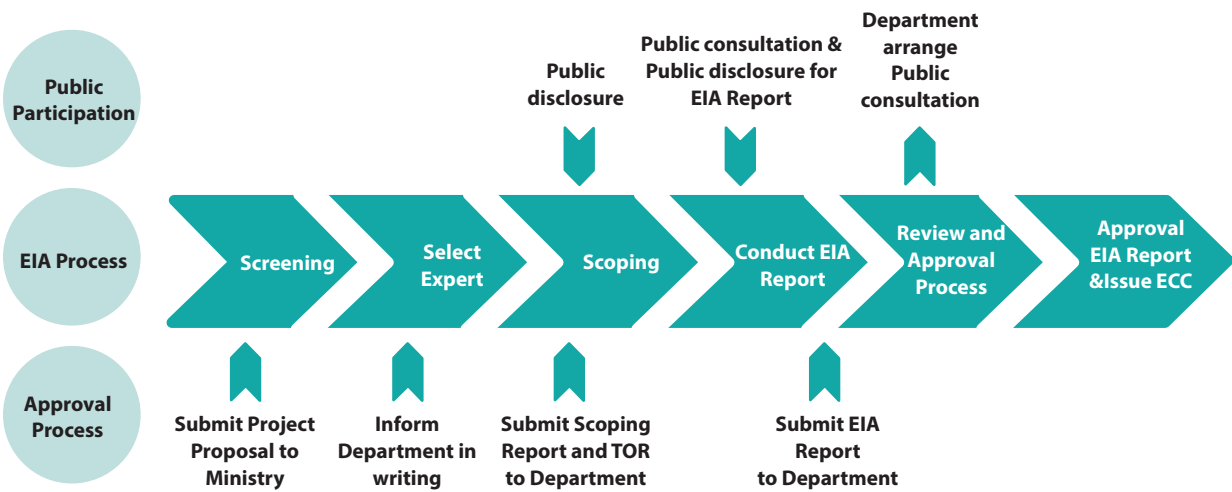
management in urban areas, natural and cultural resources conservation, process for businesses to apply for permission to engage in an enterprise that has the potential to damage the environment, prohibitions, offences and punishments.

The Environmental Conservation Rules (2014) was issued by The Ministry of Natural Resources and Environmental Conservation (MONREC), in exercise of power conferred under sub-section (a) of section 42 of the Environmental Conservation Law 2012. This regulation details the functions and duties of the Environmental Conservation Department (ECD) under the Ministry of Natural Resources and Environmental Conservation (MONREC).

The Environmental Impact Assessment in Myanmar is more concretely when The Ministry of Environmental Conservation and Forestry (now renamed the Ministry of Natural Resources and Environmental Conservation) enacted the ENVIRONMENTAL IMPACT ASSESSMENT PROCEDURE, Notification No. 616/2015 on the 29th December 2015 that aims ‘to establish the EIA system which shall require any proposed project or business or activity or undertaking in Myanmar by any government agencies or private companies or individual of whose project may have the potential to cause significant Adverse Impacts from operation either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) and to obtain an Environmental Compliance Certificate (ECC) in accordance with the Procedure’.

An overview of Myanmar’s EIA process proposed is shown in **Figure 7.2-1** and the key elements are described in the following sections.

Figure 7.2-1 Simplified Overview of Myanmar’s EIA Process



7.3 EIA Legal Framework

The key law and regulation for the EIA in Myanmar are The Environmental Conservation, 2012 and Environmental Conservation Rules, 2014. These two laws enforce the EIA provisions of the Environmental Impact Assessment Procedure, 2015. The Relevant regulations of the EIA system in Myanmar is summarized in **Table 7.3-1** below.

Table 7.3-1 EIA Relevant Regulations

Year	Relevant regulations	Key description
2012	The Environmental Conservation Law, Pyidaungsu Hluttaw Law No. 9/2012, dated 30 March 2012	<ul style="list-style-type: none"> • Determining the provision of legal basis for implementing a range of enhanced environmental management measures • Prescribing the accountability of The Ministry to be responsible for implementation of environmental policies and standards • Prescribing penalties for the projects that violate or do not comply to the law • Determining Provision of legal basis for implementing a range of enhanced environmental management measures
2014	Environmental Conservation Rules Notification No. 50 / 2014 dated 5 June, 2014	<ul style="list-style-type: none"> • Annexing the law and regulation for the implementation provision to the Environmental Conservation Law
2015	The Environmental Impact Assessment Procedure Notification No. 616/2015, dated 29 December 2015	<ul style="list-style-type: none"> • Prescribing a fairly-detailed Environmental Impact Assessment (EIA) in Myanmar; and • Prescribing types and size of the projects/ activities which require Environmental Impact Assessment (EIA) or Initial Environmental Examination (IEE)

7.4 Types and Sizes of Projects Requiring EIA Report

The list of types and sizes of projects, required to submit IEE and EIA, is prescribed in the ANNEX 1 of the Environmental Impact Assessment Procedure Notification No. 616/2015. The proponents shall consider whether their investment projects are required to submit IEE and EIA, The types and sizes of projects or activities requiring EIA reports listed in the **Annex A** of this report

For Strategic Environmental Assessment (SEA), there is no requirement for SEA under the current laws. However according to Chapter X of Environmental Impact Assessment Procedure, Notification No. 616 / 2015 gives the Ministry may require that Projects and other economic activities that derive from such policy, strategy, development plan, framework or program that are prepared or contemplated by Union Ministries, the governments and authorities of Regions, States, Self-Administered Zones, Self-Administered Divisions, the Nay

Pyi Taw Union Territory, Cities and Townships, and other individuals or organizations and which have been required to undertake a study to identify and assess the potential environmental and social impacts shall be developed and implemented in accordance with the environmental and social management and monitoring framework of such policy, strategy, development plan, framework or program.

Presently, Myanmar introduce mandatory Strategic Environmental Assessment (SEA) across sector development plans, e.g. Hydropower Sector. The selection of a site largely defines the environmental and social impact of a large development. Assessing the potential environmental impacts of alternative sites through a series of quantitative indicators and before EIAs begin would rule out those sites that will have very high adverse environmental and social effects, making it possible to screen projects before doing EIAs, and thus saving developers and the government of Myanmar the costs of carrying out and evaluating EIAs at unsuitable sites. It would also make it possible to compare and rank alternative projects and sites at different locations, which would not normally happen in the standard EIA process. Ideally SEAs set the context and framework for EIAs, allowing these studies to focus on issues of how, rather than whether or where, a project should go ahead. In the SEA system, the responsible public entity would simulate a development plan, resulting in individual projects ranked in a time sequence. Private investors would then be invited to bid competitively for specific projects based on a certain number of project specific criteria. Financing of the required upfront SEA studies could come from international development agencies (e.g. ADB, World Bank and IFC), or established through required contributions from developers or donors.

7.5 EIA Report Component

The regulation and specific guidelines for preparation of EIA/IEE report is The Environmental Impact Assessment Procedure Notification No. 616/2015, listed as follows

Content of EIA Report

The Project Proponent shall issue a letter of endorsement in a format prescribed by the Ministry. Such letter shall be submitted to the Ministry together with the EIA Report prepared either in the Myanmar language, or in the English Language with an accompanying, accurate summary in the Myanmar language, and confirming:

- a) The accuracy and completeness of the EIA;
- b) That the EIA has been prepared in strict compliance with applicable laws including the EIA Procedure and with the TOR for the EIA; and
- c) That the Project will at all times comply fully with the commitments, mitigation measures, and plans in the EIA Report.

The Project Proponent is responsible for the preparation of an EIA Report which shall contain the following: (See detailed of EIA content in **Annex B**)

Chapter 1: Executive Summary

Chapter 2: Introduction

Chapter 3: Policy, Legal and Institutional Framework

Chapter 4: Project Description and Alternative Selection

Chapter 5: Description of the Surrounding Environment

- Chapter 6: Impact and Risk Assessment and Mitigation Measures
- Chapter 7: Cumulative Impact Assessment
- Chapter 8: Environmental Management Plan
- Chapter 9: Public Consultation and Disclosure

Content of IEE Report

The Project Proponent shall issue a letter of endorsement in a format prescribed by the Ministry. Such letter shall be submitted to the Department together with the IEE Report prepared either in the Myanmar language, or in the English Language with an accompanying, accurate summary in the Myanmar language, and confirming:

- a) The accuracy and completeness of the IEE;
- b) That the IEE has been prepared in strict compliance with applicable laws including EIA Procedure; and
- c) That the Project will at all times comply fully with the commitments, mitigation measures, and plans in the IEE Report. (See detailed of IEE content in **Annex B**)

7.6 EIA Process System

7.6.1 EIA Developer

According to the Environmental Impact Assessment Procedure Notification No. 616/2015, any organization or person who wishes to prepare an IEE or EIA shall apply to register with the Ministry. The Project proponent shall have requirements concerning Third Person or Organization undertaking IEE and EIA the following

- (a) If specific terms, conditions and/or registration procedures have not been separately issued by the Ministry, any Third Person or Organization, whether foreign or domestic, who wishes to prepare an IEE and EIA shall first apply to the Department together with the information and supporting evidence indicated below, to complete such registration. Such application shall include:
 - i) The name, contact address and profile of the person or organization,
 - ii) Relevant experience of the person or organization, and
 - iii) For key personnel, an outline of each person's experience in the field of environmental assessment, academic credentials, relevant certificates and accreditations.
- (b) If specific terms, conditions and/or registration procedures have been separately issued by the Ministry, any Third Person or Organization who wishes to prepare an IEE or EIA shall first apply to the Department in accordance with the terms, conditions and/or procedures for such registration.

7.6.2 EIA Preparation and Timeline

The Ministry of Natural Resources and Environmental Conservation (MONREC) enacted the Environmental Impact Assessment Procedure, Ministry of Environmental Conservation and Forestry, Notification No. 616/2015 on the 29th December 2015.

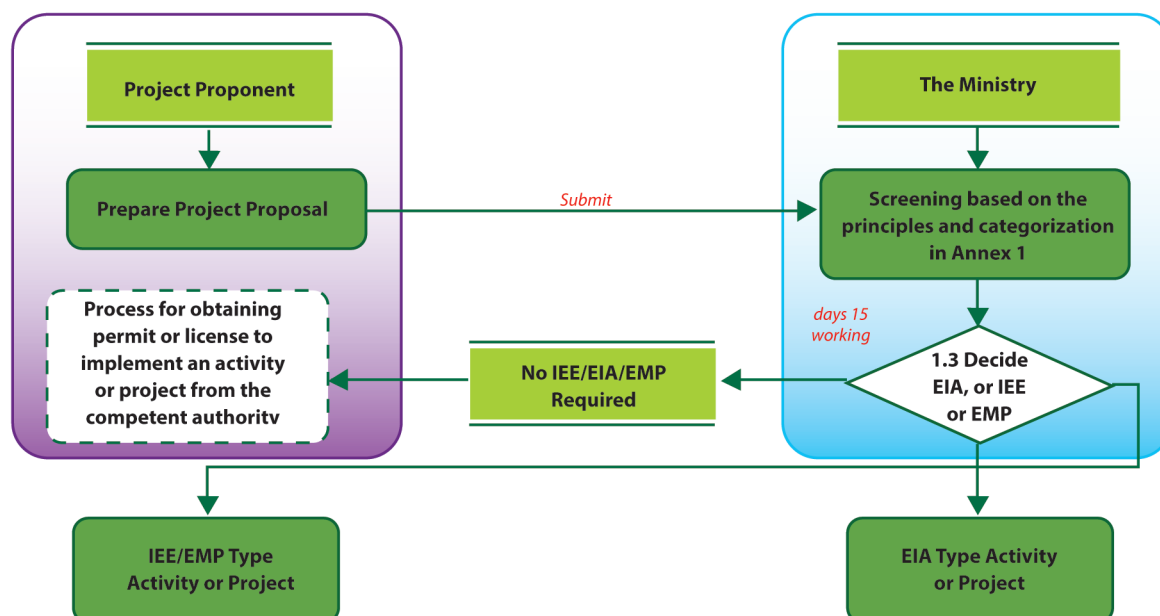
The Environmental Impact Assessment Procedure aims 'to establish a system of environmental impact assessment which shall require any proposed project or business or activity or undertaking in Myanmar by any ministry, government department, organization, corporation, board, development committee, local government or authority, company, cooperative, institution, enterprise, firm, partnership or individual having the potential to cause significant Adverse Impacts to undertake either an IEE or an EIA and to obtain an Environmental Compliance Certificate (ECC) in accordance with the Procedure.

Screening

The EIA process starts with the Screening Process as shown in **Figure 7.6-1** MONREC is empowered and has the exclusive authority to define Project screening criteria. Articles 52 and 53 of the Environmental Conservation Rules, and Section 7 of the Environmental Conservation Law, state that "all Projects undertaken in the Republic of the Union of Myanmar by any ministry, government department, organization, corporation, board, development committee, local government or authority, company, cooperative, institution, enterprise, firm, partnership or individual having the potential to cause significant Adverse Impacts, are required to undertake IEE or EIA and to obtain an Environmental Compliance Certificate (ECC)". ADB Procedures provides guidance as to which projects or activities should carry out an IEE or EIA as presented in the Annex to the Procedures. If, as a result of that determination, an IEE or an EIA is determined to be required, then the proponent of the project or activity will be obliged to prepare, obtain approval for, and implement an appropriate EMP in respect of the proposed project or activity. Any appeal from such determination must be made in accordance with the EIA Procedure.

The Annex to the EIA Procedure shows for each type of Economic Activity the criteria for selection of whether IEE or EIA apply to the proposed economic activity. The Ministry determines whether the Project is an IEE Type Project, or an EIA Type Project, or is neither an IEE or an EIA Type Project and is therefore exempt from (not required) to undertake any environmental assessment.

Figure 7.6.-1 Screening Process as proposed in the Environmental Impact Assessment Procedure



The Project Proponent shall submit to the Department for Screening a Project completed in accordance with Ministry guidelines. Following the preliminary screening that the Project Proposal contains all required documents and related materials, the Department shall in addition to the provisions in Article 25 and the type and size categorization in Annex 1 'Categorization of Economic Activities for Assessment Purposes' consider the following factors in accordance with Ministry guidance:

- a) the need for the Project to deal with an emergency situation;
- b) the interest of public health and safety;
- c) the interest of national security;
- d) the lifespan of the Project;
- e) protection of cultural and religious norms, and historical and religious heritage;
- f) protection of areas having a fragile ecosystem;
- g) areas affected by cyclones, strong storms, flooding, earthquake (including the Sagaing Fault) and areas vulnerable to natural disaster;
- h) protection of water resources (lakes, reservoirs, rivers, groundwater aquifers) that serve or may in the future serve as primary sources of public drinking water;
- i) recreation zones and pearl production areas;
- j) conservation and protection of biodiversity;
- k) introduction of exotic or alien species;
- l) adoption of new technologies;
- m) population density;
- n) national, regional and global climate change conditions;
- o) likely transboundary impacts;
- p) likely residual impacts or effects occurring some years after Project closure; and
- q) other factors as the Ministry may determine.

Within 15 working days of receiving the complete Project Proposal, the Ministry shall determine the type of environmental assessment (EIA, IEE, or none) which the Project will require, and shall inform the Project Proponent in writing about its determination. In addition, the Ministry can change the status of an IEE listed project to be an EIA type project if any of the above additional factors are relevant and there are no criteria for changing the status to none or exempt from environmental assessment.

Scoping

All EIA Type Projects shall undergo Scoping. The Project Proponent shall be responsible to ensure that the Scoping and the preparation of the Term of Reference (TOR) for the EIA Report are undertaken in a professional manner and in accordance with any applicable guidelines issued or adopted by the Ministry. The Scoping shall in respect to the proposed Project:

- a) Define the study area, area of influence, time boundaries, project phases, and potential stakeholders;
- b) Start the process of understanding the applicable regulations and standards, and their context for Project design and completion of the EIA;
- c) Make a provisional identification of Environmental, Social and, if any, Health Impacts, focusing in particular on the environmental, social and health issues that need to be addressed in subsequent EIA studies;
- d) Provide an indication of what baseline data and information are required, and how it is proposed to obtain it (although there is no need to actually collect any data at this stage);
- e) Provide an opportunity for consultants, relevant authorities, project developers, interested and affected parties to express their views and concerns regarding the proposal before an EIA proceeds;
- f) Enable an efficient and comprehensive assessment process that saves time, resources, costs and delays; and
- g) Identify potentially affected communities and other stakeholders with an interest in the Project.

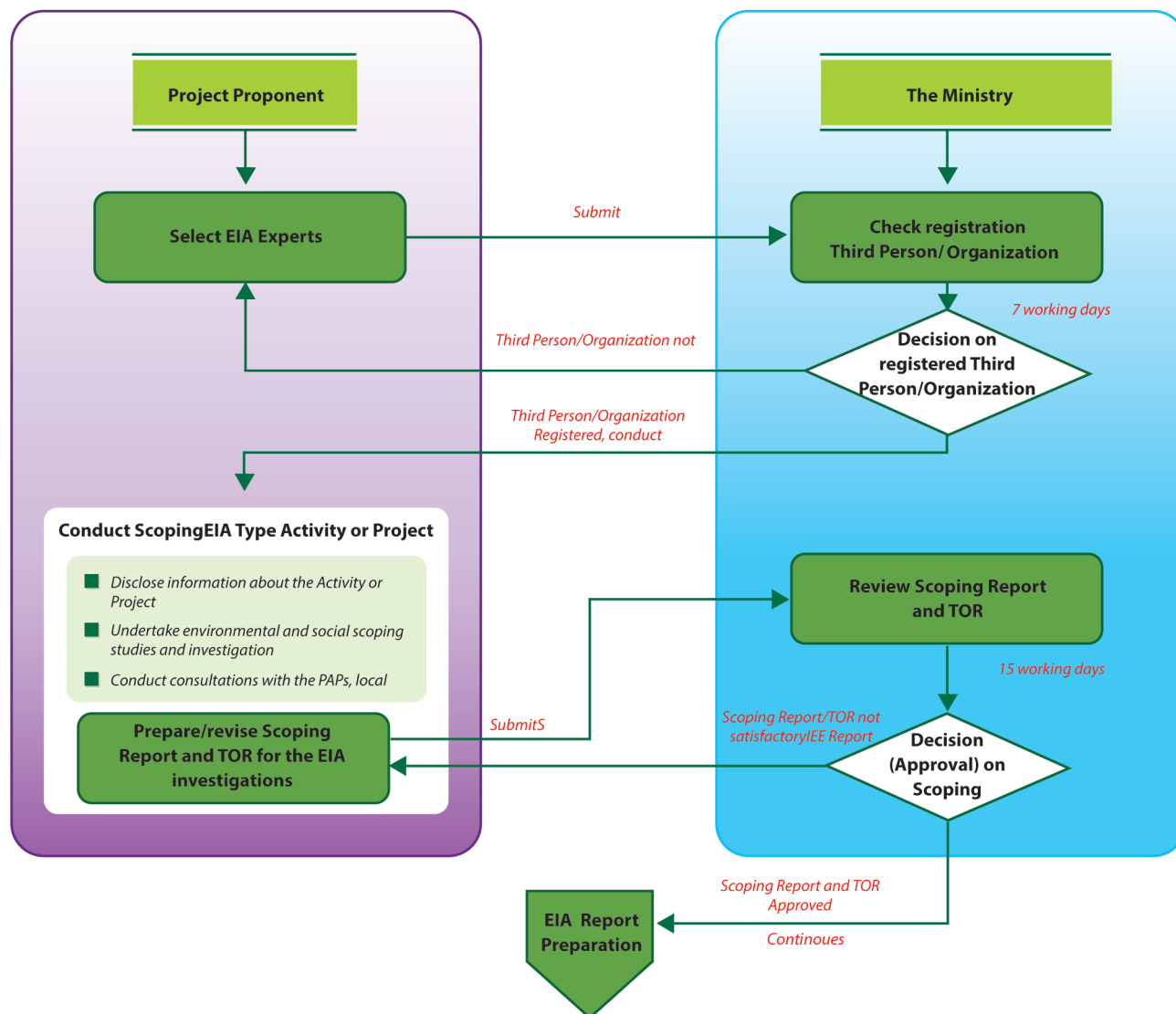
As Part of the Scoping, the Project Proponent shall ensure that the following public consultation and participation process is carried out.

- a) Disclose information about the proposed Project to the public and civil society through local media, including by means of the prominent posting of legible sign boards and advertising boards at the Project site which are visible to the public; and
- b) Arrange the required complement of consultation meetings as advised by the Ministry, with local communities, potentially PAPs, local authorities, community based organizations, and civil society.

The Project Proponent shall prepare a Scoping Report and TOR for the EIA investigations and submit the completed Scoping Report and TOR to the Ministry for review and approval.

The Scoping process as proposed in the Environmental Impact Assessment Procedure is shown in **Figure 7.6-2**

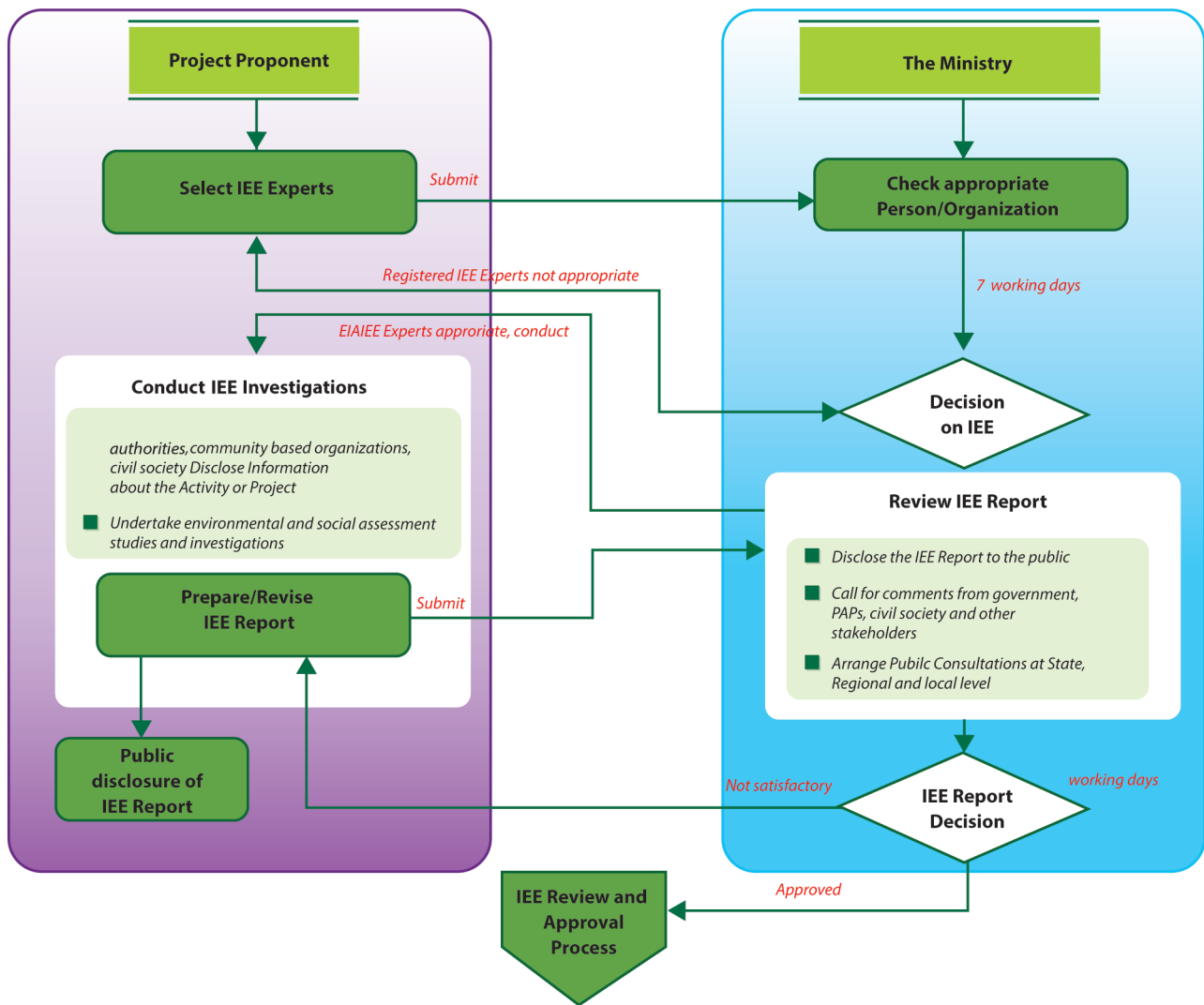
Figure 7.6-2 Scoping process



IEE Investigation and Report Preparation

Prior to commencement of an IEE, the Project Proponent shall inform the Department in writing as to the identity of the person(s) and/or organization, if any, who will undertake the IEE and reporting. The Project Proponent may carry out the IEE and reporting by itself or may appoint a registered person or organization. Within seven (7) working days of its receipt of information about the identity of any proposed person(s) and/or organization selected by the Project Proponent to undertake the IEE, the Department will confirm in accordance with the Ministry approval whether such person(s) and/or organization are/is in good standing with the Department. The requirements of IEE report is outline in **Annex B** of this report. The proposed flow chart covering the IEE investigation & review process is shown in **Figure 7.6-3**

Figure 7.6-3 IEE Investigation & Review Process



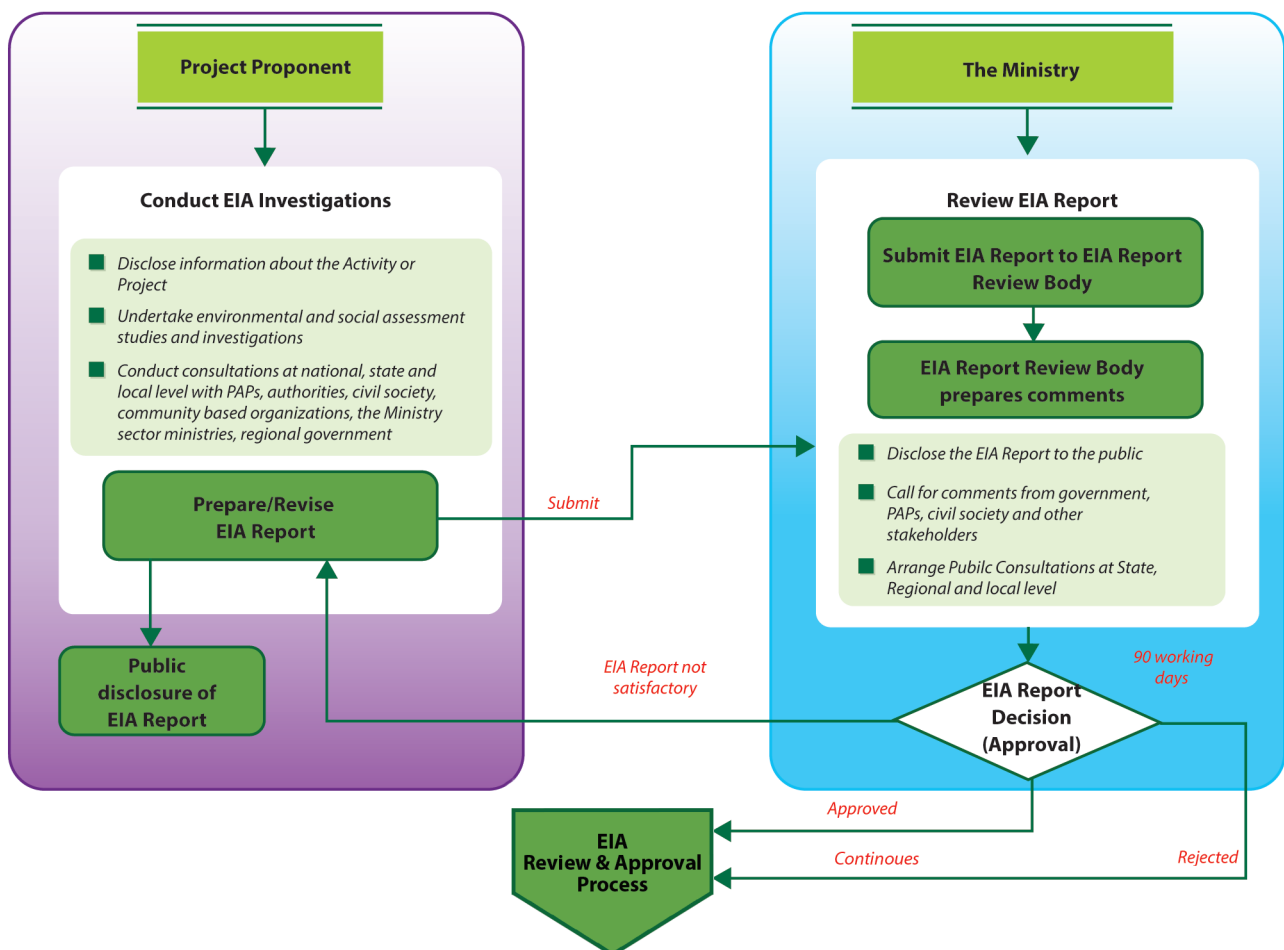
EIA Investigation and Report Preparation

The Project Proponent shall ensure that the EIA investigation properly addresses all Adverse Impacts and is undertaken in accordance with the approved TOR. An EIA investigation shall consider all biological, physical, social, economic, health, cultural and visual components of the environment, together with all pertinent legal matters relating to the environment (including land use, resources use, and land ownership, the rights to land and other resources) that may be affected by the Project during all project phases, including pre-construction, construction, operation, decommissioning, closure, and post-closure; and shall identify and assess all Adverse Impacts and risks for environment, social and, if relevant, health that potentially could arise from the Project. The Procedure did not address the social impacts of Involuntary Resettlement or which relate to Indigenous People. Separate procedures shall be issued by responsible ministries, and in the absence of such procedures all such Projects shall adhere to international practice on Involuntary Resettlement and Indigenous People. The Project Proponent is obliged to use, comply with and refer to applicable national

standards, international standards adopted by the Government and/or the Ministry, or, in the absence of relevant national or adopted international standards, such standards as may be agreed with the Ministry.

The EIA Report shall consider the views, concerns, and perceptions of stakeholders, communities and individuals that could be affected by the Project or interested in the Project. The EIA should include the results of public consultations and negotiations with the affected populations on the environmental and social issues. Public concerns should also be taken into account in assessing impacts, designing mitigation measures, and selecting monitoring parameters. After completing all investigations and public consultation and participation processes required for EIA Type Projects, the Project Proponent shall submit the EIA Report to the Ministry in both digital and hard copy, together with the required service fee. The proposed flow chart covering the EIA investigation & review process is shown in **Figure 7.6-4**

Figure 7.6-4 EIA Investigation & Review Process



IEE Stakeholder Engagement and Public Consultation

The Project Proponent shall undertake the following public consultation process in regard to an IEE Type Project:

- a) Immediately upon commencement of the IEE, disclose relevant information about the proposed Project to the public and civil society through the Project or Project Proponent's website(s) and local media, including by means of the prominent posting of legible sign boards at the Project site which are visible to the public, and comply with technical guidelines issued by the Ministry; and
- b) arrange the required complement of consultation meetings as advised by the Ministry, with local communities, potential PAPs, local authorities, community based organizations, and civil society, and provide appropriate and timely explanations in press conferences and media interviews.

EIA Stakeholder Engagement and Public Consultation

As noted under Scoping, public consultation is considered a fundamental requirement in the EIA process. The Project Proponent shall consider the views, concerns, and perceptions of stakeholders, communities and individuals that could be affected by the Project or interested in the Project. The EIA study and Report should include the results of public consultations and negotiations with the affected populations on the environmental and social issues throughout the EIA process. Public concerns should be taken into account in assessing impacts, evaluating and designing mitigation measures, and in selecting monitoring parameters/criteria and developing monitoring programs. As part of the EIA investigations, the Project Proponent shall undertake the following consultations:

- a) Timely disclosure of all relevant information about the proposed Project and its likely Adverse Impacts to the public and civil society through local and national media, the website(s) of the Project or Project Proponent, at public places such as libraries and community halls, and on sign boards at the Project site visible to the public, and provide appropriate and timely explanations in press conferences and media interviews;
- b) Arrange consultation meetings at national, regional, state, Nay Pyi Taw Union Territory and local levels, with PAPs, authorities, community based organizations and civil society;
- c) Consultations with concerned government organizations including the Ministry, the concerned sector ministry, regional government authorities, and others; and
- d) Field visits for the Ministry and concerned government organizations.

All costs of public participation and information disclosure shall be the responsibility of the Project Proponent.

The stakeholders involved in the public consultation process are mentioned in the EIA Procedure but have yet to be confirmed by the government of Myanmar. The EIA Procedure

mentions project-affected-persons (PAPs), local authorities community based organizations, and civil society as stakeholders. Concerned government organizations include national,

7.6.3 EIA Approval Process and Timeline

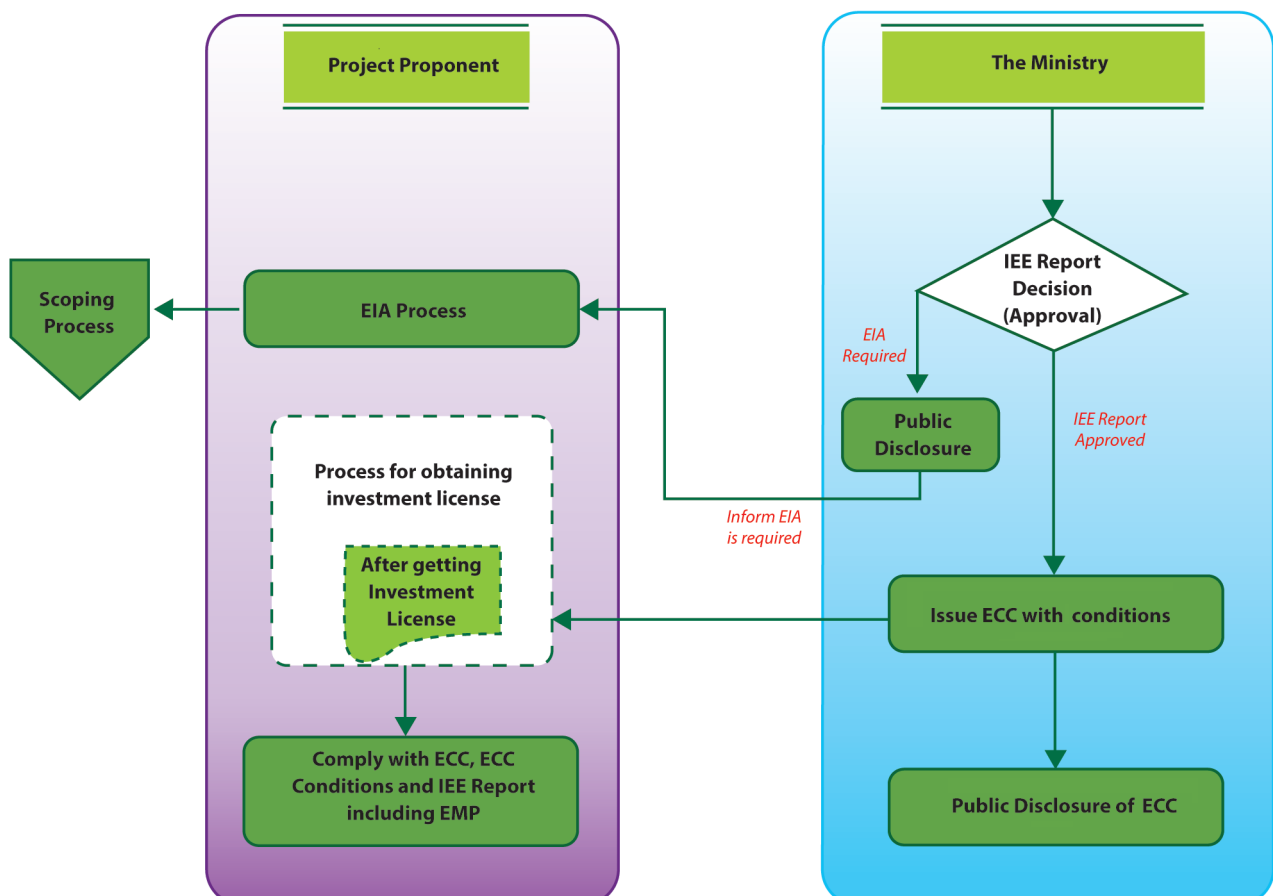
IEE Report Appraisal and Approval Process

When the IEE Report is submitted from the Project Proponent, the Ministry shall

- disclose the IEE Report to the public by proper media;
- invite comments and suggestions on the IEE Report from all relevant parties including relevant government organizations, institutions, civil society organizations, and PAPs, as appropriate;
- arrange public consultation meetings at the local level, at which the Project Proponent shall present the IEE Report; and
- collect and review all comments and recommendations received and make a final decision on approval of the IEE Report.

The Ministry shall deliver its final decision within sixty (60) working days of receipt of an IEE Report. If the Ministry requires an IEE Report to be amended, then the due date for delivery of the Ministry's decision shall be extended accordingly. All costs incurred in completing the IEE Report disclosure and review, including the public consultation process, shall be borne by the Project Proponent. The proposed flow chart covering the IEE review process is shown in **Figure 7.6-5**

Figure 7.6-5 IEE review and approval process



EIA Report Appraisal and Approval Process

The Project Proponent shall within 15 days after submission disclose the EIA Report to civil society, PAPs, concerned government organizations, and other interested stakeholders. The Ministry shall submit the EIA Report to the EIA Report Review Body for comment and recommendations and also arrange for public consultation meetings at national and State / Regional / local levels where the Project Proponent shall present the EIA Report. All comments and recommendations received, including those of the EIA Report Review Board, will be collected and reviewed by the Ministry prior to making a final decision on approval of the EIA Report.

The Ministry shall deliver its final decision within 90 working days of receipt of the EIA Report. All costs incurred in completing to the EIA Report disclosure and review, including the public participation process, shall be borne by the Project Proponent. Upon completion of its review of the EIA Report, the Ministry will issue an Environmental Compliance Certificate (ECC) or inform the Project Proponent of its decision to reject the EIA Report and publically disclose its decision. The proposed flow chart covering the EIA review process is shown in **Figure 7.6-6** and the appeal process is shown in **Figure 7.6-7**

Figure 7.6-6 EIA Review and Approval Process

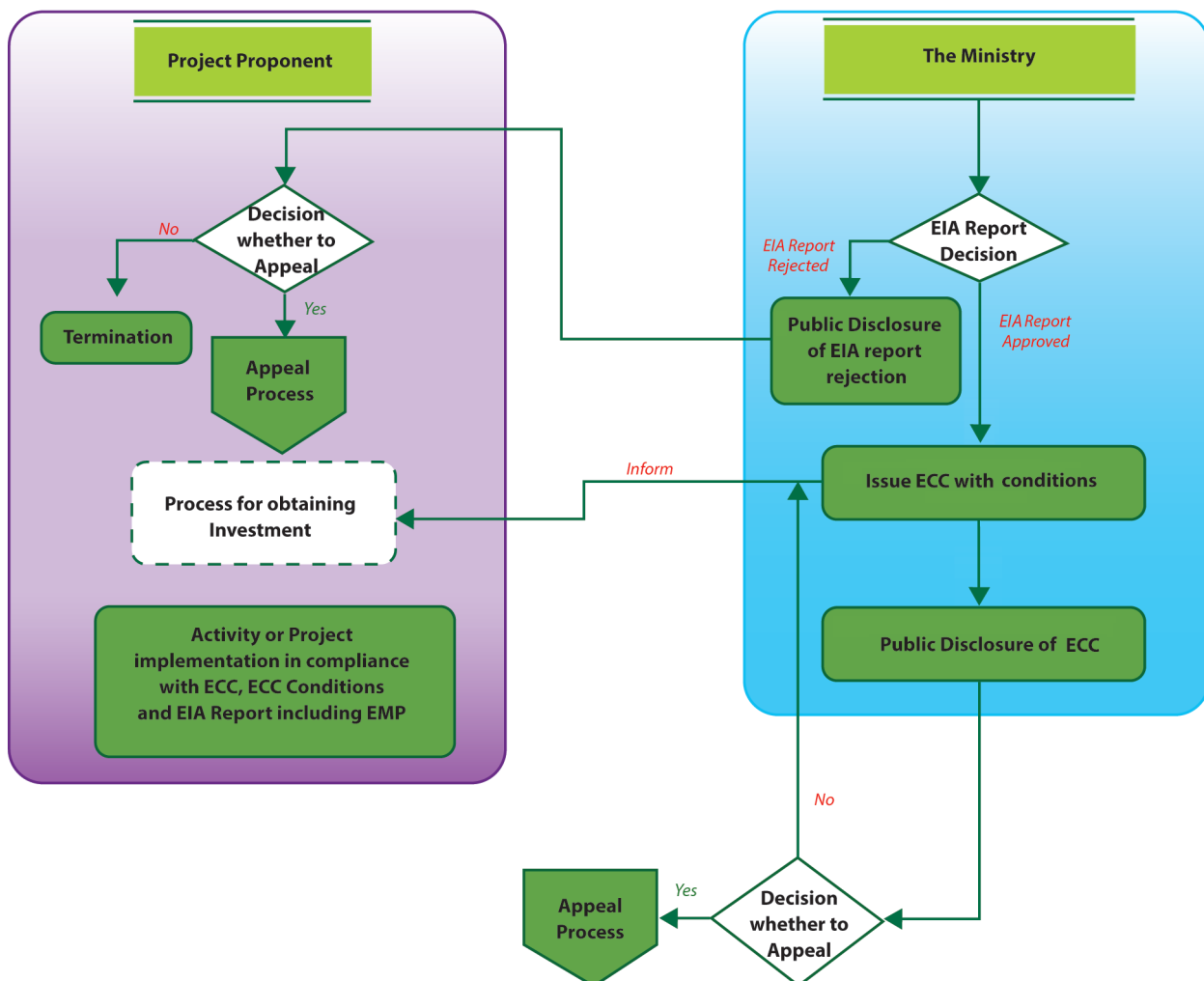
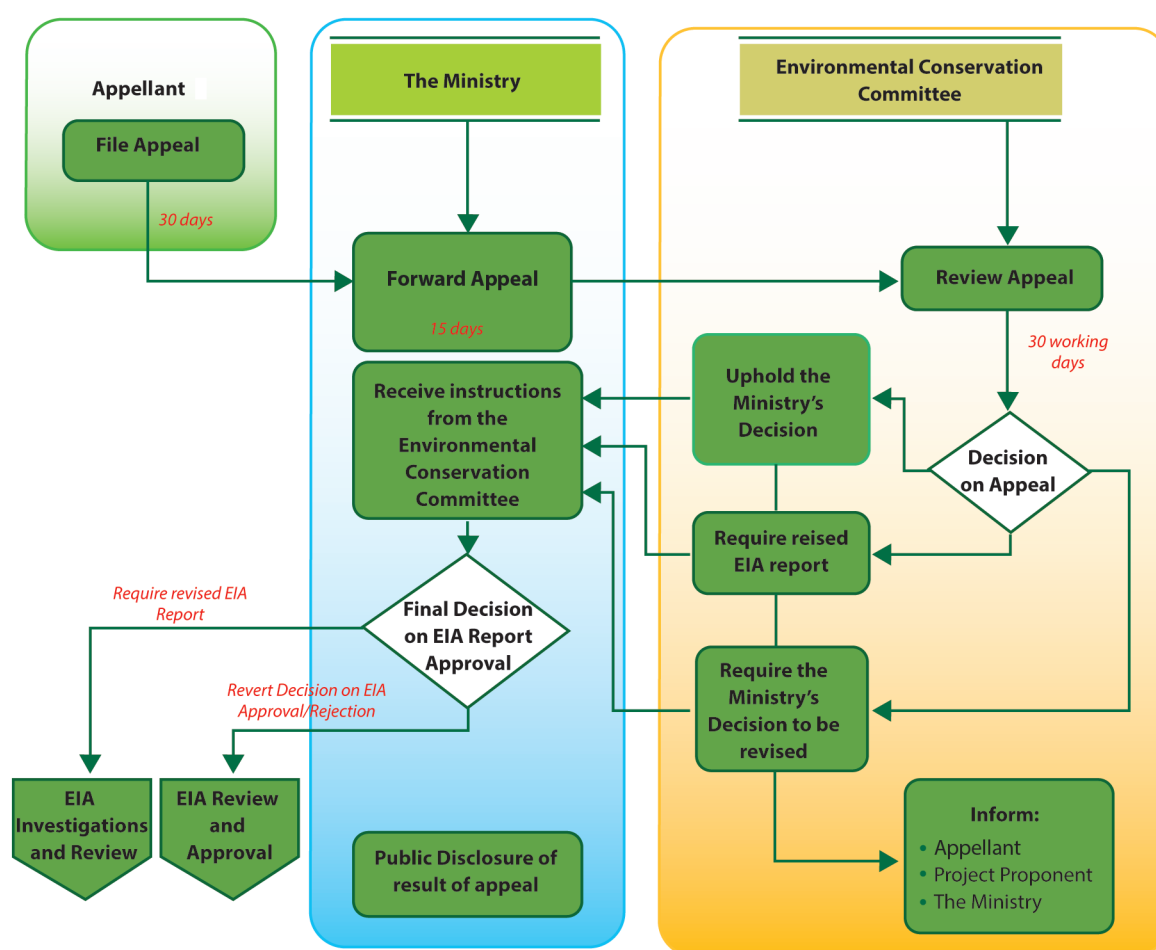


Figure 7.6-7 Appeal Process



7.7 Basic Questions about EIA

Questions	Answers
1) What formal legislation exists concerning requirement of EIA?	<ul style="list-style-type: none"> Environmental Conservation Law, 2012 Environmental Conservation Rule, Notification No. 50/2014 (5th June 2014) Chapter 11 Environmental Impact Assessment The Environmental Impact Assessment Procedure Notification No. 616/2015 (29th December 2015)
2) What types of investment projects are required to undertake EIA?	There are 141 types and sizes of projects or activities refer to ANNEX 1 "Categorization of Economic Activities for Assessment Purposes" from Environmental Impact Assessment Procedure (29 th December 2015)
3) What are the components of the EIA report?	<ul style="list-style-type: none"> EIA Report which shall contain the following: <ul style="list-style-type: none"> Chapter 1: Executive Summary Chapter 2: Introduction Chapter 3: Policy, Legal and Institutional Framework Chapter 4: Project Description and Alternative Selection Chapter 5: Description of the Surrounding Environment

Questions	Answers
	<p>Chapter 6: Impact and Risk Assessment and Mitigation Measures</p> <p>Chapter 7: Cumulative Impact Assessment</p> <p>Chapter 8: Environmental Management Plan</p> <p>Chapter 9: Public Consultation and Disclosur</p> <ul style="list-style-type: none"> • IEE Report shall contain the following: <ul style="list-style-type: none"> a) Project description b) Identification of the Project Proponent c) Identification of the IEE experts d) Description of application laws, decrees, regulations, standards, guidelines and corporate policies related to environmental and social matters of the Project e) Description of the surrounding environmental and social conditions of the Project f) identification and assessment of potential Environmental Impacts g) Results of the public consultation and public participation processes h) The environmental protection measures of the Project i) The EMP; and j) The Persons, Organizations and budgets needed for implementation of the EMP.
4) What authority involve in EIA procedure in Myanmar?	Environmental Conservation Department (ECD), Ministry of Natural Resources and Environmental Conservation (MONREC)
5) When will EIA be prepared?	<ul style="list-style-type: none"> • According to articles 52 and 53 of the Environmental Conservation Rules, and Section 7 of the Environmental Conservation Law, state that “all Projects undertaken in the Republic of the Union of Myanmar by any ministry, government department, organization, corporation, board, development committee, local government or authority, company, cooperative, institution, enterprise, firm, partnership or individual having the potential to cause significant Adverse Impacts, are required to undertake IEE or EIA • According to Annex 1 in Environmental Impact Assessment Procedure 2015, any Project, field site, factory or business Categorization of Economic Activities for Assessment Purposes (141 Projects)

Questions	Answers
6) What are the steps of EIA in Myanmar?	<p>4 Main steps as follows:</p> <ul style="list-style-type: none"> • Screening, refer to the initial assessment that is made pursuant to this procedure to determine whether an IEE or an EIA is required to be carried out. • Scoping refer to the process contemplated in Chapter V for determining the scope of the EIA • EIA preparation and review • EIA approval
7) What are the tools of EIA?	<ul style="list-style-type: none"> • Initial Environmental Examination (IEE) • Environmental Impact Assessment (EIA)
8) Who is EIA developer?	IEE and EIA reports have to be prepare by the consultant firms registered with MONREC
9) Is there any requirement for public consultation in EIA process?	<p>According to articles in Environmental Impact Assessment Procedure 2015, the Project Proponent shall:</p> <ol style="list-style-type: none"> a) Arrange for appropriate public consultation through all phases of the IEE and EIA process as required by Articles 34, 50, and 61, and b) Disclose to the public in a timely manner all relevant Project-related information in accordance with this Procedure except that which may relate to National Security concerns as informed by the Ministry.
10) How timing in approval process?	<ul style="list-style-type: none"> • Department shall deliver the final decision of the Ministry with in 60 working days of receipt of an IEE Report. • EIA Process including <ul style="list-style-type: none"> - EIA Third Person / Organization approval process: within 7 working days - Scoping report & TOR approval process: within 15 working days - Ministry shall deliver its final decision within 90 working days of receipt of the EIA Report.
11) Fee of approval process	All costs incurred in completing the EIA Report disclosure and review, including the public consultation process, shall be borne by the Project Proponent.
12) How long is EIA valid ?	An ECC issued by the Ministry shall be valid for a period of five (5) years from the date of issuance. Six (6) months prior to expiration of an ECC issued by the Ministry, the Project Proponent may apply to the Ministry for an extension.

Questions	Answers
13) Penalties	<p>According to ANNEX 3 of the Environmental Impact Assessment Procedure Notification No. 616/2015, in terms of penalties and punishment, whoever,</p> <ul style="list-style-type: none"> • Undertaking or allowing any preparatory or other construction works without the prior approval by the Ministry of a revised EMP or EMPCP or • Operating/implementing without a permit, or approval by the Ministry of an EMP or EMP-OP are an offense punishable by a fine ranging from 1,000 to 5,000 US\$ or equivalent Myanmar Kyat + 50 to 500 US\$ / day until cured or equivalent Myanmar Kyat.

Annex A : Project Applicable to EIA

List of the Projects Require an IEE or EIA, according to ANNEX 1
 “Categorization of Economic Activities for Assessment Purposes”
 from Environmental Impact Assessment Procedure (29th December, 2015)

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
SPECIAL INVESTMENT PROJECTS			
1.	Projects in which investment is decided by the Parliament or the government cabinet or the President	-	All sizes
ENERGY SECTOR DEVELOPMENT			
2.	Hydro Power Plants	Installed capacity ≥ 1 MW but < 15 MW and Reservoir volume (full supply level) $< 20,000,000 \text{ m}^3$ and Reservoir area (full supply level) < 400 ha	Installed capacity ≥ 15 MW or Reservoir volume (full supply level) $\geq 20,000,000 \text{ m}^3$ or Reservoir area (full supply level) ≥ 400 ha
3.	Nuclear Power Plants	-	All sizes
4.	Natural Gas or Bio Gas Power Plants	Installed capacity ≥ 5 MW but < 50 MW	Installed capacity ≥ 50 MW
5.	Coal-fired Power Plants	Installed capacity ≥ 1 MW but < 10 MW	Installed capacity ≥ 10 MW
6.	Power Plants from Waste Products	Installed capacity ≥ 50 MW	All activities where the Ministry requires that the Project shall undergo EIA
7.	Geothermal Facilities	Installed capacity ≥ 5 MW but < 50 MW	Installed capacity ≥ 50 MW
8.	Combined Cycle Power Plants (gas & thermal)	Installed capacity ≥ 5 MW but < 50 MW	Installed capacity ≥ 50 MW

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
9.	Thermal Power Plants (other than the types in items 4, 5, 6, 7 and 8)	Installed capacity ≥ 5 MW but < 50 MW	Installed capacity ≥ 50 MW
10.	Wind Power Plants	Installed capacity ≥ 5 MW but < 50 MW	Installed capacity ≥ 50 MW
11.	Solar Power Plants	Installed capacity ≥ 50 MW	All activities where the Ministry requires that the Project shall undergo EIA
12.	Onshore Oil and Gas Seismic Surveys	All sizes	-
13.	Onshore Oil and Gas Exploration Drillings	-	All sizes
14.	Onshore Oil and Gas Production drilling and production activities; transportation activities including pipelines; pump stations, compressor stations and storage facilities; ancillary and support operations; and decommissioning	-	All sizes
15.	Offshore Oil and Gas Seismic Surveys	All sizes	-
16.	Offshore Oil and Gas Exploration Drillings	-	All sizes
17.	Offshore Oil and Gas Production drilling and production activities; offshore pipeline operations, offshore transportation, compressor stations and storage facilities; ancillary and support operations; and decommissioning	-	All sizes

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
18.	Petroleum Refineries or Natural Gas Refineries (including manufacturing of liquefied petroleum gas, motor gasoline, kerosene, diesel oil, heating oil, fuel oil, bitumen, asphalt, sulphur, and intermediate products e.g. propane/ propylene mixtures, virgin naphtha, middle distillate and vacuum distillate for the petrochemical industry)	-	All sizes
19.	Natural Gas Processing Plants; Production of liquid products from natural gas (this may include methanol and petroleum liquid products such as naphtha, gasoline, kerosene, diesel fuel, waxes, and lubes)	-	All sizes
20.	Natural Gas Liquefaction Plants	-	All sizes
21.	Oil or Natural Gas Terminals	-	All sizes
22.	Petroleum Depots or Liquid Gas Depots	Storage capacity Petroleum < 10,000 t; Liquid gas < 2,500 t	Storage capacity Petroleum ≥ 10,000 t; Liquid gas ≥ 2,500 t
23.	Oil or Gas Transmission or Distribution Systems	< 10 km	≥ 10 km
24.	Filling Stations (including liquefied petroleum gas and compressed natural gas)	≥ 10 m ³ (10,000 l) fuel storage capacity	All activities where the Ministry requires that the Project shall undergo EIA
25.	Petroleum-based Organic Chemicals Manufacturing	-	All sizes

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
26.	Electrical Power Transmission Lines ≥ 115 kV but < 230 kV	≥ 50 km	All activities where the Ministry requires that the Project shall undergo EIA
27.	Electrical Power Transmission Lines ≥ 230 kV	All sizes	All activities where the Ministry requires that the Project shall undergo EIA
28.	High Voltage (230 kV and 500 kV) Transformer Substations	≥ 4 ha	All activities where the Ministry requires that the Project shall undergo EIA
AGRICULTURE LIVESTOCK AND FORESTRY DEVELOPMENT			
29.	Plantation Industrial/Crop Production (e.g. rubber, palm oil, cocoa, coffee, tea, bananas, sugar cane)	≥ 200 ha but < 500 ha	≥ 500 ha
30.	Annual Crop Production (e.g. cereals, pulses, roots, tubers, oil-bearing crops, fibre crops, vegetables, and fodder crops)	≥ 500 ha but $< 3,000$ ha	$\geq 3,000$ ha
31.	Livestock Farms (e.g. cows, buffaloes, horses, goats, sheep and others)	≥ 500 livestock units but $< 3,000$ livestock units	$\geq 3,000$ livestock units
32.	Farms for Poultry and Other Commercially Raised Fowl	Fowl (poultry, ducks, turkeys) $\geq 5,000$ but $< 20,000$ Ostriches ≥ 50 but < 200 Quail $\geq 25,000$ but $< 100,000$	Fowl $\geq 20,000$ Ostriches ≥ 200 Quail $\geq 100,000$
33.	Pig Farms	$\geq 2,000$ pigs but $< 5,000$ pigs	$\geq 5,000$ pigs
34.	Inland Fish Raising and Aquaculture (in rivers, lakes, ponds; including shrimp raising)	Total water surface ≥ 1 ha but < 25 ha	Total water surface ≥ 25 ha
35.	Marine and Coastal Fish Raising and Aquaculture	Total water surface ≥ 1 ha but < 100 ha	Total water surface ≥ 100 ha

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
36.	Oyster Raising and Pearl Production	≥ 50 ha but < 200 ha	≥ 200 ha
37.	Raising and Caring for Wild Animals	All sizes	All activities where the Ministry requires that the Project shall undergo EIA
38.	Reptile Farms	Alligators, monitor lizards or pythons < 1,000 reptiles other reptiles < 5,000 reptiles	≥ 1,000 alligators, monitor lizards or pythons ≥ 5,000 snakes or other reptiles
39.	Clear-cut Logging	< 500 ha	≥ 500 ha
40.	Concession Forest	< 10,000 ha	≥ 10,000 ha
41.	Irrigation Systems	≥ 100 ha but < 5,000 ha	≥ 5,000 ha
Manufacturing			
Food and Beverage Manufacturing			
42.	Meat Processing Plants (slaughter of cattle, pigs, sheep and other livestock)	≥ 15 t/d but < 50 t/d carcass production	≥ 50 t/d carcass production
43.	Poultry Processing Plants (slaughter of poultry and other commercially raised fowl)	≥ 15 t/d but < 50 t/d carcass production	≥ 50 t/d carcass production
44.	Fish Processing Plants (fish, crustaceans, gastropods, cephalopods, and bivalves; includes by-products such as fish oil and fish meals)	≥ 15 t/d but < 75 t/d	≥ 75 t/d
45.	Food and Beverage Processing Facilities (processing of beef, pork, mutton and poultry meats, vegetable, and fruit raw materials into value-added food and non-fermented beverage products for human consumption)	≥ 10 t/d but < 20 t/d	≥ 20 t/d

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
46.	Dairy Processing Plants (reception, storage, and industrial processing of raw milk and the handling and storage of processed milk and dairy products)	≥ 200 t/d raw milk on annual average basis	All activities where the Ministry requires that the Project shall undergo EIA
47.	Manufacture of Animal Feeds	≥ 100 t/d but < 300 t/d product and < 600 t/d if production is operating a maximum of 90 d/a	≥ 300 t/d product or ≥ 600 t/d if production is operating a maximum of 90 d/a
48.	Vegetable Oil Production and Processing Facilities	≥ 100 t/d but < 300 t/d product and < 600 t/d if production is operating a maximum of 90 d/a	≥ 300 t/d product or ≥ 600 t/d if production is operating a maximum of 90 d/a
49.	Manufacture of Starches and Starch Products	≥ 100 t/d but < 300 t/d product and < 600 t/d if production is operating a maximum of 90 d/a	≥ 300 t/d product or ≥ 600 t/d if production is operating a maximum of 90 d/a
50.	Manufacture of Grain Mill Products (grain milling, rice milling, production of rice flour, vegetable milling, coffee and cocoa milling, manufacture of flour)	≥ 100 t/d but < 300 t/d product and < 600 t/d if production is operating a maximum of 90 d/a	≥ 300 t/d product or ≥ 600 t/d if production is operating a maximum of 90 d/a
51.	Monosodium Glutamate (seasoning powder) Factories	≥ 50 t/d but < 100 t/d	≥ 100 t/d
52.	Sugar Manufacturing Plants	≥ 50 t/d but < 300 t/d and < 600 t/d if production is operating a maximum of 90 d/a	≥ 300 t/d refined sugar or ≥ 600 t/d if production is operating a maximum of 90 d/a

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
53.	Alcohol, Wine and Beer Production Factories	$\geq 50,000$ l/d but $< 300,000$ l/d product and $< 600,000$ l/d if production is operating a maximum of 90 d/a	$\geq 300,000$ l/d product Or $\geq 600,000$ l/d if production is operating a maximum of 90 d/a
54.	Non-Alcohol Factories (soda, soft drink, mineral water production)	$\geq 20,000$ l/d	All activities where the Ministry requires that the Project shall undergo EIA
55.	Ice Factories	≥ 500 t/d but $< 2,000$ t/d	$\geq 2,000$ t/d
56.	Drinking Water Factories (for bottled refined water)	$\geq 100,000$ l/d	All activities where the Ministry requires that the Project shall undergo EIA
57.	Tobacco Processing Plants	≥ 1 t/d but < 15 t/d product	≥ 15 t/d product
Garments, Textiles and Leather Products			
58.	Textile Manufacturing Facilities (production of yarn, fabric, garments and finished goods based on natural fibres, synthetic fibres and/or regenerated fibres)	All sizes	All activities where the Ministry requires that the Project shall undergo EIA
59.	Pre-treatment (washing, bleaching, mercerisation) or Dyeing of Textiles or Fibres	≥ 1 t/d but < 10 t/d	≥ 10 t/d
60.	Leather Products Manufacturing (includes synthetic leather, handbags, luggage, saddle, footwear)	$\geq 1,000$ t/a	All activities where the Ministry requires that the Project shall undergo EIA
61.	Tanning and Leather Finishing	< 12 t/d finished products	≥ 12 t/d finished products

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
Wood Manufacturing			
62.	Sawmilling and Manufactured Wood Products	Sawmills: input $\geq 3,000 \text{ m}^3/\text{a}$ but $< 50,000 \text{ m}^3/\text{a}$ Wood products: input $\geq 1,000 \text{ m}^3/\text{a}$ but $< 15,000 \text{ m}^3/\text{a}$	Sawmills: input $\geq 50,000 \text{ m}^3/\text{a}$ Wood products: input $\geq 15,000 \text{ m}^3/\text{a}$
63.	Board and Particle-based Products Manufacturing (board and particle-based products, plywood and glued and laminated products, board from other raw materials such as sugar cane bagasse, straw, and linen)	$< 600 \text{ m}^3/\text{d}$ or $< 420 \text{ t/d}$	$\geq 600 \text{ m}^3/\text{d}$ or $\geq 420 \text{ t/d}$
64.	Pulp and/or Paper Mills	$\geq 20 \text{ t/d}$ but $< 50 \text{ t/d}$	$\geq 50 \text{ t/d}$
65.	Printing or Other Surface Treatment Facilities (using organic solvents, in particular for dressing, printing, coating, degreasing, waterproofing, sizing, painting, cleaning or impregnating)	$\geq 6 \text{ kg/h}$ but $< 150 \text{ kg/h}$ consumption of organic solvents	$\geq 150 \text{ kg/h}$ or $\geq 200 \text{ t/a}$ consumption of organic solvents
Chemicals Manufacturing			
66.	Large Volume Inorganic Compounds Manufacturing and Coal Tar Distillation (includes ammonia, acids [nitric, hydrochloric, sulphuric, hydrofluoric, phosphoric acid], chlor-alkali [e.g. chlorine, caustic soda, soda ash], carbon black, and coal tar distillation [naphthalene, phenanthrene, anthracene])	-	All sizes
67.	Petroleum-based Polymers Manufacturing Plants	-	All sizes

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
68.	Coal Processing Plants (processing of coal into gaseous or liquid chemicals including fuels)	-	All sizes
69.	Chemical Fertilizer Manufacturing Plants	-	All sizes
70.	Pesticide Manufacturing, Formulation, and Packaging Plants	-	All sizes
71.	Oleochemicals Manufacturing Plants (production of fatty acids, Glycerine, and biodiesel using fats and oils from vegetable or animal sources)	-	All sizes
72.	Pharmaceuticals and Biotechnology Manufacturing Plants	< 50 t/a	≥ 50 t/a
73.	Other Basic Organic Chemicals Manufacturing Plants	-	All sizes
74.	Other Basic Inorganic Chemicals Manufacturing Plants	-	All sizes
75.	Other Chemical Products Manufacturing Plants (e.g. paints, inks, varnishes, soap, detergents, perfumes, pyrotechnic products, photographic chemicals)	≥ 5 t/d but < 10 t/d	≥ 10 t/d
76.	Explosives Manufacturing Plants	-	All sizes
77.	Manufacturing of Extinguishers and Other Firefighting Products	All sizes	All activities where the Ministry requires that the Project shall undergo EIA
78.	Manufacturing of CO ₂ Gas and Filling and Liquefying Industrial Gas	≥ 1,000 t/a but < 3,000 t/a	≥ 3,000 t/a

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
<i>Manufacture of Glass and Ceramic</i>			
79.	Glass, Glass Fibre or Mineral Fibre Manufacturing Plants	All sizes	All activities where the Ministry requires that the Project shall undergo EIA
80.	Ceramic Tile and Sanitary Ware Manufacturing Plants	≥ 1,000 t/a fine ceramics ≥ 10,000 t/a ceramic tiles	All activities where the Ministry requires that the Project shall undergo EIA
<i>Manufacture of Construction Materials</i>			
81.	Cement and Lime Manufacturing Plants	Cement ≥ 10 t/h but < 30 t/h Lime ≥ 20 t/d but < 50 t/d	Cement ≥ 30 t/h Lime ≥ 50 t/d
82.	Clinker Plants	All sizes	All activities where the Ministry requires that the Project shall undergo EIA
83.	Other Construction Supplies and Materials Production	≥ 30,000 t/a but < 50,000 t/a	≥ 50,000 t/a
84.	Asphalt Production Plants	< 100 t/d	≥ 100 t/d
<i>Metal, Machinery and Electronic</i>			
85.	Base Metal Smelting and Refining Plants (base metal smelting and refining of lead, zinc, copper, nickel, and aluminium)	Non-ferrous metal < 20 t/d melting capacity, except for lead and cadmium < 4 t/d melting capacity	Non-ferrous metal ≥ 20 t/d melting capacity, except for lead and cadmium ≥ 4 t/d melting capacity
86.	Manufacture of Pig Iron, Raw and Low Alloy Steel from Iron Ore or Scrap Metal	< 2.5 t/h	≥ 2.5 t/h

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
87.	Foundries (casting ferrous [iron and steel] and nonferrous [primarily aluminium, copper, zinc, lead, tin, nickel, magnesium, and titanium] metals)	Ferrous metal < 20 t/d production capacity Non-ferrous metal < 20 t/d production capacity except for lead and cadmium < 4 t/d production capacity	Ferrous metal ≥ 20 t/d production capacity Non-ferrous metal ≥ 20 t/d production capacity except for lead and cadmium ≥ 4 t/d production capacity
88.	Non-ferrous Metal Melting, Smithy and Filigree	Production capacity ≥ 5 t/d but < 20 t/d	Production capacity ≥ 20 t/d
89.	Shipyards and Ship Building Enterprises	< 1 ha and < 20,000 t lifting capacity	≥ 1 ha or ≥ 20,000 t lifting capacity
90.	Locomotives and Other Railway Rolling Material Manufacturing, Repairing and Assembling	-	≥ 100 vehicles/a
91.	Metal, Plastic, Fibre and Rubber Products Manufacturing Plants (material processing operations common to multiple industries engaged in the manufacture of metal, plastic, fibre, and rubber products)	≥ 5,000 m ² production area, or ≥ 6 kg/h consumption of organic solvents	All activities where the Ministry requires that the Project shall undergo EIA
92.	Rubber and Latex Processing Plants	≥ 2,000 t/a	All activities where the Ministry requires that the Project shall undergo EIA
93.	Vehicle Tire Manufacturing Plants	≥ 5,000 m ² production area, or ≥ 6 kg/h consumption of organic solvents	All activities where the Ministry requires that the Project shall undergo EIA

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
94.	Semiconductors and Other Electronics Manufacturing Plants (manufacturing of semiconductors, printed circuit boards, printed wiring assemblies, screens, passive components, and magnetic devices)	$\geq 5,000 \text{ m}^2$ production area, or $\geq 6 \text{ kg/h}$ consumption of organic solvents	All activities where the Ministry requires that the Project shall undergo EIA
95.	Electronic and Electric Equipment Manufacturing Plants (computers, communication equipment, consumer electronics (cooking, washing, food, warm and cooling domestic and public electronic, laboratory equipment, electric motors, electric lightning etc.)	$\geq 5,000 \text{ m}^2$ production area, or $\geq 6 \text{ kg/h}$ consumption of organic solvents	All activities where the Ministry requires that the Project shall undergo EIA
96.	Batteries and Accumulators Manufacturing Plants	$< 3,000 \text{ t/a}$	$\geq 3,000 \text{ t/a}$
97.	Machinery, Vehicles and Equipment Manufacturing Plants	$\geq 5,000 \text{ m}^2$ production area, or $\geq 6 \text{ kg/h}$ consumption of organic solvents	All activities where the Ministry requires that the Project shall undergo EIA
98.	Motor Vehicle and Motor Bike Assembly Plants	$\geq 5,000 \text{ m}^2$ production area, or $\geq 6 \text{ kg/h}$ consumption of organic solvents	All activities where the Ministry requires that the Project shall undergo EIA
99.	Motor Vehicle Accessories, Related Equipment and Engine Manufacturing Factories	$\geq 5,000 \text{ m}^2$ production area, or $\geq 6 \text{ kg/h}$ consumption of organic solvents	All activities where the Ministry requires that the Project shall undergo EIA
100.	Motor Vehicle Maintenance Workshops	Utilization area $\geq 5,000 \text{ m}^2$	All activities where the Ministry requires that the Project shall undergo EIA

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
101.	Car Breaking	< 10 vehicles/d, < 50 motorbikes/d	≥ 10 vehicles/d ≥ 50 motorbikes/d
102.	Weapons and Ammunition Manufacturing Plants	-	All sizes
Waste Management			
103.	Non-Hazardous Waste Disposal Facilities	Landfills < 10 t/d and total capacity < 25,000 t Others < 50 t/d	Landfills ≥ 10 t/d or total capacity ≥ 25,000 t Others ≥ 50 t/d
104.	Non-Hazardous Waste Incinerators	< 3 t/h	≥ 3 t/h
105.	Non-Hazardous Waste Recycling, Recovery or Reuse Facilities	< 50 t/d	≥ 50 t/d
106.	Hazardous Waste Disposal Facilities	-	All sizes
107.	Hazardous Waste Recycling, Recovery or Reuse Facilities	< 10 t/d	≥ 10 t/d
108.	Wastewater Treatment Plants (centralized systems)	-	All sizes
109.	Wastewater and Storm Water Collection Systems	Length ≥ 1 km but < 10 km	≥ 10 km
Water Supply			
110.	Groundwater Development for Industrial, Agricultural or Urban Water Supply	< 4,500 m ³ /d	≥ 4,500 m ³ /d
Infrastructure and Service Development			
111.	Dams and Reservoirs	Dam height < 15 m and Reservoir area < 400 ha	Dam height ≥ 15 m or Reservoir area ≥ 400 ha
112.	Lake, River and Channel Land Filling which Impacts on the Public	Area < 50 ha	Area ≥ 50 ha
113.	Other Large Civil Works Construction (embankments, seawalls, offshore breakwater)	Length < 2 km and Area < 25 ha	Length ≥ 2 km or Area ≥ 25 ha

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
114.	Dredging	Total < 500,000 t	Total ≥ 500,000 t
115.	River Channel Conservation (surface water & water volume control)	-	All sizes
116.	Shipping (operation and maintenance of ships used for the transport of bulk cargo, and goods, and ship breaking)	All sizes	All activities where the Ministry requires that the Project shall undergo EIA
117.	Ports, Harbours, and Terminals (ports, harbours, and terminals for cargo and passengers transfer)	Area < 25 ha	Area ≥ 25 ha
118.	Industrial Zone Construction and Development	-	All sizes
119.	Hospitals	All sizes	All activities where the Ministry requires that the Project shall undergo EIA
120.	Cemeteries and Crematoria (for burial, incineration and other forms)	All sizes	-
121.	Tourism and Hospitality Development	≥ 80 rooms but < 200 rooms or total utilization area ≥ 200,000 m ² but < 500,000 m ²	≥ 200 rooms or total utilization area is ≥ 500,000 m ²
122.	Golf courses	9 holes	18 holes
Transportation			
123.	Railways and Tramways (construction and maintenance of rail infrastructure and operation of rolling stock)	Length < 5 km	Length ≥ 5 km

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
124.	Cable Cars	Length < 0.5 km	Length ≥ 0.5 km
125.	Airports and Runway Construction	Runway length < 2,100 m	Runway length ≥ 2,100 m
126.	Bridges, River Bridges and Viaducts (new construction)	Length ≥ 200 m but < 2 km	Length ≥ 2 km
127.	Bridges, River Bridges and Viaducts (upgrading)	Length ≥ 300 m	All activities where the Ministry requires that the Project shall undergo EIA
128.	Tunnels	Length < 1 km	Length ≥ 1 km
129.	Expressways and Highways (ASEAN Highway Standard; new construction or widening)	Length ≥ 2 km but < 50 km	Length ≥ 50 km
130.	Other Roads (state, region, urban; new construction or widening)	Length ≥ 50 km but < 100 km	Length ≥ 100 km
131.	Road Improvement (upgrading from seasonal to all weather surface, widening of shoulders)	Length ≥ 50 km	All activities where the Ministry requires that the Project shall undergo EIA
Mining			
132.	Extraction of Rock, Gravel or Sand from a River or Marine Waters	≥ 1,000 m ³ /a but < 50,000 m ³ /a	≥ 50,000 m ³ /a
133.	Construction, Building and Ceramic Minerals Extraction (aggregates, limestone, slates, clay, gypsum, feldspar, silica sands, granite, kaolin, bentonite, marble, and quartzite)	< 200 acre and < 100,000 t/a	≥ 200 acre or ≥ 100,000 t/a
134.	Extraction and Refining of Industrial Minerals (barite, fluorite, phosphate, potash, salt, soda ash, asbestos)	< 200 acre and < 100,000 t/a ore	≥ 200 acre or ≥ 100,000 t/a ore

Item	Types of Economic Activity	Criteria for IEE Types Economic Activities	Criteria for EIA Types Economic Activities
135.	Extraction of Ferrous, Non-Ferrous Metal and Precious Metal Ore Except Gold (iron, manganese, silver, copper, tin, antimony, lead, nickel, zinc, chromium, bauxite), and Precious Stone	< 50 acre and < 50,000 t/a	≥ 200 acre or ≥ 50,000 t/a
136.	Refining of Metal Mineral Ore (without using hazardous chemicals)	< 50,000 t/a	≥ 50,000 t/a
137.	Refining of Metal Mineral Ore (using hazardous chemicals)	< 25,000 t/a	≥ 25,000 t/a
138.	Extraction and Refining of Gold Ore (without using hazardous chemicals)	< 20 acre	≥ 20 acre
139.	Extraction and Refining of Gold Ore (using hazardous chemicals)	< 20 acre and < 25,000 t/a	≥ 20 acre or ≥ 25,000 t/a
140.	Coal Mining (underground and surface)	< 100,000 t/a coal	≥ 100,000 t/a coal
141.	Mining, including Dredging of Heavy Mineral Sands (tungsten, ilmenite, rutile, zircon, titanium, monazite)	≥ 1,000 m ³ /a but < 50,000 m ³ /a	≥ 50,000 m ³ /a

Note: EIA = Environmental Impact Assessment

IEE = Initial Environmental Examination

Reference: ANNEX 1 "Categorization of Economic Activities for Assessment Purposes" from Environmental Impact Assessment Procedure (29th December 2015)

Annex B : Guideline of EIA Content

According to: Environmental Impact Assessment Procedure, 29th December 2015

Content of EIA Report

The Project Proponent shall issue a letter of endorsement in a format prescribed by the Ministry. Such letter shall be submitted to the Ministry together with the EIA Report prepared either in the Myanmar language, or in the English Language with an accompanying, accurate summary in the Myanmar language, and confirming:

- a) The accuracy and completeness of the EIA;
- b) That the EIA has been prepared in strict compliance with applicable laws including the EIA Procedure and with the TOR for the EIA; and
- c) That the Project will at all times comply fully with the commitments, mitigation measures, and plans in the EIA Report.

The Project Proponent is responsible for the preparation of an EIA Report which shall contain the following:

Chapter 1: Executive Summary

Chapter 2: Introduction

- 2.1 Presentation of the Project Proponent
- 2.2 Presentation of the Environmental and Social Experts
- 2.3 Presentation of the Health Experts for Projects with Health Impacts

Chapter 3: Policy, Legal and Institutional Framework

- 3.1 Corporate Environmental and Social Policies (if applicable)
- 3.2 Policy and Legal Framework, including existing applicable laws and rules, International Conventions, Treaties and Agreements, and national and international standards, guidelines
- 3.3 Contractual and other Commitments
- 3.4 Institutional Framework
- 3.5 Project's Environmental and Social Standards
- 3.6 Health Standards for Projects with Health Impacts

Chapter 4: Project Description and Alternative Selection

- 4.1 Project Background
- 4.2 Project Location, overview map and site layout maps
- 4.3 Project Development and Implementation Time Schedules
- 4.4 Description of the project size, installations, technology, infrastructure, production processes, use of materials and resources and generation of waste, emissions and disturbances, including the devices and measures to control emissions and disturbances, all together with overview maps and site layout maps and design drawings for each Project phase (pre-construction, construction, operation, decommissioning, closure and post-closure)

- 4.5 Description of the Selected Alternative(s) by Project phase (pre-construction, construction, operation, decommissioning, closure and post-closure)
- 4.6 Comparison and Selection of the preferred Alternatives

Chapter 5: Description of the Surrounding Environment

- 5.1 Setting the Study Limits
- 5.2 Methodology and Objectives
- 5.3 Public Administration and Planning: Identification and summary of the main relevant elements in socio-economic development plans, spatial plans, and sector plans at Union Government, State or Region, City and Township levels
- 5.4 Legally protected national, regional or state areas, including without limitation:
 - (I) Forest conservation areas (including biodiversity reserved areas);
 - (II) Public forests;
 - (III) Parks (including marine parks)
 - (IV) Mangrove swamps;
 - (V) Any other sensitive coastal areas;
 - (VI) Wildlife Sanctuaries;
 - (VII) Scientific Reserves;
 - (VIII) Nature Reserves;
 - (IX) Geophysical Significant Reserves;
 - (X) any other nature reserve nominated by the Minister;
 - (XI) protected cultural heritage areas; and
 - (XII) protected archeological areas or areas of historical significant
- 5.5 Physical Components: Description with data and maps of
 - (I) topography;
 - (II) water resources;
 - (III) geology and soil, hydrology / hydrogeology;
 - (IV) environmental quality;
 - (V) climate;
 - (VI) vegetation cover; and
 - (VII) natural hazards including earthquakes, tsunamis, extreme weather events, flooding, drought, wildfires and others
- 5.6 Biological Component: Description and maps on fauna and flora including abundance, spatial distribution of rare, endangered and vulnerable species, and species of economic and health/nutritional values, and maps and description of valued or sensitive environmental areas and habitats
- 5.7 Infrastructure and Services: Location and size or capacity of transport infrastructure, public utilities and services
- 5.8 Socio-Economic Components: Income and livelihoods, living conditions and access to public services and natural resources, land use maps, population distribution maps, maps and charts of other socio-economic indicators such as poverty, employment and education
- 5.9 Public Health Components: Mortality and morbidity, occurrence of diseases, accidents and injuries, and social health determinants

- 5.10 Cultural Components: Description and maps of cultural, historical, and religious sites, structures and objects, and objects with high aesthetic value; description of traditional knowledge and beliefs, and cultural practices
- 5.11 Visual Components including where applicable landscape, cityscape and seascape using three dimensional models

Chapter 6: Impact and Risk Assessment and Mitigation Measures

- 6.1 Impact and Risk Assessment Methodology
- 6.2 Impact and Risk Identification, Assessment and Mitigation. For each Project phase (pre-construction, construction, operation, decommissioning, closure, and post closure)
 - 6.2.1 identification and assessment potential Environmental Impacts including (i) physical, biological, social, socio-economic, health, cultural, and visual impacts; (ii) potential impacts on climate change such as greenhouse gas emissions and loss of carbon sinks or stocks; and (iii) identification of impacts of climate change on the Project based on available climate change predictions from designated national authorities or international scientific research bodies
 - 6.2.2 Identification and assessment if the likelihood and severity of natural and industrial hazards relevant to the Project
 - 6.2.3 The design, layout, functioning, management and implementation of appropriate impact and risk mitigation measures
 - 6.2.4 Characterization and assessment of any Residual Impacts and risks and comparison with application regulations, standards and guidelines
- 6.3 Relevant maps, aerial photos, satellite images in proper scale clearly indicating the location of sources of Adverse Impacts, the spatial and temporal distribution of such impacts and with reference to the Description of the Surrounding Environment, the components that are likely to be impacted and the nature of the impacts

Chapter 7: Cumulative Impact Assessment

- 7.1 Methodology and Approach
- 7.2 Cumulative Impact Assessment
 - 7.2.1 Brief description and map of relevant existing and future private and public projects and development
 - 7.2.2 Identification and assessment of the potential cumulative impacts on the components in the surrounding environment and the Project's contribution to such impact
 - 7.2.3 Determination of the leverage and influence that the Project may have over the significant and project related cumulative impacts
 - 7.2.4 Description of measures to mitigate the Project's contribution to the cumulative

Chapter 8: 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 (Pre- Construction, Construction, Operation and 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 Objective
 - 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

Chapter 9: 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

Content of IEE Report

The Project Proponent shall issue a letter of endorsement in a format prescribed by the Ministry. Such letter shall be submitted to the Department together with the IEE Report prepared either in the Myanmar language, or in the English Language with an accompanying, accurate summary in the Myanmar language, and confirming:

- a) The accuracy and completeness of the IEE;
- b) That the IEE has been prepared in strict compliance with applicable laws including EIA Procedure; and
- c) That the Project will at all times comply fully with the commitments, mitigation measures, and plans in the IEE Report.

An IEE Report shall contain the following:

- a) Project description in reasonable detail with description of the project size, installations, technology, infrastructure, production processes, use of materials and resources, generation of waste, emissions and disturbances together with overview maps and site layout maps (using aerial photos and satellite images in proper scale) in proper scale) for each Project phase and, where relevant, project alternatives for each Project phase;
- b) Identification of the Project Proponent including (where the Project Proponent is not a natural person but a company or other juridical entity) the identification of the owners, directors (if any) and day to day management and officers of the Project Proponent;
- c) Identification of the IEE experts, including which expert is responsible for which part of the IEE Report;
- d) description of application laws, decrees, regulations, standards, guidelines and corporate policies related to environmental and social matters of the Project together with the relevant government agencies involved and their roles and responsibilities vis-à-vis the Project;
- e) Description of the surrounding environmental and social conditions of the Project including maps of all relevant physical, biological, social, socio-economic and cultural features;
- f) Identification and assessment of potential Environmental Impacts including assessment and description of Adverse Impacts and Residual Impacts with presentation of the spatial and temporal characteristics of the impacts using maps, images, aerial photos and satellite images;
- g) Results of the public consultation and public participation processes recommendations received from the public, and the Project Proponent's written response to comments received during that process;
- h) The environmental protection measures of the Project which are intended to mitigate Adverse Impacts Clearly presented together with applicable environment and social requirements and any Residual Impact;
- i) The EMP; and
- j) The Persons, Organizations and budgets needed for implementation of the EMP.



8

EIA in **The Philippines**



8 EIA in 8.The Philippines



8.1 Definitions

Environmental Impact Assessment (EIA) is a “process that involves predicting and evaluating the likely impacts of a project (including cumulative impacts) on the environment during construction, commissioning, operation and abandonment. It also includes designing appropriate preventive, mitigating and enhancement measures addressing these consequences to protect the environment and the community’s welfare”.

8.2 Introduction

Environmental Impact Assessment (EIA) in the Philippines falls under the Philippine Environmental Policy Act (PD 1151), promulgated in 1977, which mandates that any projects with significant impact on the environment, must prepare a detailed statement on such impact. The Philippine Environmental Code (PD 1152), also promulgated in 1977, spells out in detail the various aspects of environmental management such as air and water quality standards, land use management, natural resource management and waste management. This was followed by the Presidential Decree No.1586 (PD 1586) in 1978, which formally established the Philippines Environmental Impact Statement System (PEISS) that forms the legal framework for EIA work. The following few years formalised the system and defined the rules and regulations, as well as the parameters for an Environmental Impact Statement (EIS). Environmentally critical projects and projects located in environmentally critical areas are covered by the EIS System and thus, are required to secure an Environmental Compliance Certificate (ECC) prior to implementation (start of any project-related activity). The Presidential Proclamation No.2146 (PP 2146) issued in 1981 and updated in 1996 declared certain types of projects and areas as environmentally critical.

PD 1586 is followed by various implementing rules and regulations/ subsidiary laws which are all geared at rationalizing, streamlining and simplifying the system. These include, amongst others:

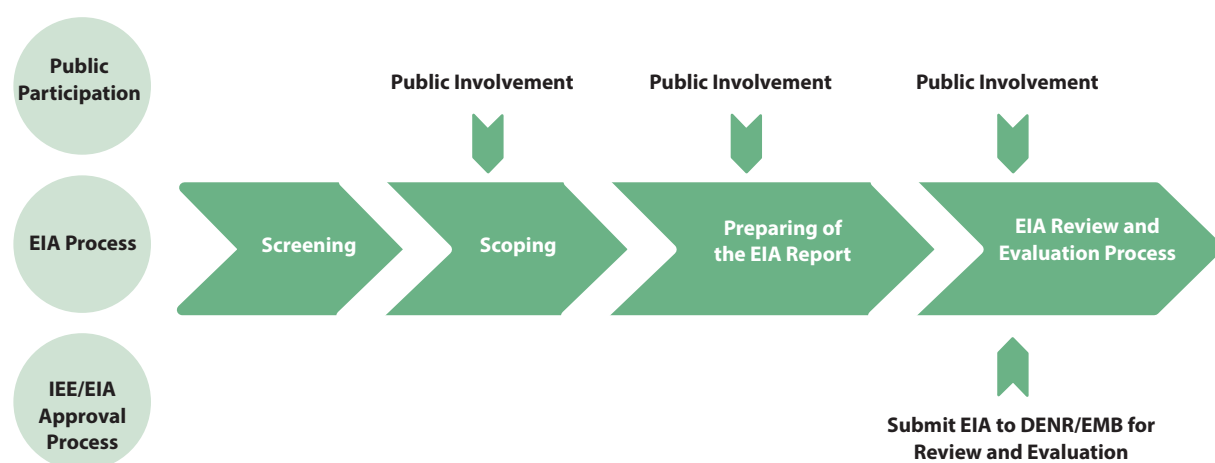
- Defining the roles of lead agencies and interested parties;
- ECC processing requirements including the conduct of public hearing;
- Standard formatting requirements for EIS and compliance monitoring;
- Issuing a comprehensive Procedural Manual, which provides specific instruction on how and what to do for the different aspects and project covered under the EIS system.

In 2003, the Department of Environment and Natural Resources (DENR) issued an Administrative Order (DAO 03-30), which further defined and consolidated the PEISS process. The DAO emphasised the preparation of an environmental management plan as a component of the EIS. It set time limits for EIS processing, review and environmental compliance certificate-issuance steps, and incorporated the use of system-derived environmental

management plan for entities operating without an environmental compliance certificate or those expanding their operations. It also emphasized promoting EIA as a planning tool. Proponents must demonstrate that the EIA was carried out alongside project feasibility studies, and that the environmental management plan developed from the EIA is adequately reflected in project implementation work plans and its budget. The following figure shows the EIA process cycle within the project framework as specified in the DAO 03-30.

An overview of Philippine's EIA process proposed is shown in **Figure 8.2-1** and the key elements are described in the following sections.

Figure 8.2-1 Simplified Overview of the Philippines's EIA Process



8.3 EIA Legal Framework

Environmental Impact Assessment (EIA) was first introduced by the Presidential Decree (PD) 1151 Philippine Environmental Policy in 1977. The history and key milestones of the development of the EIA system in the Philippines is summarized in **Table 8.3-1** below

Table 8.3-1 EIA Relevant Regulations

Year	Relevant regulations	Key description
1977	Presidential Decree (PD) 1151 Philippine Environment Policy	<ul style="list-style-type: none"> Requires that projects that may cause significant impact to prepare an assessment and statement of impact.
	Presidential Decree (PD) 1152 Philippine Environment Code	<ul style="list-style-type: none"> Details the various aspects that need to be considered in an EIS.
1978	PD 1586 Establishing the Environmental Impact Statement (EIS) System	<ul style="list-style-type: none"> Established the PEISS which states that no person, partnership or corporation shall undertake or operate any such declared environmentally critical project (ECP) or project within an environmentally critical area (ECA) without first securing an environmental compliance certificate (ECC)

Year	Relevant regulations	Key description
1981, Amended in 1996	Presidential Proclamation (PP) 2146 Environmentally Critical Projects (ECPs) and Environmentally Critical Areas (ECAs)	<ul style="list-style-type: none"> Define ECPs and ECAs which will fall under the PEISS
2007 (latest revision)	Department of Environment and Natural Resources (DENR) Administrative Order No. 30 Series of 2003 (DAO 03-30) (Implementing Rules and Regulations of PD No. 1586, Establishing the Philippine Environmental Impact Statement System)	<ul style="list-style-type: none"> Detailed guidelines and procedures for the implementation of PEISS

8.4 Types and Sizes of Projects Requiring EIA Reports

The following list shows a summary of Environmentally Critical Projects (ECP) types, and Environmentally Critical Area (ECA) categories, as declared by Proclamation No. 2146, 1981, respectively and listed in the following table in **Annex A** of this report

Under PEISS, any project deemed an ECP or located within an ECA as listed in PP 2146 must secure an Environmental Compliance Certificate (ECC) from the DENR-EMB Main Office prior to commencement. There are different types of reports for ECC applications in the Philippines, based on the type and status of the project, as follows:

- Environmental Impact Statement (EIS) for proposed new ECPs and some selected non-ECPs (single projects)
- Initial Environmental Examination (IEE) Checklist Report Form for new non-ECPs in ECAs (single projects)
- Programmatic EIS for new co-located projects (a project divided into several phases or consisting of several components or clusters in the same designated area)
- Environmental Performance Report and Management Plan (EPRMP) for existing facilities with significant expansion/ change in operation
- Programmatic EPRMP for co-located existing facilities with significant expansion/ change in operation

If the project is not an ECP but is located within an ECA, an Initial Environmental Examination (IEE), which is a checklist report is required for ECC application. The Regional Office of the DENR-EMB will have the jurisdiction on the matter and may require that the project conduct a full EIS. The decision will be up to the DENR-EMB Regional Office's discretion.

Should the ECC be denied, the process would have to be restarted all over again.

Projects are also classified into 5 groups based on their ECP/ ECA status and project characterization(s) under DAO 03-30. Different types of projects have different document and process requirements in obtaining the ECC. The different groups are listed below and the process as well as the ECC application timeframe shown in Table of **Annex A** of this report

1. Group I – ECPs in either ECAs or Non-ECAs (NECAs)
2. Group II – NECPs in ECAs
3. Group III – NECPs in NECAs (EIS not required)
4. Group IV – Co-located projects in either ECA or NECAs
5. Group V – Unclassified project

8.5 EIA Report Component

The main guideline for EIA preparation is the Revised Procedural Manual (RPM) (2007) for DENR Administrative Order No.30 series of 2003. The RPM includes specific guidelines and instructions, as well as forms and report structure templates on how to conduct and report the different type of studies required for obtaining ECC approval. The RPM gives specific guidelines and structure on how to report the EIA under the PEISS. The expected Table of Contents (TOC) expected for an EIS (EIA for single projects) and Programmatic EIS (EIA for co-located projects) is outlined below. The RPM also provides checklists for EIS Scoping and Procedural Screening processes.

The specific content and requirements for an EIA (the technical document specified in the EIS and PEIS process) as described in the RPM, DAO 03-30 are listed in the table of **Annex B**

Content of EIS Report

EIS Contents Outline (For single projects, maximum of about 250 pages)

Project Fact Sheet
Table of Contents

Executive Summary

- 1) Brief Project Description
- 2) Brief Summary of Project's EIA Process
- 3) Summary of Baseline Characterization
- 4) Summary of Impact Assessment and Environmental Management Plan
- 5) Summary of Environmental Monitoring Plan
- 6) EMF and EGF Commitments

Draft Main EIS

Chapter 1 : Basic Project Information
Chapter 2 : Description of the Project's EIA Process
Chapter 3 : Project Description
Chapter 4 : Baseline Environmental Conditions, Impact Assessment and Mitigation
Chapter 5 : Environmental Risk Assessment (when applicable)

Chapter 6 : Environmental Management Plan

Chapter 7 : Bibliography/ References

Chapter 8 : Annexes

Note : The EIA review process advises the Department of Health (DOH) if the project poses a significant public health risk to the environment, e.g. public health may be affected if the wastes/discharges are direct contributors to the leading causes of mortality/morbidity, regardless of environmental management measures. To assist on its review, DOH shall coordinate with the DENR-EMB on the declaration of Health Sensitive Projects and Health Sensitive Areas. Until such time, DOH shall review EHIA independently of the EIA Process, consistent with the DENR-DOH MOA on EHIA. Further, workers' HIA component of the EHIA is recommended to be coordinated by DOH with DOLE for the latter's consideration in its requirement of an Occupational Health and Safety Program from the Proponent.

Content of PEIS Report

Programmatic EIS (PEIS) Outline (For co-located projects, maximum of about 350 pages)

Project Fact Sheet

Table of Contents

Executive Summary

Chapter 1: Introduction

Chapter 2: Process Description

Chapter 3: Ecological Profiling

Chapter 4: Impacts, Hazards and Risk

Chapter 4A Environmental Health Impact Assessment (EHIA)

Chapter 4B Integrated Risk Assessment

Chapter 5: Environmental Management Plan

Annexes

Bibliography

8.6 EIA Process System

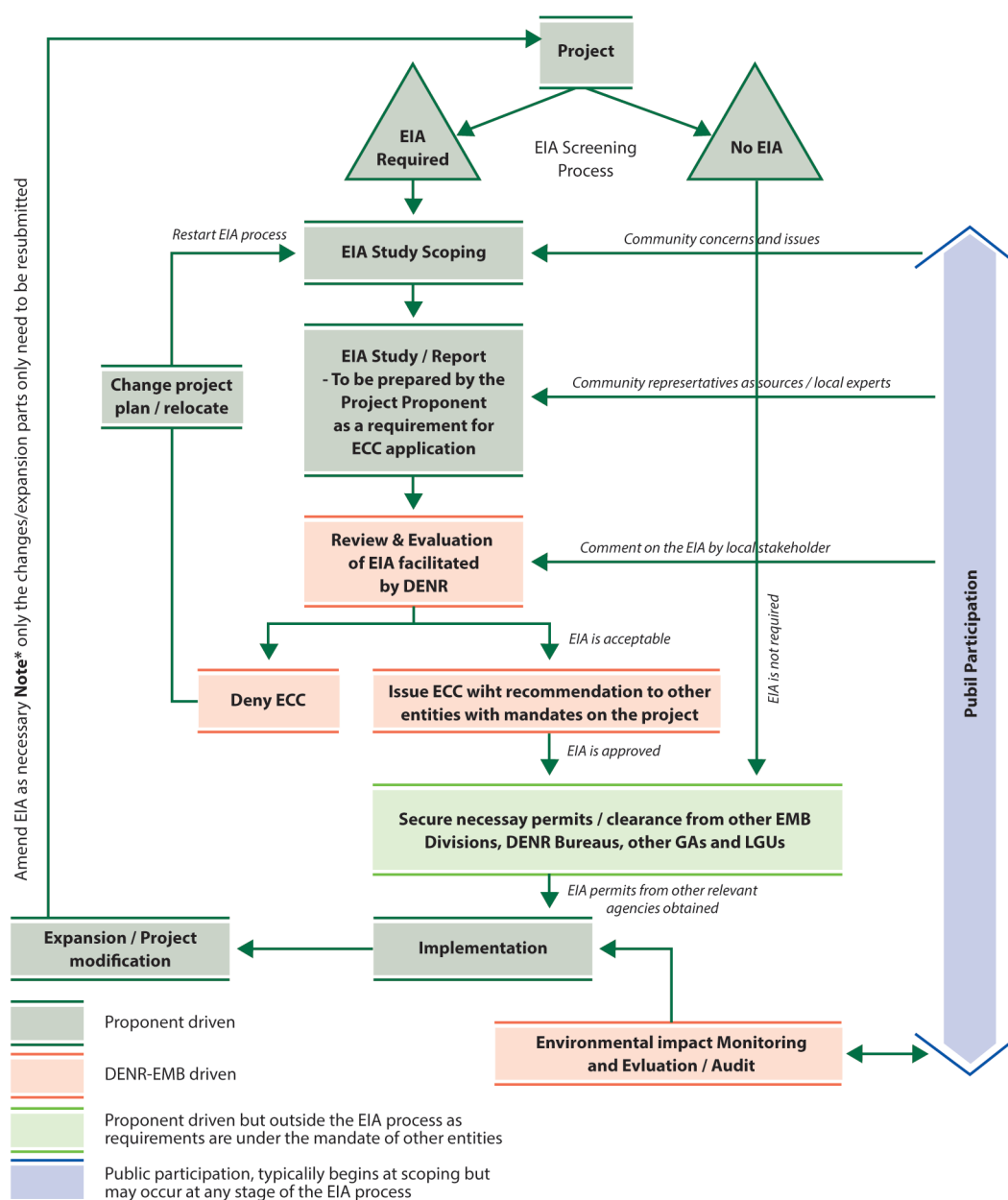
8.6.1 EIA Developer

An EIA for the PEISS process shall be prepared only by a qualified Consultant, who is registered with the Department of Environment and Natural Resources (DENR).

8.6.2 EIA Preparation and Timeline

The overview of the EIA process in the Philippines as specified in the DAO 03-30 is presented in **Figure 8.6-1**

Figure 8.6-1 Summary Flowchart of the EIA System Process in the Philippine



Source: DAO 30-03

The steps of the EIA system process are further detailed below:

Screening

Screening constitutes the first stage of PEISS, which determines whether the proposed project requires an EIS to apply for an ECC and if it does, then the level of assessment as well as document type (e.g. EIS, Programmatic EIS, etc.) required. Screening is usually conducted early in the project development, preferably right after project conceptualization and before a Feasibility Study is conducted.

For co-located projects, such as those in designated industrial zones, the proponent has the option to secure a programmatic environmental compliance certificate. Otherwise, each project must individually apply for an environmental compliance certificate. To secure a programmatic environmental compliance certificate, the proponent must undertake a

programmatic EIA and submit a programmatic EIS. A programmatic EIA is a comprehensive study of the environmental baseline conditions or ecological profile of a contiguous area. It also includes an assessment of the carrying capacity, or the capacity of the area to absorb impacts from co-located projects such as those in industrial estates or special economic zones. Programmatic EIS is the documentation of the programmatic EIA. This step may take up to 30 days per common practice because consultation with both national and local authorities may be needed if the Project Proponent faces difficulty in defining the type of document applicable for their projects.

Scoping

This stage identifies the key issues and impacts that should be further investigated and defines the boundary as well as time limit of the study. At this stage, the document type would have been determined and as such the extent of the study will already have been anticipated. The need for and scope of an Environmental Risk Assessment (ERA) is also done during the scoping session. Scoping is done with the local community through Public Scoping and with a third party EIA Review Committee (EIARC) through Technical Scoping, both with the participation of the DENR-EMB. The process results in a signed Formal Scoping Checklist by the review team, with final approval by the EMB Chief. This step may take up to 2-3 months average per common practice.

EIA Study and Report Preparation

After the scoping checklist is finalized, the EIA study will commence. The EIA study will include description of the proposed project and its alternatives, characterization of the project environment, impact identification and prediction, evaluation of impact significance, impact mitigation, formulation of Environmental Management and Monitoring Plan, with corresponding cost estimates and institutional support commitment.

There is no specific regulatory requirement with regards to study boundaries. Typical study boundaries are either 3-km or 5-km radius depending on the scale and magnitude of impact determined during the scoping process.

The study results are presented in an EIA Report for which an outline is prescribed by EMB for every major document type (e.g. EIS, Programmatic EIS, IEE, etc.). This step may take up to 6-12 months average per common practice.

Stakeholder Engagement and Public Consultation

In the Philippines, public participation under the EIS System shall be required for the entire EIA Process from social preparation prior to scoping to impact management and monitoring during project implementation/abandonment. Incorporating best practice principles and standardizing the procedures and requirements are specified under DENR administrative order No. 2017-15 guideline on public participation under the Philippine Environmental Impact Statement (EIS) system.

Community inputs will precede the Technical Scoping of the EIA Review Team and will be formally considered prior to the sign-off of the Scoping Checklist that will form the final Terms of Reference (TOR) of the EIA Study. The list of issues raised during the Public Scoping

will also be signed off by the key stakeholder representatives, DENR-EMB personnel, EIA Review Committee, Project Proponent and Report Preparer representatives. Community inputs will include socio-economic aspects and other community related issues that the local public considers pertinent to the project.

Local stakeholders are to be included during the conduct of the EIA study to serve either as a local expert source, aide and/or resource persons or as interviewers/ interviewees in the socio-economic survey which shall be used as the basis of the subsequent formulation of social development plans, IEC, monitoring plans and other components of the environmental management plans.

Public Hearings are required for all new ECPs as a form of disclosure for the EIA findings. The Project Proponent may request a waiver of the Public Hearing from the DENR-EMB or request that a Public Consultation (less formal version of Public Hearing) be conducted instead.

For the main national government agency in charge of environmental regulations is the DENR. The Environmental Management Bureau (DENR-EMB) is the main legislator and implementer of the PEISS. Other governmental agencies, such as the local government units (LGUs) provide inputs during the EIS process. The LGUs are especially instrumental during the public participation process and the post ECC monitoring program. Other government agencies are invited to participate as and when necessary.

The DAO 03-30 RPM provides guidelines for stakeholder identification and the matrix for stakeholder identification under the PEISS. Identified stakeholder LGUs/communities in the DIA and those agencies/organizations who have direct mandates or activities on the DIA are the preferred invitees to participate in the post-Scoping EIA processes such as during the conduct of the EIA Study, public consultations/hearing and post-ECC monitoring. It is further preferred that stakeholders who have attended the Scoping session should be prioritized in the representation in subsequent EIA activities for continuity of stakeholder participation.

8.6.3 EIA Approval Process and Timeline

This stage examines the adequacy and effectiveness of the EIA report and provides the information necessary for decision-making. It entails an EMB procedural screening for compliance to minimum requirements specified during Scoping, followed by a substantive review of either third party experts commissioned by EMB as the EIA Review Committee for PEIS/EIS-based applications, or DENR/EMB internal specialists, the Technical Committee, for IEE-based applications. EMB evaluates the EIARC recommendations and the public's inputs during public consultations/hearings in the process of recommending a decision on the application. The EIARC Chair signs EIARC recommendations including issues outside the mandate of the EMB. The entire EIA review and evaluation process is summarized in the Review Process Report (RPR) of the EMB, which includes a draft decision document. In general, approval process of either EIS or PEIS is the same as briefly indicated in **Figure 8.6-1** but different in approval authority as specified under table in **Annex A**. Approval timeline of the application is also specified in table of **Annex A**.

After EIS or PEIS are approved, The stage of project implementation and monitoring comes into play once the project is commissioned. It checks to ensure that the impacts of the project do not exceed the legal standards and implementation of the mitigation measures are in the manner as described in the EIA report.

It should be noted that once the ECC had been obtained, it is valid for 5 years. After which, should the project development has not begun as yet, the ECC application process will need to be restarted.

After the issuance of the ECC, the proponent is expected to implement the environmental management plan and meet the conditions stipulated in the environmental compliance certificate. In addition, the DENR requires certain projects to form a community-based Multipartite Monitoring Team (with the proponent, DENR, representatives from local government units, non-government organizations and people's organizations as members) whose purpose is to monitor the proponent's compliance with environmental compliance certificate conditions, environmental management plan and other applicable laws, rules and regulations. This requirement will be spelled out in the ECC approval conditions.

As part of the ECC approval condition, an Environmental Guarantee Fund (EGF) may be required for projects deemed to pose significant public risk. The EGF is a compensatory mechanism for damages that may be caused by the project financed by the project proponent and co-managed by the DENR-EMB. It also serves to ensure that adequate fiduciary resources are available for rehabilitation and restoration measures required upon closure of the project.

8.7 Basic Questions about EIA

Questions	Answers
1) What formal legislation exists concerning requirement of EIA?	<ul style="list-style-type: none"> • Presidential Decree (PD) 1151 Philippine Environment Policy, 1977 • Presidential Decree (PD) 1152 Philippine Environment Code, 1977 • Presidential Proclamation (PP) 2146 Environmentally Critical Projects (ECPs) and Environmentally Critical Areas (ECAs), 1981 and amended in 1996 • Department of Environment and Natural Resources (DENR) Administrative Order No. 30 Series of 2003 (DAO 03-30) (Implementing Rules and Regulations of PD No. 1586, Establishing the Philippine Environmental Impact Statement System), 2007

Questions	Answers
2) Which type of projects are required to undertake EIA?	<p>Under PEISS, any project deemed an ECP or located within an ECA as listed in PP 2146 must secure an Environmental Compliance Certificate (ECC) from the DENR-EMB Main Office prior to commencement.</p> <ul style="list-style-type: none"> • Environmentally Critical Projects (ECPs) - As declared by Proclamation No. 2146, 1981 and as declared by Proclamation No. 803, 1996 (Update of PP 2146) • Environmentally Critical Areas (ECAs) - As declared by Proclamation No. 2146, 1981
3) What are the components of the EIA report?	<p>The content of EIS and PEIS Report will composed as follow;</p> <ul style="list-style-type: none"> • Draft Main EIS <ul style="list-style-type: none"> Chapter 1 : Basic Project Information Chapter 2 : Description of the Project's EIA Process Chapter 3 : Project Description Chapter 4 : Baseline Environmental Conditions, Impact Assessment and Mitigation Chapter 5 : Environmental Risk Assessment (when applicable) Chapter 6 : Environmental Management Plan Chapter 7 : Bibliography/ References Chapter 8 : Annexes • PEIS Report <ul style="list-style-type: none"> Chapter 1: Introduction Chapter 2: Process Description Chapter 3: Ecological Profiling Chapter 4: Impacts, Hazards and Risk <ul style="list-style-type: none"> Chapter 4A Environmental Health Impact Assessment (EHIA) Chapter 4B Integrated Risk Assessment Chapter 5: Environmental Management Plan
4) What authority involve in EIA procedure in the Philippines?	<ul style="list-style-type: none"> • Department of Environment and Natural Resources for Philippines Environmental Impact Statement System (PEISS) • Environmental Management Bureau for Environmental Impact Statement (EIS)
5) When will EIA be prepared ?	<p>The first stage of PEISS determines whether the proposed project requires an EIS to apply for an ECC and if it does, then the level of assessment as well as document type (e.g. EIS, Programmatic EIS, etc.) required. Screening is usually conducted early in the project development, preferably right after project conceptualization and before a Feasibility Study is conducted.</p>

Questions	Answers
6) How is the steps of EIA?	6 Steps to conduct EIA are presented as listed below; <ul style="list-style-type: none"> • Screening • Scoping • Environmental Study • Report Review & Evaluation • Decision Making • Monitoring/ EMP
7) What are the tools of EIA?	<ul style="list-style-type: none"> • Initial Environmental Examination (IEE) • Environmental Impact Statement (EIS) • Environmental Performance Report and Management Plan (EPRMP)
8) Who is EIA developer?	Qualified Consultant, Who is registered with the Department of Environment and Natural Resources (DENR)
9) Is there any requirement for public consultation in EIA process?	Guideline on public participation under the Philippine Environmental Impact Statement (EIS) system under DENR administrative order No. 2017-15, public participation for the EIS system shall be required for the entire EIA process from social preparation prior to scoping to impact management and monitoring during project implementation/ abandonment.
10) How timing in approval process?	In general, approval process of either EIS or PEIS is the same but different in approval authority. Approval timeline of the application is also specified in Annex 1, from 30 to 180 working days long subjective to types of EIA reports.
11) Fee of approval process	Not specified
12) How long is EIA valid?	Once the ECC had been obtained, it is valid for 5 years. After which, should the project development has not begun as yet the ECC application process will need to be restarted.
13) Penalties	<ul style="list-style-type: none"> • Fines, penalties and sanctions of the Philippine EIS System is based on Section 9.0 provision of P.D. 1586, as follows: "Penalty for Violation. Any person, corporation or partnership found violating Section 4 of this Decree, or the terms and conditions in the issuance of the Environmental Compliance Certificate, or of the standards, rules and regulations issued by the National Environmental • Protection Council pursuant to this Decree shall be punished the suspension or cancellation of his/its certificate and/or a fine in an amount not to exceed fifty thousand pesos (P 50, 000.00) for every violation thereof at the discretion of the National Environmental Protection Council.

Annex A : Project Applicable to EIA

Types of Projects and Areas as Environmentally Critical Projects Require an EIA, according to the Presidential Proclamation No.2146 (PP2146) issued in 1981 and updated in 1996

Environmentally Critical Projects (ECPs) as declared by Proclamation No. 2146, 1981

- 1) Heavy Industries – Non-ferrous Metal Industries, Iron and Steel Mills, Petroleum and Petro-chemical Industries including Oil and Gas, Smelting Plants
- 2) Resource Extractive Industries – Major Mining and Quarrying Projects, Forestry Projects (logging, major wood processing projects, introduction of fauna (exotic animals) in public and private forests, forest occupancy, extraction of mangrove products, grazing), Fishery Projects (dikes for/and fishpond development projects)
- 3) Infrastructure Projects – Major Dams, Major Power Plants (fossil-fueled, nuclear fueled, hydroelectric or geothermal), Major Reclamation Projects, Major Roads and Bridges
- As declared by Proclamation No. 803, 1996 (Update of PP 2146)
- 4) All golf course projects

Environmentally Critical Areas (ECAs) as declared by Proclamation No. 2146, 1981

- 1) All areas declared by law as national parks, watershed reserves, wildlife preserves, sanctuaries
- 2) Areas set aside as aesthetic potential tourist spots
- 3) Areas which constitute the habitat of any endangered or threatened species of Philippine wildlife (flora and fauna)
- 4) Areas of unique historic, archaeological, or scientific interests
- 5) Areas which are traditionally occupied by cultural communities or tribes
- 6) Areas frequently visited and/or hard-hit by natural calamities (geologic hazards, floods, typhoons, volcanic activity, etc.)
- 7) Areas with critical slopes
- 8) Areas classified as prime agricultural lands
- 9) Recharged areas of aquifers
- 10) Water bodies characterized by one or any combination of the following conditions: tapped for domestic purposes; within the controlled and/or protected areas declared by appropriate authorities; which support wildlife and fishery activities
- 11) Mangrove areas characterized by one or any combination of the following conditions: with primary pristine and dense young growth; adjoining mouth of major river systems; near or adjacent to traditional productive fry or fishing grounds; areas which act as natural buffers against shore erosion, strong winds and storm floods; areas on which people are dependent for their livelihood.

- 12) Coral reefs characterized by one or any combination of the following conditions: with 50% and above live coralline cover; spawning and nursery grounds for fish; acting as natural breakwater of coastlines

Under PEISS, any project deemed an ECP or located within an ECA as listed in PP 2146 must secure an Environmental Compliance Certificate (ECC) from the DENR-EMB Main Office prior to commencement. There are different types of reports for ECC applications in the Philippines, based on the type and status of the project, as follows:

- Environmental Impact Statement (EIS) for proposed new ECPs and some selected non-ECPs (single projects)
- Initial Environmental Examination (IEE) Checklist Report Form for new non-ECPs in ECAs (single projects)
- Programmatic EIS for new co-located projects (a project divided into several phases or consisting of several components or clusters in the same designated area)
- Environmental Performance Report and Management Plan (EPRMP) for existing facilities with significant expansion/ change in operation
- Programmatic EPRMP for co-located existing facilities with significant expansion/ change in operation

If the project is not an ECP but is located within an ECA, an Initial Environmental Examination (IEE), which is a checklist report is required for ECC application. The Regional Office of the DENR-EMB will have the jurisdiction on the matter and may require that the project conduct a full EIS. The decision will be up to the DENR-EMB Regional Office's discretion.

Projects are also classified into 5 groups based on their ECP/ ECA status and project characterization(s) under DAO 03-30. Different types of projects have different document and process requirements in obtaining the ECC. The different groups are listed below and the process as well as the ECC application timeframe shown in Summary Table below.

1. Group I – ECPs in either ECAs or Non-ECAs (NECAs)
2. Group II – NECPs in ECAs
3. Group III – NECPs in NECAs (EIS not required)
4. Group IV – Co-located projects in either ECA or NECAs
5. Group V – Unclassified projects

Summary Table of Project Groups, EIA Report Types, Decision Documents, Processing/ Deciding Authorities and Processing Duration

PROJECT GROUPS /SUB-GROUPS		APPLIED TO	DOCUMENTS REQUIRED FOR ECC /CNC APPLICATION	DECISION DOCUMENT	PROCESSING RESPONSIBILITY (Endorsing Official)	DECIDING AUTHORITY	MAX TIME TO GRANT OR DENY ECC APPLICATION (Working Days)
I: Environmentally Critical Projects (ECPs) in either Environmentally Critical Area (ECA) or Non-Environmentally Critical Area (NECA)	I - A: New	Single Projects	Environmental Impact Statement (EIS)	ECC	CO : EIAMD Chief/ EMB Director	EMB Director / DENR Secretary	120 days
	I - B: Existing Projects for Modification or Re-start up (subject to conditions in Annex 2-1c)	Single Projects	Environmental Performance Report and Management Plan (EPRMP)*	ECC	CO : EIAMD Chief/ EMB Director	EMB CO Director / DENR Secretary	90 days
	I - C: Operating without ECC	Single Projects	Environmental Performance Report and Management Plan (EPRMP)*	ECC	CO : EIAMD Chief/ EMB Director	EMB CO Director / DENR Secretary	90 days
	II - A: New	Single Projects	Environmental Impact Statement (EIS)	ECC	RO : EIAMD Chief	EMB RO Director	60 days
			Initial Environmental Examination Report (IEER)	ECC	RO : EIAMD Chief	EMB RO Director	60 days
			Initial Environmental Examination Checklist (IEEC)	ECC	RO : EIAMD Chief	EMB RO Director	30 days
II: Non-Environmentally Critical Projects (NECPs) in Environmentally Critical Area (ECA)	II - A2 : New(enhancement and Mitigation projects)	Single Projects	Project Description Report (PDR) (At Option of Proponent)	CNC	CO : EIAMD Chief RO : EIAMD Chief	EMB Director EMB RO Director	15 days
			Project Description Report (PDR)	CNC or Recommendation on final grouping and EIA Report Type**	CO : EIAMD Chief RO : EIAMD Chief	EMB Director EMB RO Director	15 days
			Environmental Performance Report and Management Plan (EPRMP)*	ECC	RO : EIAMD Chief	EMB RO Director	30 days
	II - B: Existing Projects for Modification or Re-start up (subject to conditions in Annex 2-1c)	Single Projects	Project Description Report (PDR)	CNC	CO : EIAMD Chief RO : EIAMD Chief	EMB Director EMB RO Director	15 days
			Environmental Performance Report and Management Plan (EPRMP)*	ECC	RO : EIAMD Chief	EMB RO Director	30 days
	II - C: Operating without ECC	Single Projects	Environmental Performance Report and Management Plan (EPRMP)*	ECC	RO : EIAMD Chief	EMB Director	30 days

PROJECT GROUPS /SUB-GROUPS		APPLIED TO	DOCUMENTS REQUIRED FOR ECC /CNC APPLICATION	DECISION DOCUMENT	PROCESSING RESPONSIBILITY (Endorsing Official)	DECIDING AUTHORITY	MAX TIME TO GRANT OR DENY ECC APPLICATION (Working Days)
III: Non-Environmentally Critical Projects (NECPs) in Non-Environmentally Critical Area (NECA)	III - A1: New (Enhancement & Mitigation Projects)	Single Projects	Project Description Report (PDR) (REQUIRED)	CNC	RO : EIAMD Chief	EMB Director	15 days
					RO : EIAMD Chief	EMB RO Director	
	III - A2: New (All Other Grp II Project Types/Sub-types in NECA)	Single Projects	Project Description Report (PDR) (AT OPTION OF PROPONENT)	CNC	RO : EIAMD Chief	EMB Director	15 days
					RO : EIAMD Chief	EMB RO Director	
IV: Co-located Projects	IV - A: New	Co-located Projects of which are Group I Projects	Programmatic Environmental Impact Statement (PEIS)	ECC	CO: EMB Director	DENR Secretary	180 days
		Co-located Projects majority of which are Group II Projects	Programmatic Environmental Impact Statement (PEIS)	ECC	RO : EIAMD Chief	EMB Director	60 days
	IV - B: Existing Project for Modification or Re-start up of Co-located Projects	Co-located Projects majority of which are Group I Projects	Programmatic Environmental Performance Report and Management Plan (PEPRMP)	ECC (new) / ECC Amendment	CO: EIAMD Chief	EMB Director / DENR Secretary	120 days
		Co-located Projects majority of which are Group II Projects	Programmatic Environmental Performance Report and Management Plan (PEPRMP)	ECC (new)/ ECC Amendment	RO : EIAMD Chief	EMB RO Director	60 days
IV - C: Operating without ECC		Co-located Projects majority of which are Group I Projects	Programmatic Environmental Performance Report and Management Plan (PEPRMP)	ECC (new)/ ECC Amendment	CO: EMB Director	DENR Secretary	120 days
		Co-located Projects majority of which are Group II Projects	Programmatic Environmental Performance Report and Management Plan (PEPRMP)	ECC (new)/ ECC Amendment	RO : EIAMD Chief	EMB RO Director	60 days

PROJECT GROUPS /SUB-GROUPS	APPLIED TO	DOCUMENTS REQUIRED FOR ECC /CNC APPLICATION	DECISION DOCUMENT	PROCESSING RESPONSIBILITY (Endorsing Official)	DECIDING AUTHORITY	MAX TIME TO GRANT OR DENY ECC APPLICATION (Working Days)
V: Unclassified Projects	V - A: New	Project Description Report (PDR) (REQUIRED)	CNC or Recommendation on Final Grouping & EIA Report Type**	CO: EIAMD Chief	EMB Director	15 days
*If THE modification does not require a pepmp or eprmp based on annex 2-1c, the following apply						
Request for Minor ECC Amendment	Single Projects with Applicable Modifications listed in Annex 2-1c	Letter Request	ECC Amendment	CO: EIAMD Review and Evaluation Section or Division Chief	EIAMD Chief EMB Director	7 days
				RO: EIAMD Review and Evaluation Section Chief	EIAMD Chief	
Request for Major ECC Amendment	Single Projects with Applicable Modifications listed in Annex 2-1c	Letter Request and/or Update Project Description or Update of other Selected Portions of the EIA Report (e.g. Baseline or Impact Assessment or EMP on the Areas of Amendment only)	ECC Amendment	CO: EIAMD Chief	EMB Director / DENR Secretary	30 days
				RO: EIAMD Chief	EMB RO Director	
**The decision on *Recommendndation on Final Grouping and EIA Report Type* is reached if project is evaluated to have Group I and II components which fall within EIS/IEE threshold level of report requirement, which then will require an ECC.						

Annex B : Guideline of EIA Content

According to regulations and specific guidelines for the implementation of PEISS report such as Department of Environment and Natural Resources (DENR) Administrative Order No. 30 Series of 2003 (DAO 03-30) (Implementing Rules and Regulations of PD No. 1586, Establishing the Philippine Environmental Impact Statement System), 2007

Content of EIS Report

EIS Contents Outline (For single project, maximum of about 250 pages)

Project Fact Sheet

Table of Contents

Executive Summary

- 1) Brief Project Description
- 2) Brief Summary of Project's EIA Process
- 3) Summary of Baseline Characterization
- 4) Summary of Impact Assessment and Environmental Management Plan
- 5) Summary of Environmental Monitoring Plan
- 6) EMF and EGF Commitments

Draft Main EIS

Chapter 1: Basic Project Information

Chapter 2: Description of the Project's EIA Process

- 2.1. Terms of Reference of EIA Study
- 2.2. EIA Team
- 2.3. EIA Study Schedule
- 2.4. EIA Study Area
- 2.5. EIA Methodology
- 2.6. Public Participation

Chapter 3: Project Description

- 3.1. Project Location and Area
- 3.2. Project Rationale
- 3.3. Project Alternatives
- 3.4. Project Development Plan, Process/Technology Options and Project Components
- 3.5. Description of Project Phases (Activities/Environmental Aspects, Associated Wastes and Built-in Pollution Control Measures)
 - 3.5.1. Pre-construction/ Pre-operational phase
 - 3.5.2. Construction/Development phase
 - 3.5.3. Operational phase
 - 3.5.4. Abandonment phase
- 3.6. Manpower Requirements
- 3.7. Project Cost
- 3.8. Project Duration and Schedule

Chapter 4: Baseline Environmental Conditions, Impact Assessment and Mitigation

- 4.1 The Land (discuss only relevant modules)
 - 4.1.1 Land Use and Classification
 - 4.1.2 Pedology
 - 4.1.3 Geology and Geomorphology
 - 4.1.4 Terrestrial Biology
- 4.2 The Water (discuss only relevant modules)
 - 4.2.1 Hydrology & Hydrogeology
 - 4.2.2 Oceanography
 - 4.2.3 Water Quality
 - 4.2.4 Freshwater Biology
 - 4.2.5 Marine Biology
- 4.3 The Air (discuss only relevant modules)
 - 4.3.1 Meteorology
- 4.4 The People

Chapter 5: Environmental Risk Assessment (when applicable)

Chapter 6: Environmental Management Plan

- 6.1 Impacts Management Plan
- 6.2 Social Development Framework
- 6.3 IEC Framework
- 6.4 Emergency Response Policy and Generic Guidelines
- 6.5 Abandonment /Decommissioning /Rehabilitation Policies and Generic Guidelines
- 6.6 Environmental Monitoring Plan
 - 6.6.1 Self-Monitoring Plan
- Note** : Attach under this section the filled out Project Environmental Monitoring and Audit Prioritization Scheme (PEMAPS) Questionnaire in Annex 2-7d of the RPM
- 6.6.2 Multi-sectoral Monitoring Framework
 - 6.6.3 Environmental Guarantee and Monitoring Fund Commitment
- 6.7 Institutional Plan for EMP Implementation

Chapter 7: Bibliography/ References

Chapter 8: Annexes

- 8.1 Scoping Checklist
- 8.2 Original Sworn Accountability Statement of Proponent
- 8.3 Original Sworn Accountability Statement of Key EIS Consultants
- 8.4 Proof of Public Participation
- 8.5 Baseline Study Support Information
- 8.6 Impact Assessment and EMP Support Information

Note : The EIA review process advises the Department of Health (DOH) if the project poses a significant public health risk to the environment, e.g. public health may be affected if the wastes/discharges are direct contributors to the leading causes of mortality/morbidity, regardless of environmental management measures. To assist on its review, DOH shall coordinate with the DENR-EMB on the declaration of Health Sensitive Projects and Health Sensitive Areas. Until such time, DOH shall review EHIA independently of the EIA Process, consistent with the DENR-DOH MOA on EHIA. Further, workers' HIA component of the EHIA is recommended to be coordinated by DOH with DOLE for the latter's consideration in its requirement of an Occupational Health and Safety Program from the Proponent.

Content of PEIS Report

Programmatic EIS (PEIS) Outline (For co-located projects, maximum of about 350 pages)

Project Fact Sheet

Table of Contents

Executive Summary

Chapter 1: Introduction

- 1.1. Project Background and Rationale
- 1.2. PEIA Approach and Methodology
- 1.3. PEIA Public Participation
- 1.4. The PEIA Team
- 1.5. PEIA Schedule

Chapter 2: Process Description

- 2.1. Project Location and Area Coverage
- 2.2. Development Framework
- 2.3. General Land Use Allocation
- 2.4. Phasing and Site Development Components
- 2.5. Process Description of Locator Plant
- 2.6. General Stages of Development and Activities
- 2.7. Organization and Management
- 2.8. Project Schedule and Cost

Chapter 3: Ecological Profiling

- 3.1. Air Sector
 - 3.1.1. Study Area Coverage
 - 3.1.2. Environmental Management Goals and Indicator Limits
 - a. Regulated Air Pollutants
 - b. Non-regulated Air Pollutants
 - c. Noise
 - 3.1.3. Approach and Methodology
 - a. Regional and Site Meteorology
 - b. Emissions Inventory
 - c. Ambient Air Quality Monitoring
 - d. Noise Level Measurements
 - e. Air Quality Modelling
 - f. Carrying Capacity Analysis

- 3.1.4. Environmental Status Assessment
 - 3.1.4.1. Meteorology
 - a. Wind Speed and Direction
 - b. Ambient Temperature
 - c. Rainfall
 - d. Cloudiness
 - e. Thunderstorms
 - f. Tropical Cyclones
 - g. Stability Conditions
 - 3.1.4.2. Existing Air Quality
 - a. Emission Sources
 - b. Ambient Air Quality
 - c. Non-Criteria Air Pollutants
 - d. Noise Level
 - 3.1.5. Carrying Capacity Analysis
 - 3.1.6. Environmental Management Strategies
 - 3.1.7. Monitoring Needs Assessment
- 3.2. Land Sector
 - 3.2.1. Study Area Coverage
 - 3.2.2. Environmental Management Goals and Indicator Limits
 - 3.2.3. Approach and Methodology
 - 3.2.4. Environmental Status Assessment
 - 3.2.4.1. Geology and Hazards
 - 3.2.4.2. Soils and Land Use
 - 3.2.4.3. Hydrogeology
 - 3.2.4.4. Biological Environment
 - 3.2.4.5. Solid Waste Generation
 - 3.2.5. Carrying Capacity Analysis
 - 3.2.5.1. Water Availability and Projected Water Demand
 - 3.2.5.2. Current and projected water usage
 - 3.2.5.3. Projected water supply available
 - 3.2.5.4. Water supply and demand analysis
 - 3.2.5.5. Food Security
 - 3.2.5.6. Threshold Limits of Terrestrial Vegetation and Wildlife in Relation to Pollution
 - 3.2.5.6.1 General patterns of plant response to air pollution
 - 3.2.5.6.2 General patterns of wildlife response to pollution
 - 3.2.5.6.3 Vulnerability to Natural Hazards
 - 3.2.5.6.4 Susceptibility to Soil and Groundwater Contamination
 - 3.2.5.7. Environmental Management Strategies
 - 3.2.5.8. Monitoring Needs Assessment

3.3. Water Sector

3.3.1. Study Area Coverage

3.3.2. Environmental Management Goal and Indicator Limits

3.3.3. Approach and Methodology

3.3.3.1. River Water Studies

- a. Hydrologic Study
- b. River Water Quality Sampling and Analysis
- c. River Quality Modelling and Carrying Capacity Analysis
- d. Biological Study: Riverine Flora and Fauna

3.3.3.2. Coastal/Marine Studies

- a. Physical Oceanography
- b. Morphology and Bathymetry
- c. Near shore-Offshore Sediment Sampling and Water Depth Measurement
- d. Grain Size Analysis of Bottom Sediment Samples
- e. Wave Refraction Modelling
- f. Water Quality Studies
- g. Marine Flora and Fauna
- h. Water Quality Modelling and Carrying Capacity Analysis

3.3.4. Environmental Status Assessment

3.3.4.1. River Water Studies System

- a. Physical Features
- b. Beneficial Water Uses
- c. Pollution Sources
- d. Water Quality
- e. River Sediment Discharge Estimates
- f. Riverine Flora and Fauna
- g. Coastal Waters
- h. General Physiography of Manila Bay
- i. Oceanographic Features
- j. Coastal Geomorphology and Stability of the Study Area
- k. Wave Refraction and Long shore Drift
- l. Sediment Distribution
- m. Beneficial Uses of the Coastal Areas and its Marine Waters
- n. Pollution Sources
- o. Water Quality
- p. Marine Flora and Fauna

3.3.5. Carrying Capacity Analysis

3.3.6. Environmental Management Strategies

3.3.7. Monitoring Needs Assessment

3.4. People Sector

3.4.1. Study Area Coverage

3.4.2. Environmental Management Goals and Indicator Targets

3.4.3. Approach and Methodology

- 3.4.4. Environmental Status Assessment
 - 3.4.4.1. Demographic Characteristics
 - 3.4.4.2. Local Trade, Services and Industries: Sources of Employment and Income
 - 3.4.4.3. Public Services/Utilities and Infrastructures
 - 3.4.4.4. Social Services
 - 3.4.4.5. Public Sector Cost and Revenues
 - 3.4.4.6. Social Organization, Values, Attitudes and Perceptions
- 3.4.5. Carrying Capacity Analysis
 - 3.4.5.1. Population Growth and Density: Issues, Trends and Potentials
 - 3.4.5.2. Land Tenure/Relocation/Resettlement Issues: Conflict and Resolution
 - 3.4.5.3. Income and Employment: Relevant Issues
 - 3.4.5.4. Public Revenues and Services
 - 3.4.5.5. Social Organization, Values, Attitudes and Perceptions
 - 3.4.5.6. Environmental Management Strategies
 - 3.4.5.7. Monitoring Needs Assessment

Chapter 4: Impacts, Hazards and Risk

- 4.1. Summary of Scoping and Consultation Issues and Concerns
- 4.2. General Impact Analysis of Alternative Development Scenarios
- 4.3. Preferred Development Scenario
 - 4.3.1. Analysis of Selected Project Components at Full Development
 - 4.3.2. Impacts and Mitigation Measures

CHAPTER 4A ENVIRONMENTAL HEALTH IMPACT ASSESSMENT (EHIA)

- 4A.1 Scope and Coverage
- 4A.2 Management Goals and Indicator Limits
- 4A.3 Approach and Methodology
- 4A.4 Environmental Health Status Assessment
- 4A.5 Community Health and Environmental Health Profile
 - 4A.5.1 Community Health Profile
 - 4A.5.2 Household Health Profile
 - 4A.5.3 Respiratory Health Profile
 - 4A.5.4 Environmental Health and Primary Impact Areas
 - 4A.5.5 Baseline Environmental Quality
 - 4A.5.6 Health Profile of Existing Locator Industries
 - 4A.5.7 EHIA of the Existing Locator Industries
 - a. Identification of Health Hazards and Potential Health Impact
 - b. Assessment of Community Exposure
 - c. Identification of Risk Groups
 - d. Prediction of Health Consequences and Outcomes
 - e. Health Risk Assessment
 - f. Health Risk Mitigation
 - g. Environmental and Occupational Health Management Plan

4A.6 Limitations of the Study

4A.6.1 Cumulative Safety Risk Assessment (CSRA)

4A.6.2 Hazard Identification

- a. Materials with Major Potential Hazards
- b. Toxic Vapor Hazards
- c. Flash Fire Hazards
- d. BLVE Hazards
- e. Spill Fire Hazards
- f. Unconfined Vapor Cloud Explosion (UVCE) Hazards

4A.6.3 Failure Case Development

4A.6.4 Consequence Modelling

4A.6.5 Frequency Analysis

4A.6.6 Risk Calculation and Assessment

- a. Individual Risk Assessment
- b. Societal Risk Assessment

4A.6.7 Other Risk Related Findings

4A.6.8 Health Hazards and Risks

4A.6.9 Natural Risks

4A.6.10 Ecological Hazards/Risks

4A.6.11 Overall Risk Management Strategies

CHAPTER 4B INTEGRATED RISK ASSESSMENT

4B.1 Scope and Coverage

4B.2 Management Goal and Risk Criteria

4B.3 Conceptual Framework and Methodology

4B.3.1 Types and Sources of Risks

4B.3.2 Risk Assessment Process

4B.3.3 Methodology for the (Safety) Risk Screening

4B.4 Safety Risk Screening

4B.5 Integrated Risk Analysis

CHAPTER 5 Environmental Management Plan

5.1. Environmental Plan Framework and Strategic Components

5.2. Design and Construction Management Program

5.2.1. Planning/Design and Detailed Engineering Studies

5.2.2. Construction Management

5.3. Air Quality Management Program

5.3.1. Emissions Allocation Plan

5.3.2. Air Quality Monitoring, Evaluation and Verification Plan

5.3.3. Ambient Air Quality Monitoring

5.3.4. Database System

5.3.5. Pollution Prevention Plan

5.3.6. Management Structure and Institutional Set-up

- 5.4. Land Resources Management Program
 - 5.4.1. Mitigation and Management of Natural Hazards
 - 5.4.2. Landscaping Plan
 - 5.4.3. Water Resources Management Plan
 - 5.4.4. Solid Waste Management Plan
- 5.5. Water Quality Management Program
 - 5.5.1. Discharge Allocation Plan
 - 5.5.2. Water Quality Monitoring Plan
 - 5.5.3. Water Quality Database
 - 5.5.4. Pollution Prevention and Control Plan
 - 5.5.5. Coastal Resources Management Plan
- 5.6. Social Development Program
 - 5.6.1. Resolution of Conflicting Issuances/Declarations and Land Use Plan
 - 5.6.2. Relocation and Compensation Plans
 - 5.6.3. Employment and Manpower Development Program
 - 5.6.4. Livelihood Development and Enhancement Program
 - 5.6.5. Community Relations Program
 - 5.6.6. Information, Education and Communication Program (IEC)
- 5.7. Environmental Health Management Program
- 5.8. Integrated Risk Management Plan
 - 5.8.1. Risk-Based Land Use
 - 5.8.2. Risk Acceptability and Management
 - 5.8.3. Safety Management System
 - 5.8.4. Integrated Emergency Response Plan
 - 5.8.5. Environmental Liability and Guarantee Fund
- 5.9. Abandonment Program
- 5.10. Overall Environmental Monitoring Program
 - 5.10.1. Integrated Monitoring Plan
 - 5.10.2. Implementation Monitoring
- 5.11. Institutional Plan
 - 5.11.1. Establishment of an Environment, Health and Safety (EHS) Unit
 - 5.11.2. External Linkages
 - 5.11.3. Financing Arrangements
- 5.12. Establishment of an Environmental Management System (EMS)

ANNEXES

BIBLIOGRAPH

The specific content and requirements for an EIA (the technical document specified in the EIS and PEIS process) as described in the RPM, DAO 03-30 are listed in the table below (Please note that this is a generic table which applies to both the EIS and PEIS processes):

GENERAL CONTENTS/ REQUIREMENTS	SPECIFIC CONTENTS/REQUIREMENTS
Project Fact Sheet	~2-3 pages: Information highlights from Executive Summary on Project Description; Project Specific EIA Process, Baseline Profile, Key Impacts, Key environmental management measures and monitoring plans; include 0.25 page of project regional site location on Philippine Map inset.
Table of Contents	~9-10 pages: Include all sections of the EIS for procedural screening purposes; list of tables, figures, annexes
Executive Summary	Maximum ~15 pages
1.0 Brief Project Description	~3 pages (tabulated): project location & area (with 0.25 – 0.50 page project regional location on Philippine map inset), rationale, components, project phases/stages, process/technology (as applicable), products and production capacity or rate (as applicable), types & estimated generation rate of major waste streams, manpower, project cost, project duration and schedule
2.0 Brief Summary of Project's EIA Process	~2 pages: (tabulated): name/expertise of preparer team, study period, study area (and attach 1 page map), EIA method, summary of public participation in scoping and conduct of EIA study
3.0 Summary of Baseline Characterization	~4 pages (tabulated): Present integrated key findings/conclusions per ecosystem (Land, Water Air and People) in terms of criticality of environmental quality status. No need to detail findings per module.
4.0 Summary of Impact Assessment and Environmental Management Plan	~3 pages: 1) Impacts Mitigation Summary 1 st column: Key project activities per phase (i.e. most critical environmental aspects which are the sources of key impacts); 2 nd column: Environmental component or module affected, nature and magnitude of most significant impacts; 3 rd column: Proposed options for prevention and mitigation of impacts 2) Present a statement each for SDP Framework, IEC Framework, ERP Policy, Abandonment Policy

GENERAL CONTENTS/ REQUIREMENTS	SPECIFIC CONTENTS/REQUIREMENTS
5.0 Summary of the Environmental Monitoring Plan	<p>~2 pages:</p> <p>1) Summary of EMoP Matrix of Proponent – focused only on 1-3 most important objectives and corresponding parameters to be monitored per phase of the project, limit level to be complied with, station description to be monitored and what frequency</p> <p>2) Summary of MMT or public participation framework in post-ECC monitoring</p>
6.0 EMF and EGF Commitments	~1 page: Present EMF and EGF amount committed
DRAFT MAIN EIS	Maximum ~142 pages (Less attachments)
1. BASIC PROJECT INFORMATION	<p>~3 pages (tabulation of Project name, location,/address (from Sitio to Region); nature of project; threshold limits applied for; Proponent Name, address, contact numbers, brief profile; EIA Preparer Name, address, contact numbers. Attach project site map in NAMRIA topographic (or nautical, if applicable) map in 1:50,000 scale</p>
2. DESCRIPTION OF THE PROJECT'S EIA	~25 pages including all attachments as specified below
2.1 EIA TOR	Tabulate the main issues raised by the EIARC (see below Summary of Most Significant Issues) and the community (refer to List of Issues During Public Scoping) and state where/how each was addressed in the EIA Study; attach the detailed Scoping checklists (Public and Technical) as an annex
2.2 EIA Team	Tabulate data on EIA Team: list of team members, field of expertise, module assigned to both proponent and preparer team
2.3 EIA Study Schedule	Inclusive periods of study/field surveys, state climate/season

GENERAL CONTENTS/ REQUIREMENTS	SPECIFIC CONTENTS/REQUIREMENTS
2.4 EIA Study Area	Present area from project site up to extent of coverage of study: Show study area in NAMRIA topographic (and nautical, if applicable) map of 1:50,000 scale
2.5 EIA Methodology	Tabulate only generic EIA approach and data sources
2.6 Public Participation	Tabulate chronologically the following: EIA stage, dates, sectors involved, issues raised, committed actions by the Proponent where relevant; and explain or shed light on succeeding public's response/ reactions/participation or explain prevailing perceptions/ actions by the public. On sectors and issue, differentiate the list into supportive and opposing sectors as well as issues considered valid and invalid.
3. PROJECT DESCRIPTION	~ 30 pages
3.1 Project Location & Area	<ul style="list-style-type: none"> • Presented in legible maps (use clearly scanned or original NAMRIA topographic (or nautical, if applicable) map of 1:50,000 or appropriate scale) showing both project site up to regional location with Philippine map as inset; Regional and provincial vicinity map (showing major landmarks, existing industries, settlements, etc) • Show title, legend, scale, project location and political boundaries (from sitio/barangay to region); delineation of areas of primary and secondary impact areas, Present geographic coordinates • Present applicable ECA categories and statement on technical description on environmental criticality of the site
3.2 Project Rationale	<ul style="list-style-type: none"> • Present need for project based on national & local economic development and in terms of contribution to sustainable development agenda or current development thrusts of the Philippines; • Briefly justify/describe existence of expected commercial quantities of resources to meet local/national development or sectoral objectives (e.g. describe geologic resource for metallic/non-metallic mining, petroleum/geothermal reservoir, etc.); Attach detailed Economic Geology as Annex

GENERAL CONTENTS/ REQUIREMENTS	SPECIFIC CONTENTS/REQUIREMENTS
3.3 Project Alternatives	Present criteria used in determining preliminary options for facility siting; development design; process/technology selection; resource utilization
3.4 Project Development Plan, Process/Technology Options and Project Components	Attach tentative/options of Physical Plan/Site Development Map being considered at the FS stage (e.g., present annual program of development for a mine project); discuss processes/technologies being considered; tabulate project components and estimated dimensions/specifications (facilities/infrastructures, other single projects supporting the main project) and locate in map at a level of detail feasible at FS Stage
3.5 Description of Project Phases, Aspects, Wastes, Other Issues, Built-in Measures	<p>Tabulate project phases, activities/environmental aspects, associated wastes*, other key environmental and social issues; and built-in pollution control measures</p> <p>*Under the column on Waste Generation: subheadings are as follows: types of wastes, estimated waste generation rate, estimated volume for the duration of the project phase)</p>
3.6 Manpower Requirements	Present manpower requirements per project phase; specify expertise needed; nature & estimated number of jobs available for men; nature and number of jobs available for women; specify strategy and tentative scheme for sourcing locally from host and neighbouring LGUs and those from outside
3.7 Project Cost	
3.8 Project Duration and Schedule	Present estimate per project phase

**GENERAL CONTENTS/
REQUIREMENTS****SPECIFIC CONTENTS/REQUIREMENTS**

**4. BASELINE
ENVIRONMENTAL
CONDITIONS, IMPACT
ASSESSMENT AND
MITIGATION**

~ 50 pages (less Attachments); For each module, present a Methodology of EIA Modular Study including tabulation of stations with coordinates and qualitative description, as well as NAMRIA topographic map of the study area in 1:50,000 or more detailed scale; b) Summary of primary and secondary data (present detailed info as annexes; c) highlights of findings and conclusions on the baseline profile as to sensitivity to project impacts.

- On Baseline: MINIMUM DATA TO BE HIGHLIGHTED ARE THOSE ASKED IN THE PEMAPS QUESTIONNAIRE IN ANNEX 2-7d OF THE RPM. Subsequently, focus on 3-5 key findings statistics.

a) present summary analysis of physico-chem, bio and social data in terms of how the values compare with environmental standards, how the biostatistics compare with typical ecological values, how social data compare with national and local norms or Philippine statistics.

b) present estimates and relative percentages of total area likely to be utilized, total volumes of soils to be excavated, # watersheds and total vegetation to be cut, # of rivers and extent of coastal/marine waters to be affected, total households to be displaced, etc.

c) presence and statistical highlights of ecologically and economically most important species and ECAs which may be affected; state nature of impact of project and how this can be prevented or mitigated.

d) presence of any physico-chem, biological & social indicators (pseudo-indicators) of project impacts for monitoring purposes

- On Impacts: Focus on 1-3 most significant impacts/issues of the most critically affected modules under Land, Water, Air, People across each project phase. Include discussion of residual, unavoidable and cumulative impacts, where relevant and appropriate.
 - On Mitigation: present major interventions/actions for each identified significant issue.
-

GENERAL CONTENTS/ REQUIREMENTS	SPECIFIC CONTENTS/REQUIREMENTS
4.1 THE LAND	<ul style="list-style-type: none"> • Discuss Land Use/classification and associated Terrestrial Biology (flora and fauna); • Discuss only relevant aspects of Geology which will explain the geohazards; (Note: For Metallic and Non-metallic Mining Projects, Geothermal Exploration and other similar projects, other aspects of Geology particularly which describe the geologic resource in relation to the project proposal must be described as part of Project Description to justify geologic resource use); • Discuss Geomorphology (i.e. land forms/topography/slope/ terrain) which explain the limitations or nature of the land use and distribution of population and nature of and vegetation/wildlife forms; • Discuss Pedology (main soil type and quality) which rationalize/explain and lend support to the land use, population and biota profile
4.2 THE WATER	<p>Discuss relevant modules : Hydrology and Hydrogeology, Oceanography, Water Quality, Freshwater and Marine Biology</p> <p>Note #1: Identify which surface and groundwater systems will be affected by the project; present water quality status with highlight on the most relevant parameters, critical uses and the users of these water bodies; present the most important species likely to be affected by the project; present conclusions of modelling (where relevant) of extent of physical and chemical dispersion/ trajectory of most relevant parameter and resulting concentrations with increasing distance and depth from the source as basis for deriving a mixing or buffer zone and delineating the DIA from the IIA; map out the economically and ecologically critical areas/resources and superimpose on the biophysical data;</p> <p>Note #2: Present key findings and conclusions of analysis of surface and groundwater quality; Identify key potential impacts of the project across project phases and propose corresponding measures</p>

GENERAL CONTENTS/ REQUIREMENTS	SPECIFIC CONTENTS/REQUIREMENTS
4.3 THE AIR	<ul style="list-style-type: none"> • Meteorology (Note: For most projects, the relevant parameters are only the climate types. seasons, rainfall profile, wind roses and climatological extremes as the latter pose environmental hazards; the rest of the climatological data can be attached as an Annex); • Air Quality (& Noise, if relevant) : Present highlight of air quality status with highlight on the most relevant parameters; present conclusions of modelling (where required) on extent of physical and chemical dispersion/ trajectory of most relevant parameter and resulting ground level concentrations with increasing distance from the source as basis for deriving a buffer zone and delineating the DIA from the IIA; superimpose on the economically and ecologically critical areas/resources and population/significant socio-cultural features <p>Note: Present key findings and conclusions of analysis of air quality; Identify key potential impacts of the project across project phases and propose corresponding measures</p>
4.4 THE PEOPLE	Present highlights of primary and secondary data on the DIA and IIA, including highlights of perception survey; Present key findings and conclusions of analysis of the Socio-Cultural Environment; Identify key potential impacts of the project considering biophysical findings across project phases and propose corresponding measures
5. ENVIRONMENTAL RISK ASSESSMENT (WHEN APPLICABLE)	~2 page Present only key findings and conclusions of the ERA. Refer to Section C of this Checklist and Annex 2-7e of the RPM to determine coverage and nature of ERA to be required.
6. ENVIRONMENTAL MANAGEMENT PLAN	~30 pages
6.1 Impacts Management Plan	Use Annex 2-17 of RPM – limit to most significant impacts per project phase and per environmental component arising from key environmental aspects
6.2 Social Development Framework	Use Annex 2-18 of RPM
6.3 IEC Framework	Use Annex 2-19 of RPM

GENERAL CONTENTS/ REQUIREMENTS	SPECIFIC CONTENTS/REQUIREMENTS
6.4 Emergency Response Policy and Generic Guidelines	The policy and generic guidelines are to be consistent with the relevant agencies' requirements that are to be complied with after the ECC is issued, e.g. MGB has a prescribed ERP content for mining projects.
6.5 Abandonment / Decommissioning /Rehabilitation Policy and Generic Guidelines	Statement on Proponent's policies and generic procedures; Detailed Abandonment/Decommissioning Plan to be submitted post-ECC, within a timeframe specified in the ECC
6.6 Environmental Monitoring Plan	
6.6.1 Self-Monitoring Plan	Use Annex 2-20 of RPM (including costing) and applicable parts of Annex 3-1 on ECC Compliance Monitoring of the Proponent; Attach filled out PEMAPS Questionnaire (Annex 2-7d) – present a statement on the existence of a PATHWAY, criticality of the RECEPTOR, status of perception of ENVIRONMENTAL PERFORMANCE from supportive or opposing groups.
6.6.2 Multi-sectoral Monitoring Framework	For projects with MMT requirement, tabulate the following: list of stakeholder community sectors or representatives who are proposed to be likely members of the MMT as validated by EIA process, basis of priority selection, proposed MMT role, and scope of MMT responsibilities/activities; strategy or approach in establishing and monitoring Environmental Quality Performance Levels (EQPLs) in coordination with the MMT's program of identifying pseudo/quasi- indicators of environmental damage. Refer to Annexes 3-2 and 3-4 of the RPM.
6.6.3 Environmental Guarantee and Monitoring Fund Considerations	Present a proposed amount of EMF (based on a draft AWFP in Annex 3-4 and consistent with guidelines in Annex 3-5); Present a committed amount of EGF and the basis for the estimate, following the guidelines in Annex 3-6
6.7 Institutional Plan for EMP Implementation	Discuss the Table of Organization of the Proponent where the reporting line and manpower complement/positions of the EU, MEPEO or equivalent units to higher management and relationships with operating departments are shown
7. BIBLIOGRAPHY REFERENCES	~2 pages

GENERAL CONTENTS/ REQUIREMENTS	SPECIFIC CONTENTS/REQUIREMENTS
8. ANNEXES	~80 pages
8.1 Scoping Checklist	Use Annex 2-7a of the RPM (signed off document) with attached signed off Public Scoping List of Issues, as applicable (Annex 2-7c)
8.2 Original Sworn Accountability Statement of Proponent	Use Annex 2-21 of RPM
8.3 Original Sworn Accountability Statement of Key EIS Consultants	Use Annex 2-22 of RPM
8.4 Proof of Public Participation	Attendance Sheets of IEC, Public Scoping, Public Consultation/Public Hearing; Proof of public participation in the EIA Study
8.5 Baseline Study Support Information	<ul style="list-style-type: none"> Detailed analysis of primary and secondary information per module; perception survey analysis with sample questionnaire; Lab analytical results for soil, ground and surface freshwater and marine waters, air quality, noise – all tables compared with relevant Philippine standards, Philippine typical baseline values, Philippine statistics or other equivalent reference standards. The rest of the baseline data obtained by the Preparer shall be presented during the EIA Review Meetings in case the Review Team has items to validate against detailed baseline info. These can also be used by the Proponent in its self-monitoring and MMT validation activities.
8.6 Impact Assessment and EMP Support Information	ERA, PEMAPS Questionnaire, etc

Source : RPM, DAO 03-30

9

EIA in
Singapore



9. EIA in Singapore



9.1 Definitions

Pollution Control Study (PCS) refers to identify the sources of emission of air pollutants, discharge of trade effluent, generation of wastes and emission of noise; and to propose measures to reduce pollution and to mitigate adverse pollution impact on surrounding land use.

Quantitative Risk Assessment (QRA) refers to identify and quantify hazards and risks related to the transport, use and storage of hazardous chemicals; determine impact zones due to an accident which will lead to fire, explosion or release of toxic gases (the impact zone shall not extend to any residential building), recommend measures to be incorporated in the design and operation of the plant to keep risks to a low level and to minimize impact zones; and facilitate the development of emergency response plans to deal with all credible accident scenarios.

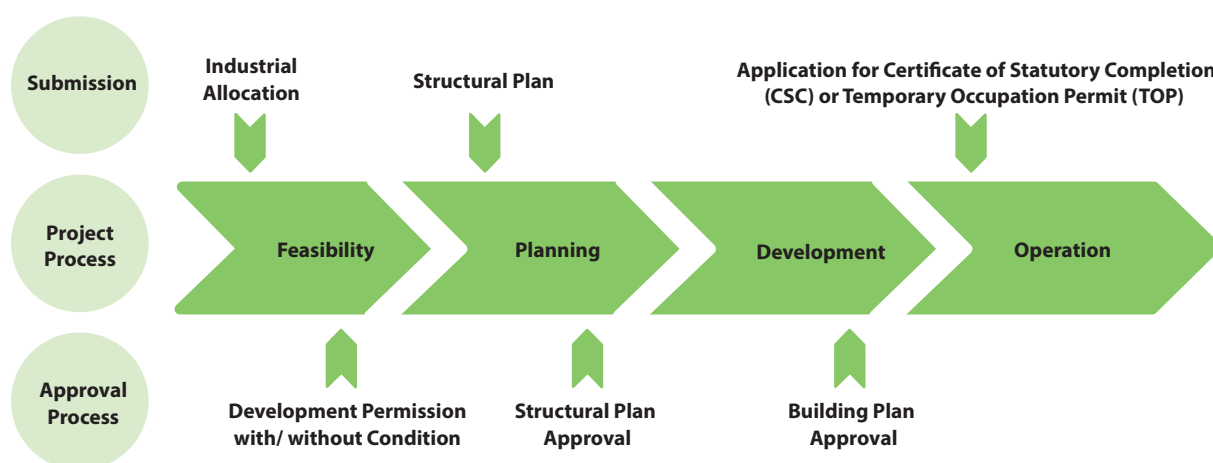
9.2 Introduction

There is no legislation for Environmental Impact Assessment (EIA) in Singapore because the master plan for land utilization considers the balance of development work and environment. However, the main Singapore legislation in place for environmental matters is the Environmental Protection and Management Act (EPMA), which was promulgated in 2002 and replaced the Environmental Pollution Control Act (EPCA) of 1999. The EPMA is the first law to consolidate environmental pollution control requirements and provide an allowance for impact assessment studies. According the Section 36 of EPMA, the proposed developments which may carry out activities that “could cause substantial pollution of the environment or increase the level of such pollution” may be required to undertake a Pollution Control Study (PCS). In addition, facilities that handle or store large quantities of hazardous chemicals may be required to undertake a Quantitative Risk Assessment (QRA), as mentioned on the Section 26 of the EPMA. The types of PCS and/or QRA required projects and the approval level are listed on The Code of Practice on Pollution Control, 2013 which are summarized in **Table 9.2-1**

In the other hand, the QRA is submitted to Multi-agency panel lead by the Singapore Civil Defense Force (SCDF) along with the National Environment Agency (NEA). An overview of Singapore’s project permitting process proposed is shown in **Figure 9.2-1** and the key elements are described in the following sections.

Table 9.2.-1 Summary of PCS/QRA system in Singapore

Plan/Project	Type of PCS Applied	Appraisal Level
Special industry listed in Annex D of CoPPC	PCS and/ or QRA	<ul style="list-style-type: none"> • PCS -> CBPD and the PCD of the NEA • QRA -> Multi-agency panel • (e.g. PCD, SCDF)
Industries classified as scheduled premises Listed in Annex E of CoPPC	PCS and/ or QRA	<ul style="list-style-type: none"> • PCS -> CBPD and the PCD of the NEA • QRA -> Multi-agency panel • (e.g. PCD, SCDF)

Figure 9.2-1 Simplified Overview of Singapore's Permitting process

9.3 EIA Legal Framework

As mentioned above, There is no legislation for Environmental Impact Assessment (EIA) in Singapore, however, the related assessment tool for the Environment are Pollution Control Study (PCS) and Quantitative Risk Assessment (QRA), which are undertaken under the Environmental Protection and Management Act (EPMA). In addition, Pollution Control Study shall be undertaken under the other regulations on the environmental impact assessment process, such as

- 1) Sewerage and Drainage Act (SDA), 1999 and amendment
- 2) Environmental Public Health Act (EPHA), 1987 and amendment
- 3) Energy Conservation Act, 2012

Also, NEA issued the Code of Practice on Pollution Control in 2000 (rectified in 2013) to prescribe the guidance for the pollution control study (PCS) and list of types of Projects that required the study. The history and key milestones of the development of the PCS system in Singapore is summarized in **Table 9.3-1**

Table 9.3-1 PCS Relevant Regulations

Year	Relevant regulations	Key description
1999	The Environmental Pollution Control Act (EPCA)	<ul style="list-style-type: none"> The EPCA replaced the Clean Air Act (first passed in 1971) and was the first law to consolidate environmental pollution control requirements and provide an allowance for impact assessment studies.
2000	Code of Practice on Pollution Control (Third Edition)	<ul style="list-style-type: none"> Third Edition of Code of Practice on Pollution Control. Contains eight section such as covers siting of industries, requirements for Industries, Warehouses and Business Parks, Clearance, Written Approval, License and Permit to Operate a Factory etc.
2002	Environmental Protection and Management Act (EPMA)	<ul style="list-style-type: none"> Replaced the Environmental Pollution Control Act (EPCA) of 1999 Proposed developments which may carry out activities that “could cause substantial pollution of the environment or increase the level of such pollution” may be required to undertake a Pollution Control Study (PCS)
2009	Code of Practice on Pollution Control (CoPPC) (Third Edition with amendments)	<ul style="list-style-type: none"> Contained the performance-based requirements for pollution control and covered the site of industries, buffer zones, hazardous substance control, toxic industrial waste control and consolidates limits for emissions to air, water, noise etc.
2013	Code of Practice on Pollution Control	<ul style="list-style-type: none"> Amending the Annex list and standard, currently 63 types of Special Industries, including a subset referred to as 'Scheduled Premises'

9.4 Types and Sizes of Projects Requiring PCS/QRA Reports

In place of an EIA, developers of project defined as 'Special Industry' in Singapore may be required to conduct a PCS and/or a QRA, according to Code of Practice on Pollution Control, 2013. There are 63 types of Special Industries, including a subset referred to as 'Scheduled Premises', which are generally defined as facilities that have the potential to cause air pollution or that store large quantities of hazardous chemicals and which undertake any one of a list of 16 activities. The proponents shall consider whether their investment projects are required to submit PCS and/or a QRA listed in the following table in the **Annex A** of this report

9.5 PCS/QRA Report Component

There are regulations and specific guidelines for preparation of PCS and QRA report listed as follows;

- Section 36 of the Environmental Protection and Management Act (EPMA) for PCS
- Section 26 of the Environmental Protection and Management Act (EPMA) for QRA

The detailed requirements for the content of the PCS and QRA report that all project proponents must follow as presented below and described in the **Annex B** for PCS Report and QRA Report.

Scope

Anyone intending to carry out any activity, which could cause substantial pollution of the environment or increase the level of such pollution, may be required to conduct a PC Study. This is provided for under Section 36 of the Environmental Protection and Management Act (EPMA).

PCS Report shall follow as presented below.

- Identify the sources of emission of air pollutants, discharge of trade effluent, generation of wastes and emission of noise.
- Quantify and evaluate the impacts of such pollutant emissions.
- Recommend the measures to be incorporated in the design and operation of the plant to reduce the pollutant emissions to acceptable levels that would not pose nuisance or harm to the people and the environment.

Content of PCS Report

- 1) Introduction
- 2) Air Pollution Control
- 3) Water Pollution Control
- 4) Noise Pollution Control
- 5) Management of Hazardous Chemicals
- 6) Toxic Wastes Management
- 7) Recycling and Resources Conservation
- 8) Prevention of Land Contamination
- 9) Conclusion
- 10) Annexes

QRA Report shall follow as presented below.

- To identify and quantify hazards and risks related to the transport, use and storage of hazardous chemicals;
- To determine impact zones due to an accident which will lead to fire, explosion or release of toxic gases (the impact zone shall not extend to any residential building),
- To recommend measures to be incorporated in the design and operation of the plant to keep risks to a low level and to minimize impact zones; and
- To facilitate the development of emergency response plans to deal with all credible accident scenarios.

Content of QRA Report

Chapter 1: Introduction

Chapter 2: Project Description

Chapter 3: Hazard Identification

Chapter 4: Frequency Analysis

Chapter 5: Consequence Analysis

Chapter 6: Risk Acceptance Criteria

Chapter 7: Risk Assessment Results

Chapter 8: Conclusion and Recommendations

Chapter 9: References

9.6 PCS/QRA Process System

9.6.1 PCS/QRA Developer

The Project proponent is required to hire an independent consultant to prepare the PCS and QRA reports. A list of PCS and QRA consultants approved by the NEA is provided within the Guidelines to Pollution Control Study (CBPD) and on the NEA website.

9.6.2 PCS/QRA Preparation and Timeline

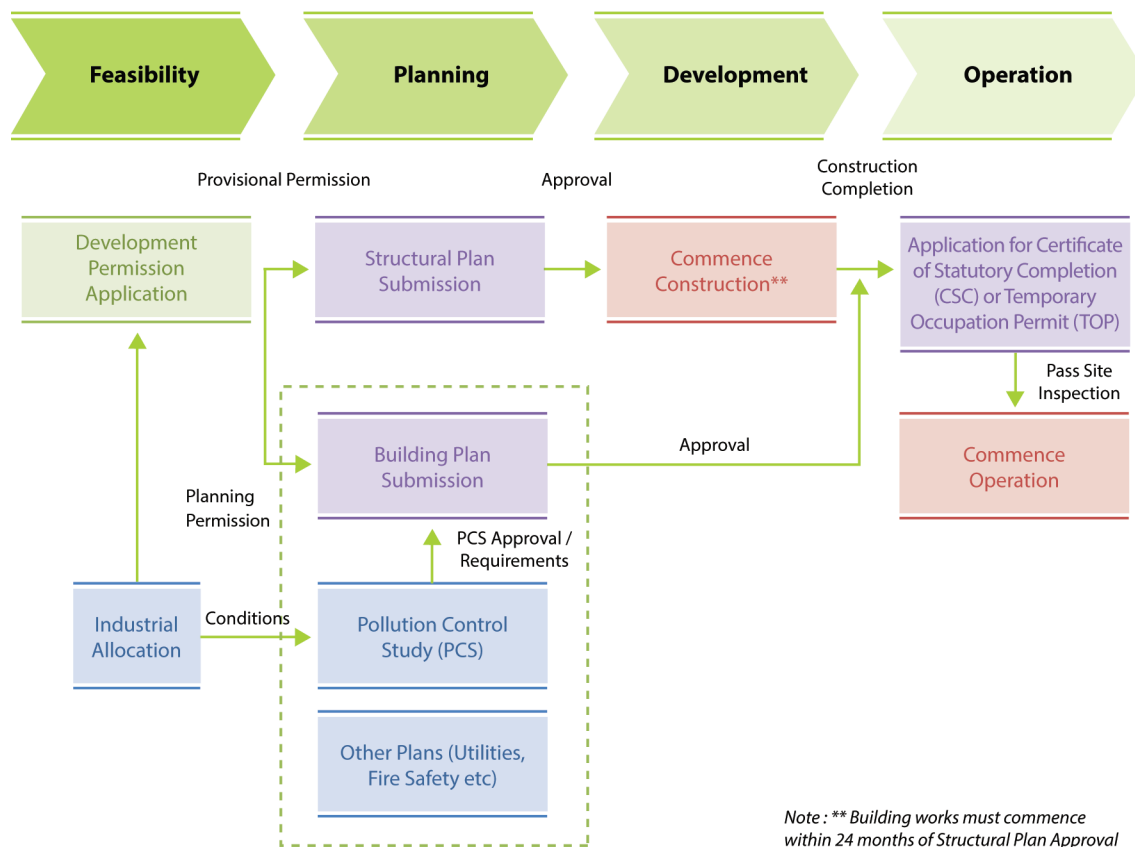
The structure of Project process in Singapore is presented in **Figure 9.6-1** The first stage of the EHS permitting process involves preparation and submission of an Industrial Allocation (IA) Form, which is submitted to the CBPD of the NEA for review through the online Industrial Allocation System (IAS). The IA form outlines the basic project information, including the name, location, nature of activities, likely emission sources and provides an initial characterization of Project emissions. The processing time is typically 7 working days, unless consultation with multiple agencies is required. The NEA, in its response to the IA Form, will indicate whether the facility is required to submit a PCS, QRA or other focused studies such as an air dispersion modeling study.

If required by the authorities, the PCS and the QRA would feed into the Building Plan Submission process and would typically be carried out during the project planning stage. The PCS and QRA approval by the relevant agencies would be required as one of the requirements prior to commencement of operation of the facility. It is noted that the PCS and QRA findings may influence the project design. As such, these studies may be carried out at the feasibility, Front End Engineering Design (FEED) or detailed engineering stage.

Local requirements for each step of a typical PCS process are detailed in the following subsections.

Figure 9.6-1 The PCS/ QRA Process in Singapore

Schematic Illustrating Where Pollution Control Studies Fit into the Regulatory System for Industrial Development in Singapore



KEY

Regulatory Control System (Relevant Authority)

Development Control System (URA and / or JTC*)	Building Control System (BCA)	Technical Department Clearances (incl. NEA)	Project Milestone
---------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------

*Note : * For development on land owned by JTC*

Screening

There is no EIA/ESHIA requirement for pre-screening/ screening, however, the equivalent process for Singapore comprises of the Industrial Allocation (IA) form, where developers are required to provide a description of the industrial process.

The objective of the IA process is for the CBPU to evaluate if a development is appropriately sited (in terms of impact to surroundings and availability of supporting infrastructure) and to identify unmanageable environmental, health and safety issues.

Scoping

There is no active scoping process/consultation between the relevant authorities and the developer in Singapore. The Guidelines to Pollution Control Study published by the CBPD of the NEA provides an outline of the environmental aspects that should be covered in a PCS. Typically, the scope for the PCS is further guided by conditions set by the CBPU upon approval of the IA form. The scope of the PCS will cover all the components of the

facility, with subsequent modifications typically addressed through an addendum or update to the PCS. The PCD's Guidelines for Quantitative Risk Assessment (QRA) Study outlines the objectives and reporting requirements for QRA studies.

Project developers may consult a multi-agency body called the Safety & Risk Management Center (SRMC) to determine whether a QRA is required. This is particularly relevant for modifications or expansions of existing projects.

Impact Assessment and Report Preparation

There is no regulatory preferred impact assessment methodology, however, the Code of Practice on Pollution Control (CoPPC) published by the NEA summarizes the prescriptive guidelines and statutory limits/standards for environmental aspects. It is noted that the PCS report focuses on the environmental emissions and controls associated with the operational phase of the Project.

The QRA approach is determined by the third-party consultants undertaking the study. The QRA report needs to quantify risks associated with accidental releases leading to explosions, fire or toxic discharges. Guidelines for the content of the PCS and QRA reports are further described in topic 9.4

Approximate timeline for development of the PCS and QRA report are indicative and subject to factors such as the complexity of the facility. Approximate timeline for development of the PCS and QRA report are 6 – 10 and 8 - 12 weeks, respectively.

Stakeholder Engagement

Stakeholder engagement is not required under current Singapore law. Typically, stakeholder engagement is not carried out as new industrial facilities are sited within industrial areas that are at least 1 km away from residential areas, and land acquisition is not required.

For non-Government Organizations (NGOs) with a past history of advocacy for environmental issues such as the conservation of natural areas include:

- Nature Society (Singapore); and
- Singapore Heritage Society.

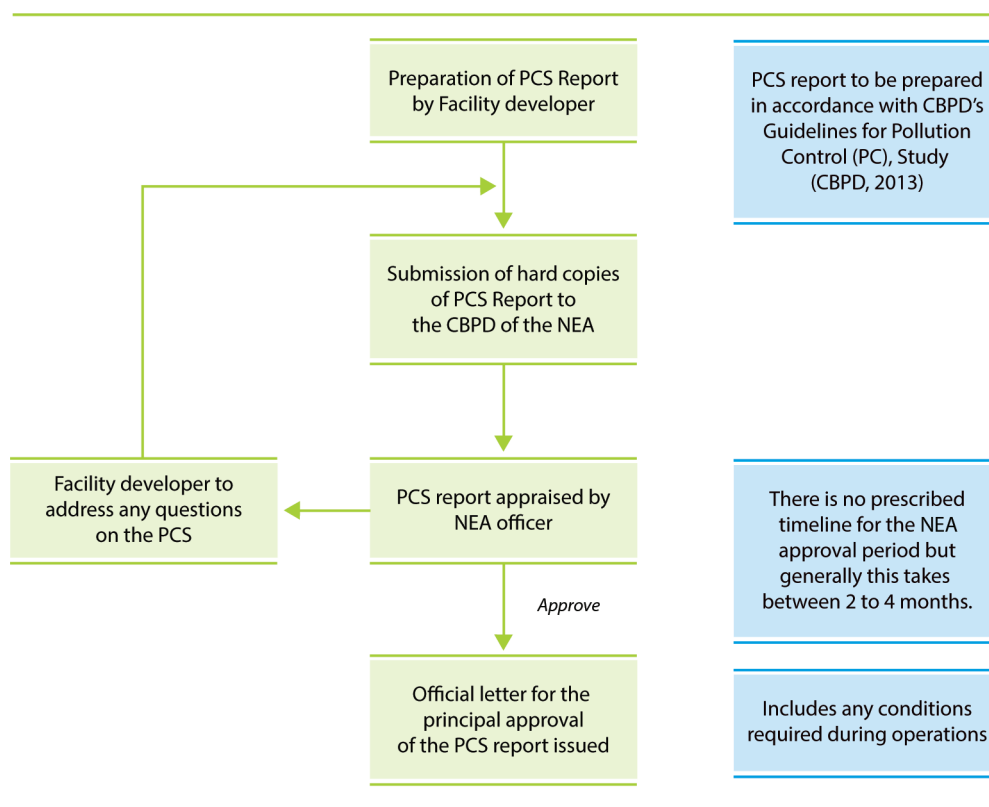
9.6.3 PCS/QRA Approval Process and Timeline

PCS Approval

The PCS report must include the structure of contents specified in the CBPD's Guidelines for Pollution Control (PC) Study (CBPD, 2013), as listed in Section 9.4. Hard copies of the PCS report are typically submitted to the CBPD of the NEA, which will then be appraised by an NEA officer. No presentations are typically required. There is no prescribed timeline for the NEA approval period but generally this takes between 2 to 4 months.

Any questions raised by the NEA officer, and clarifications provided by the facility developer will be undertaken via email correspondence, following which the NEA officer will issue an official letter for the in-principal approval of the PCS report, and a list of requirements that should be incorporated into the facility building plans. The process of PCS approval is presented in **Figure 9.6-2**

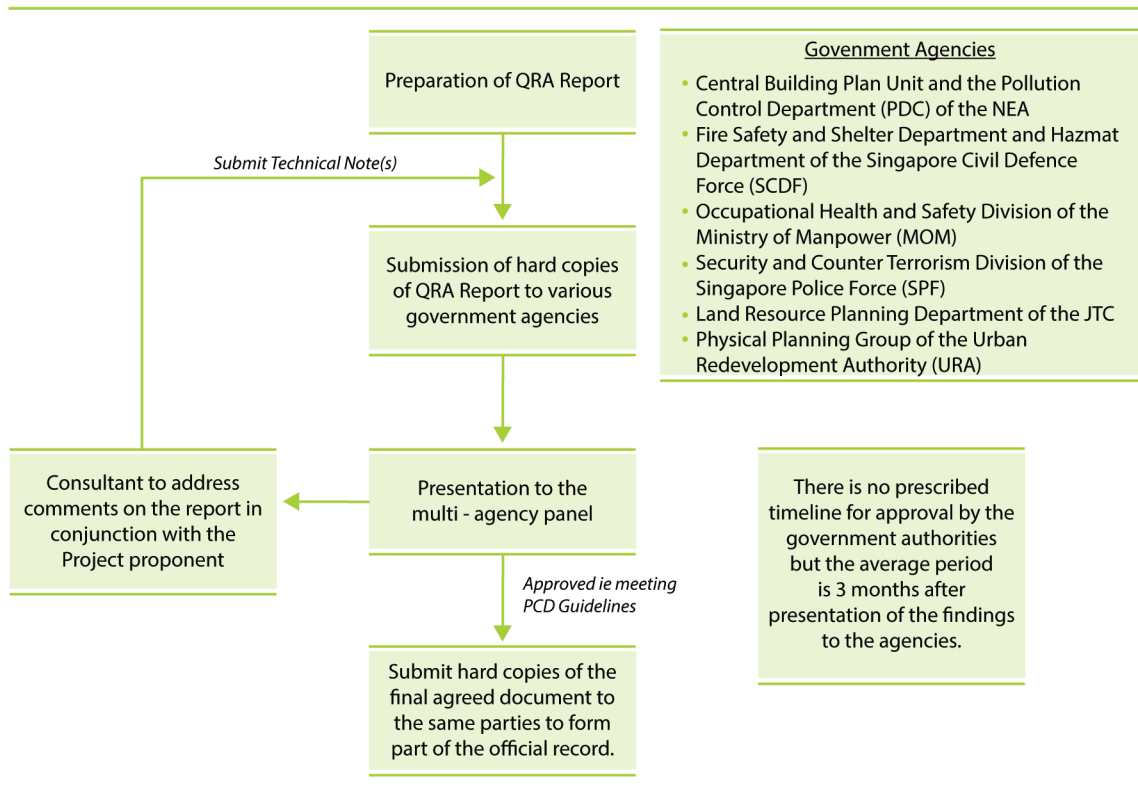
Figure 9.6-2 PCS Appraisal and Approval Process



QRA Approval

For the QRA, hard copies of the report are submitted to various government agencies, ie the Central Building Plan Unit and the Pollution Control Department (PCD) of the NEA, the Fire Safety and Shelter Department and Hazmat Department of the Singapore Civil Defence Force (SCDF), the Occupational Health and Safety Division of the Ministry of Manpower (MOM), the Security and Counter Terrorism Division of the Singapore Police Force (SPF), the Land Resource Planning Department of the JTC and the Physical Planning Group of the Urban Redevelopment Authority (URA). Following a presentation to the multi-agency panel, comments on the report are addressed by the consultant in conjunction with the Project proponent. Hard copies of the final agreed document are then required to be submitted to the same parties to form part of the official record. There is no prescribed timeline for approval by the government authorities but the average period is 3 months after presentation of the findings to the agencies. The process of QRA approval is presented in **Figure 9.6-3**

Figure 9.6-3 QRA Appraisal and Approval Process



Regulators of the local IA process are summarised in the following sections.

- CBPD and the PCD of the NEA. The NEA reviews and provides comment on PCS reports. Once all issues are addressed to the satisfaction of the NEA, an 'in-principal approval' letter is provided. This letter will outline any requirements and conditions associated with the NEA's approval.
- The SCDF, along with the NEA, is the lead agency for the review and approvals of QRAs in Singapore.
- Other bodies involved in the review of QRAs are the Occupational Health and Safety Division of the MoM, the Security & Counter Terrorism Division of the SPF, the Land Resource Planning Department of the JTC and the Physical Planning Group of the URA.

9.7 Basic Questions about PCS/QRA

Questions	Answers
1) What formal legislation exists concerning requirement of PCS QRA?	<ul style="list-style-type: none"> • Environmental Protection and Management Act (EPMA), 2002 • Code of Practice on Pollution Control (CoPPC), 2013
2) Which type of projects are required to undertake PCS/QRA?	<ul style="list-style-type: none"> • The Projects, listed on the Code of Practice on Pollution Control (CoPPC), 2013 Annex D. Currently 64 project types may be required PCS and/ or QRA reports • Annex E, 16 activities types may be required PCS and/ or QRA reports
3) What are the components of the PCS/QRA report?	<p>The PCS reports will composed of main subject-matters as follow;</p> <ul style="list-style-type: none"> • Chapter 1 : Introduction • Chapter 2 : PCS Methodology • Chapter 3 : Project Description • Chapter 4: Air Quality • Chapter 5 : Noise • Chapter 6: Surface Water Quality • Chapter 7: Soil and Groundwater • Chapter 8: Conclusion and Recommendations <p>The QRA reports will composed of main subject-matters as follow;</p> <ul style="list-style-type: none"> • Chapter 1: Introduction • Chapter 2: Project Description • Chapter 3: Hazard Identification • Chapter 4: Frequency Analysis • Chapter 5: Consequence Analysis • Chapter 6: Risk Acceptance Criteria • Chapter 8: Conclusion and Recommendations • Chapter 9: References
4) What authorities involve in PCS/QRA procedure in Singapore?	<ul style="list-style-type: none"> • National Environment Agency (NEA) • Pollution Control Department (PCD) • Central Building Plan Department (CBPD) • Singapore Civil Defense Force (SCDF)
5) When will PCS/QRA be prepared?	<ul style="list-style-type: none"> • Owner of project submit an IA to CBPU for screening. After receive Development Permission Application from CBPU and required submission of PCS and/ or QRA report.

Questions	Answers
6) What are the steps of PCS/QRA	<p>There are 3 steps to conduct PCS/QRA in Singapore. The steps are presented as listed below;</p> <ul style="list-style-type: none"> • Screening process by NEA • NEA condition and requirement • PCS/QRA approval process
7) What are the tools of EIA?	<ul style="list-style-type: none"> • Pollution Control Department (PCD) • Qualitative Risk Assessment (QRA)
8) Who is PCS/QRA developer?	<p>According to Article Section 36 and Section 26 of the Environmental Protection and Management Act, Owners of projects must hire an independent consultant approved by the NEA to carry out the pollution control study (PCS) and the Quantitative Risk Assessment (QRA)</p>
9) Is there any requirement for public consultation in PCS/QRA process?	<p>Not required under current Singapore law</p>
10) How timing in approval process?	<p>Not specified or formalized time frame</p>
11) Fee of approval process	<p>Not specified</p>
12) How long is PCS/QRA valid?	<p>Not specified</p>
13) Penalties	<ul style="list-style-type: none"> • Offence QRA <ul style="list-style-type: none"> - shall be liable on conviction to a fine not exceeding \$50,000 or to imprisonment for a term not exceeding 2 years or to both and, in the case of a continuing offence, to a further fine not exceeding \$2,000 for every day or part thereof during which the offence continues after conviction. • Offence PCS <ul style="list-style-type: none"> - on the first conviction to a fine not exceeding \$20,000 and, in the case of a continuing offence, to a further fine not exceeding \$1,000 for every day - on a second or subsequent conviction to a fine not exceeding \$50,000 and, in the case of a continuing offence, to a further fine not exceeding \$2,000 for every day

Annex A : Project Applicable to PCS/QRA

List of Types and Sizes of Projects Requiring PCS and/ or QRA reports,
According to the Code of Practice on Pollution Control (CoPPC), 2013

List of types and sizes of projects requiring PCS and/ or QRA reports

Item	Types of projects or activities	Size
Food industries		
1.	Slaughtering of livestock, poultry and the likes	All
2.	Manufacture of dairy products	All
3.	Canning and preserving of fruits and vegetables	All
4.	Canning, preserving and processing of fish, crustaceans and similar food	All
5.	Manufacture of vegetable and animal oils and fats	All
6.	Grain mill products	All
7.	Sugar factories and refineries	All
8.	Manufacture of alcoholic products	All
Non-food industries		
9.	Manufacture of prepared animal feed	All
10.	Manufacture of drugs and medicines	All
11.	Manufacture of paints, varnishes and lacquers	All
12.	Other manufacturing industries involving the use of large quantities of organic solvents	All
13.	Assembly of computer hardware, audio-visual equipment, and other communication/electronic equipment, apparatus and parts involving electroplating	All
14.	Assembly of office, computing and accounting machinery involving electroplating or galvanizing operations	All
15.	Assembly of electrical appliances and house- wares involving electroplating or galvanizing operations	All
16.	Assembly of photographic and optical goods involving electroplating or galvanizing operations	All
17.	Manufacture of watches and clocks involving electroplating or galvanizing operations	All
18.	Manufacture of sporting and athletic goods involving woodworking or electroplating operations	All
19.	Other manufacturing industries with electroplating or galvanizing operations	All

Item	Types of projects or activities	Size
20.	Manufacture of furniture and fixtures that are primarily made of metal	All
21.	Manufacture of rubber or polyurethane foam	All
22.	Iron and steel basic industries	All
23.	Manufacture of structural steel products	All
24.	Non-ferrous metal basic industries	All
25.	Metal-refining industries, including recovery of precious metals	All
26.	Manufacture of fabricated metal products, except machinery and equipment, not elsewhere classified	All
27.	Manufacture of engines and turbines	All
28.	Manufacture of agricultural machinery and equipment	All
29.	Machining of metal and woodworking machinery	All
30.	Manufacture of special industrial machinery and equipment, except metal and woodworking machinery	All
31.	Manufacture of machinery and equipment, except electrical, not elsewhere classified	All
32.	Manufacture of electrical industrial machinery and apparatus	All
33.	Tanneries and leather finishing	All
34.	Dressing and dyeing industries	All
35.	Spinning, weaving and finishing of textiles	All
36.	Manufacture of pulp, paper and paperboard including bleaching operations	All
37.	Sawmills and planing mills	All
38.	Other woodworking industries, not elsewhere classified	All
39.	Manufacture of basic industrial chemicals, except fertilizers	All
40.	Manufacture of fertilizers, pesticides and herbicides	All
41.	Manufacture of soaps and cleaning preparations, perfumes, cosmetics and other toilet preparations (except those without chemical reactions)	All
42.	Petroleum refineries	All
43.	Manufacture of synthetic resins, plastic materials and man-made fibers and foams, except those made of glass	All
44.	Manufacture of miscellaneous products of petroleum and coal	All

Item	Types of projects or activities	Size
45.	Manufacture of chemical products, not elsewhere classified	All
46.	Processing of waste oils and waste chemicals	All
47.	Processing of food wastes, including composting plant	All
48.	Bulk storage of hazardous substances	All
49.	Tyre and tube industries	All
50.	Manufacture of rubber products, not elsewhere classified	All
51.	Manufacture of pottery, china and earthen ware	All
52.	Manufacture of glass and glass products	All
53.	Manufacture of structural clay products	All
54.	Manufacture of cement, lime and plaster	All
55.	Manufacture of non-metallic mineral products, not elsewhere classified	All
56.	Industries using radioactive materials	All
57.	Shipbuilding and repairing	All
58.	Manufacture of railroad equipment	All
59.	Manufacture of motor vehicles	All
60.	Manufacture of motorcycles and bicycles	All
61.	Manufacture of aircrafts	All
62.	Manufacture of transport equipment, not elsewhere classified	All
63.	Chemical warehouses handling hazardous substances	All

List of scheduled premises

Item	Types of projects or activities	Size
1.	Cement works, being works for the manufacture or packing of Portland cement, similar cement or pozzolanic materials	All
2.	Concrete works, being works for the manufacture of concrete	Each batch capacity: greater than 0.5 cubic meter
3.	Asphalt works, being works for the manufacture of asphalt or tarmacadam	All
4.	Ceramic works, being works in which any products such as bricks, tiles, pipes, pottery goods, refractories or glass are manufactured in furnaces or kilns fired by any fuel	All
5.	Chemical works, being works in which acids, alkali, chemical fertilizer, soap, detergent, sodium silicates, lime or other calcium compounds, chlorine, chemicals or chemical products are manufactured	All
6.	Coke or charcoal works, being works in which coke or charcoal is produced and quenched, cut, crushed or graded	All
7.	Ferrous and non-ferrous metal works, being works in which metal melting process for casting and/or metal coating are carried out	All
8.	Gas works, being works in which coal, coke, oil or other mixtures or derivatives are handled or prepared for carbonisation or gasification and in which such materials are subsequently carbonised or gasified	All
9.	Crushing, grinding and milling works, being works in which rock, ores, minerals, chemicals or natural grain products are processed by crushing, grinding, milling or separating into different sizes by sieving, air elutriation or in any other manner	All
10.	Petroleum works, being works in which crude or shale oil or crude petroleum or other mineral oils are refined or reconditioned	All

Item	Types of projects or activities	Size
11.	Scrap metal recovery works, being works in which scrap metals are treated in any type of furnace for recovery of metal irrespective of whether or not this is the primary object of any specific premises	All
12.	Primary metallurgical works, being works in which ores are smelted or converted to metal of any kind	All
13.	Pulping works, being works in which wood or cellulose material is made into pulp	All
14.	Abrasive blasting works, being works in which equipment or structures are cleaned by abrasive blasting	All
15.	Premises with boilers	<ul style="list-style-type: none"> • Boiler of steam generating capacity: at least 2,300 kg/h; • Incinerator or furnace burning: 500 kg or more of solid combustible material per hour or 220 kg or more of liquid material per hour
16.	Premises used for the storage of chemicals	<p>Being used or intended to be used for storing:</p> <ol style="list-style-type: none"> 1) More than 100 tons of one or more of the following substances: chemicals, chemical products, hydrocarbons or hydrocarbon products which are toxic or which produce toxic gases on burning or on contact with water or air; 2) More than 1,000 tons of one or more of the following substances: chemicals, chemical products, hydrocarbons or hydrocarbon products with a flashpoint lower than 55°C

Source : the Code of Practice on Pollution Control (CoPPC), 2013

Content of Pollution Control Study (PCS) Report

SCOPE

Anyone intending to carry out any activity, which could cause substantial pollution of the environment or increase the level of such pollution, may be required to conduct a PC Study. This is provided for under Section 36 of the Environmental Protection and Management Act (EPMA).

PCS Report shall follow as presented below

- Identify the sources of emission of air pollutants, discharge of trade effluent, generation of wastes and emission of noise.
- Quantify and evaluate the impacts of such pollutant emissions.
- Recommend the measures to be incorporated in the design and operation of the plant to reduce the pollutant emissions to acceptable levels that would not pose nuisance or harm to the people and the environment.

1) Introduction

- 1.1. Purpose of study
- 1.2. Description of the approved/proposed industrial activities of the facility and site plan showing the layout of the process units and storage areas.
- 1.3. Description of the processes and the main pollution problems expected, including process flow diagrams.

2) Air Pollution Control

- 2.1. Sources of air pollution and sources of odour.
- 2.2. Quality, rates and quantities of air emissions.
- 2.3. Assessment of the impacts of the air emissions, including odorous emissions using dispersion modeling or other acceptable methods.
- 2.4. Measures to control air pollution and ensure compliance with emission standards and requirements in the Code of Practice on Pollution Control.
- 2.5. Measures to control and prevent odour nuisance.
- 2.6. Monitoring programme - Air impurities monitored, type of monitoring equipment/ test carried out, frequency of monitoring.

3) Water Pollution Control

- 3.1. Sources of trade effluent.
- 3.2. Quality, rates and quantities of all wastewater streams and final trade effluent discharges.
- 3.3. Measures to treat all trade effluent and ensure compliance with emission standards and requirements in the Code of Practice on Pollution Control.
- 3.4. For premises storing large quantities of oils and chemicals, measures for containment of spills, leakages and fire-fighting water.
- 3.5. Monitoring programme - Parameters monitored, type of monitoring equipment/ test carried out, frequency of monitoring.

4) Noise Pollution Control

- 4.1. Sources of noise pollution.
- 4.2. Estimates of noise levels emitted.
- 4.3. Impacts of the noise emissions i.e. the noise levels at the receptors surrounding the plant especially residential housing.
- 4.4. Measures to control noise pollution and ensure compliance with noise emission standards and requirements in the Code of Practice on Pollution Control.
- 4.5. Monitoring programme - Type of monitoring equipment/test carried out, frequency of monitoring.

5) Management of Hazardous Chemicals

- 5.1. Inventory and storage of hazardous chemicals.
- 5.2. Evaluation of the acute and chronic (e.g. carcinogen, endocrine disruptor, etc.) hazardous impacts of each hazardous chemical and/or byproducts to the environment and public health.
- 5.3. Measures for safe storage and handling of hazardous substances to ensure compliance with requirements in the Code of Practice on Pollution Control and EPMA and to safeguard the environment and public health.
- 5.4. Policy and procedure to ensure all necessary measures to prevent accidents involving hazardous chemicals would be adopted.
- 5.5. Monitoring programme - Type of monitoring equipment to detect any leakage of hazardous substances, frequency of checks.

6) Toxic Wastes Management

- 6.1. Inventory and storage of toxic industrial wastes, including waste oil, solvent and other solid wastes.
- 6.2. Measures for safe storage and handling of toxic industrial wastes to ensure compliance with requirements in the Code of Practice on Pollution Control.
- 6.3. Sources of trade effluent. System of checks on the safe storage and handling of toxic industrial wastes.

7) Recycling and Resources Conservation

- 7.1. Study the feasibility and recommend measures to reduce, reuse and recycle wastes generated from the plant.
- 7.2. Study the feasibility and recommend measures to conserve energy and water use in the plant.

8) Prevention of Land Contamination

- 8.1. Sources of potential land contamination.
- 8.2. Estimates of impacts from such sources on land contamination.
- 8.3. Measures to prevent land contamination.
- 8.4. Monitoring programme, if appropriate.

9) Conclusion

- 9.1. Whether the proposed measures in parts (2) to (7) are adequate to insure compliance with statutory requirements and the Code of Practice on Pollution Control.
- 9.2. Whether the plant/proposed plant and its operations would pose any significant pollution impact on the environment and on developments in its vicinity, including odour, noise and dust nuisances.

10) Annexes

- 10.1. MSDS of each chemical.
- 10.2. All supporting calculations and documentations including detailed results of dispersion/ computer modeling/charts.

Content of Quantitative Risk Assessment (QRA) Report

Chapter 1 : Introduction

- 1.1. Background
- 1.2. Study Objectives
- 1.3. Scope of Work
- 1.4. Methodology
- 1.5. Report Structure

Chapter 2 : Project Description

- 2.1. Overview
- 2.2. Project Location
- 2.3. Process Description
- 2.4. Safety Systems

Chapter 3 : Hazard Identification

- 3.1. Overview
- 3.2. Hazardous Properties of Materials
- 3.3. Major Hazardous Materials
- 3.4. Major Hazards
- 3.5. Representative Scenarios

Chapter 4 : Frequency Analysis

- 4.1. Overview
- 4.2. Release Frequencies
- 4.3. Event Tree Analysis
- 4.4. Event Outcome Consequences

Chapter 5 : Consequence Analysis

- 5.1. Overview
- 5.2. Source Term Modeling
- 5.3. Physical Effect Modeling
- 5.4. Meteorological Conditions

- 5.5. Impact Criteria
- 5.6. Assumptions
- 5.7. Results of Consequence Modeling

Chapter 6 : Risk Acceptance Criteria

- 6.1. Introduction
- 6.2. Consequence Criteria
- 6.3. Individual Risk Criteria

Chapter 7 : Risk Assessment Results

- 7.1. Overview
- 7.2. Consequence Analysis Results
- 7.3. Individual Risk Results

Chapter 8 : Conclusion and Recommendations

- 8.1. Conclusion
- 8.2. Salient Findings
- 8.3. Recommendations

Chapter 9 : References

- 9.1. Annexes

10

EIA in **Vietnam**





10.1 Definitions

Strategic Environmental Assessment (SEA) means analysis and forecast of impacts on the environment to be exerted by draft development strategies, planning and to propose counter measures in order to reduce negative impacts to the environment, being the basis and integrated in development strategies, planning and plans to attain the target of sustainable development.

Environmental Impact Assessment (EIA) means analysis and forecast of impacts on the environment to be exerted by specific projects so as to work out measures to protect the environment when such projects are carried out.

Environmental Protection Plan or Environmental Protection Commitment means the written form for the Household-based production, business or service establishments and entities not required the EIA Preparation by law. This commitment is undertaken relevant waste reduction and treatment measures, and to the compliance with the provisions of the law on environmental protection.

10.2 Introduction

Environmental Impact Assessment (EIA) is the process to identify and manage the effects on natural resources and environment for any economic development. The EIA legislation in Vietnam was established in December 1993 when the National Assembly approved the National Law on Environmental Protection (LEP) that specified EIA and enforced in January 1994; ten years later, the law implementation encounter the rapid socio-economic development, so the LEP required strengthening on several aspects including on the provisions for public participation; therefore LEP was revised to scope on the provision and structure of EIA in 2005. Thereafter new regulatory have been issues to specify the provisions made in the revised Law:

- Government's Decree No. 80/2006/ND-CP details and guides implementation, reporting and appraisal arrangements, including the list of projects that require EIA; also outlines institutional responsibilities for EIA. This decree is amended on February 2008 by Decree No. 21/2008/ND-CP especially on articles pertaining to Environmental standards, projects that require EIA and community participation. Currently, types and sizes of Projects requires the EIA Preparation for project permission or approval
- Decree No. 29/2011/ND-CP amends some articles of the previous decrees (2006 and 2008) such as
 - Regulated three levels (based on project type) of impact assessment consist of Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA), Environment Protection Commitment (CoEP) and Post-EIA.

- Authorized the agency to perform the report appraisal, which SEA, EIA and Post EIA is reviewed by National Level (Department of Environmental Appraisal and Impact Assessment Vietnam Environment Administration) and Provincial Level (People Committee-Department of Natural Resources and Environment), while CoEP, the simplified EIA, is reviewed by District Environment protection unit
- Large infrastructure development, in particular hydropower, mining, and economic land development is required to conduct SEA.

The Law on Environmental Protection (LEP) is revised in 2014, which provides statutory provisions on environmental protection activities and notifies rights, powers, duties and obligations of regulatory bodies, agencies, organizations, households and individuals who are tasked with the environmental protection task. Thereafter new regulatory, Decree No. 18/2015/ND-CP, is promulgated to measure the implementation regarding to environmental protection master plan, strategic environmental assessment, environmental impact assessment and environmental protection plan in 2015.

According to Decree No.18/2015/ND-CP, six entities as listed in Appendix I shall be subjected to conduct SEA, whereas 113 project types in accordance with Appendix II shall undertake EIA and submit to the People's Committee of the province for approval. However, the Ministry of National Defense and the Ministry of Public Security shall assess and approve EIA reports on projects subject to national defense and security secrets and projects under their competence in approval for investment, except for 11 projects prescribed in Appendix III that shall be assessed and approved by the Ministry of Natural Resources and Environment (MoNRE). Other entities that are not identified in EIA list shall be required to register the environment protection plans except for twelve entities in appendix IV that shall be exempted.

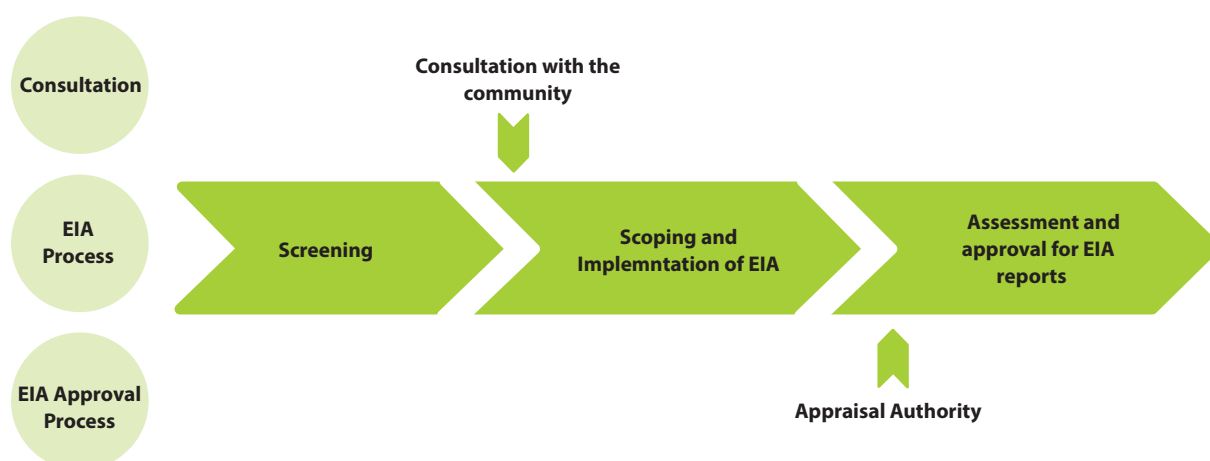
This decree also provides a guidance on EIA process with project/development lists subject to SEA, EIA and Environmental Protection Plans as well as their approval levels summarized in **Table 10.2-1**

Table 10.2-1 Summary of EIA system in Vietnam

Plan/Project	Type of EIA Applied	Appraisal Level
Projects Listed in Appendix I	SEA	National/Provincial
Projects Listed in Appendix II Decree No. 18/2015/ND-CP	EIA	<ul style="list-style-type: none"> • Ministerial agencies • The Ministry of National Defense and the Ministry of Public Security • The People's Committee of the province
Projects Listed in Appendix III Decree No. 18/2015/ND-CP	EIA	<ul style="list-style-type: none"> • The Ministry of Natural Resources and Environment
Project listed in Appendix IV Decree No. 18/2015/ND-CP	Environmental Protection Plans	<ul style="list-style-type: none"> • The environment protection authority

An overview of Vietnam's EIA process proposed is shown in **Figure 10.2-1** and the key elements are described in the following sections.

Figure 10.2-1 Simplified Overview of Vietnam's EIA Process



10.3 EIA Legal Framework

The Law of Environmental Protection (LEP) was initially developed in 1993, and this law was the first to require the use of EIA in Vietnam. The history and key milestones of the development of the EIA system in Vietnam is summarized in **Table 10.3-1** below

Table 10.3-1 EIA Relevant Regulations

Year	Relevant regulations	Key description
1994	National Law on Environmental Protection (LEP), 1994	<ul style="list-style-type: none"> Initially Specified legislation on EIA
	Decree No. 175/1994/ ND-CP	<ul style="list-style-type: none"> Prescribed the EIA Requirement for any development both new and existing operational projects; Stipulation on types of projects subject to EIA; and Guidance on the contents of an EIA report, and the EIA appraisal and approval process.
2004	Decree No. 143/2004/ ND-CP	<ul style="list-style-type: none"> Authorized the EIA appraisal level into two levels (i.e. national and provincial)
2005	Law on Environmental Protection (LEP), 2005	<ul style="list-style-type: none"> Revised from previous LEP, 1994 to scope on the provision and structure of EIA Classified the EIA system to Strategic Environmental Assessment (SEA), EIA and Environmental Protection Commitment (CoEP).

Year	Relevant regulations	Key description
2006	Decree No. 80/2006/ ND-CP And Circular No.08/2006/ TT-BTNMT	<ul style="list-style-type: none"> • Determined details and guides implementation, reporting and appraisal arrangements, including the list of projects that require EIA; also outlines institutional responsibilities for EIA • Introduced the Supplementary EIA – which requires for projects that change location, size, design capacity or technology, or projects that do not execute within 24 months following the date of first EIA approval; • Prescribed the lists of projects subject to different types of EIA; • Provided new guidance on the contents of different types of EIA reports, and the EIA appraisal and approval process; • Appended Requirement on stakeholder engagement with the People's Committee (PC) and the Fatherland Front Committee (FFC) at the commune level for EIA only.
2011	Decree no. 29/2011/ND-CP	<ul style="list-style-type: none"> • Provided Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA) and Environmental Protection Commitment (CoEP) • Authorized the agency to perform the report appraisal • Prescribed the type of Project required SEA
2014	Law on Environmental Protection (LEP), 2014	<ul style="list-style-type: none"> • Revising the National Law on Environmental Protection 2005, including statutory provisions on environmental protection activities • Classifying the Environmental Impact Assessment system into Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA) and Environmental Protection Plans
2015	Decree No. 18/2015/ND-CP	<ul style="list-style-type: none"> • Providing the statutory provisions of SEA, EIA and Environmental Protection Plans • Prescribing the list of entities Subject to SEA, EIA and environmental protection plan preparation.
	Circular No.27/2015/ TT-BTNMT	<ul style="list-style-type: none"> • Providing guidelines for SEA, EIA and Environmental Protection Plans

10.4 Types and Sizes of Projects Requiring EIA Reports

The lists of projects and activities which are required to submit Environmental Protection Plan SEA and EIA announced in Appendix I to Appendix IV of Decree on Environmental Protection Planning No 18/2015/ND-CP, Strategic Environmental Assessment, Environmental Impact Assessment and Environmental Protection Plans is used for screening. The proponents shall consider whether their investment projects are required to submit Environmental Protection Plan SEA and EIA listed in the following Table in the **Annex A** of this report

10.5 EIA Report Component

Two regulations and specific guidelines for preparation of EIA and SEA report, which are Law on Environmental Protection, 2014 and Circular No. 27/2015/TT-BTNMT. The EIA Report shall use the form prescribed in Appendix 2.2 and 2.3 of the Circular No. 27/2015/TT-BTNMT, which is described in Appendix B and shall content 6 chapters, as presented below:

Chapter 1 : Summary of project

Chapter 2: Natural environment conditions and socio-economic conditions in the project area

Chapter 3 : Assessment and predictions of environmental impact for project

Chapter 4 : Measures for prevention and mitigation of negative impact and response to risks and incidents of project

Chapter 5 : Environmental management and surveillance program

Chapter 6 : Consultation with the community

Meanwhile, the contents of the SEA report shall use the form prescribed in Appendixes 1.2 and 1.3 of the Circular No. 27/2015/TT-BTNMT, which are

- 1) Necessity and legal grounds for the task of preparing the strategy, planning and proposal.
- 2) Method for carrying out the strategic environment assessment.
- 3) Summary of subject-matters included in the strategy, planning and proposal.
- 4) Natural and socio-economic environment of an area which is affected by the strategy, planning and proposal.
- 5) Assessment on the conformity of the strategy, planning and proposal to environmental protection viewpoints and objectives.
- 6) Assessment and prediction with reference to the positive and negative trend towards environmental issues to be provided in the case of implementing the strategy, planning and proposal.
- 7) Assessment and prediction with reference to the trend in climate change impacts in the course of implementing the strategy, planning and proposal.
- 8) Consultation to be required in the process of the strategic environment assessment.
- 9) Measures for sustaining the positive trends, controlling and mitigating negative trends towards environmental issues in the process of the strategy, planning and proposal.
- 10) Issues that need to be further researched in the process of implementing the strategy, planning, proposal, and recommended solutions.

10.6 EIA Process System

10.6.1 EIA Developer

According to Article 12 of Decree No.18/2015/ND-CP, The EIA report can be developed by either the Project Proponents themselves or by EIA consultancy service providers as prescribed in Article 19 of LEP, 2014. EIA developers shall fully meet the following conditions:

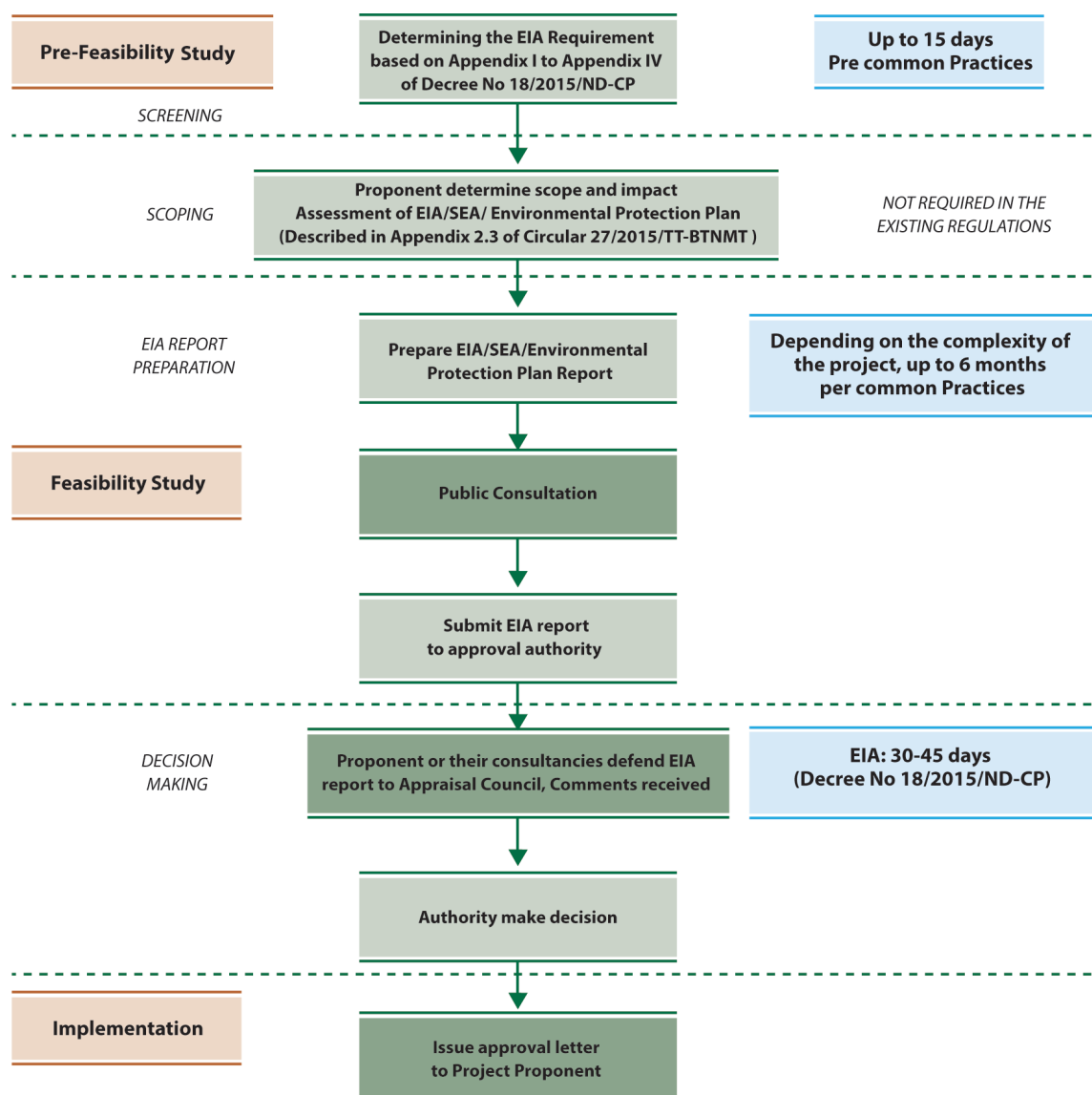
- Having the staff members in charge of EIA must obtain at least Bachelor's degrees and Certificate in EIA consultancy.
- Having laboratories, inspection and calibration devices eligible for performing measurement, sampling, processing and analysis of environmental samples serving the EIA of the project; if there is not any laboratory with decent equipment for inspection and calibration, it is required to have a contract with a unit capable of carrying out inspection and calibration
- Having specialist staff members related to the project obtaining at least Bachelor's degrees

In common practice, an EIA team including environmental experts from the consultancy service provider and technical staff from the Project is usually formed in order to fulfil the two former conditions.

10.6.2 EIA Preparation and Timeline

The structure of EIA process in Vietnam is presented in **Figure 10.6-1**

Figure 10.6-1 The EIA Process in Vietnam



It should be noted that estimate timeline of each EIA process is based on factual information specified under the law and experience working in the country. This is for reference only and the actual timeline can be changed depending on project situation and/or complexity of the project. Details of each step are presented in the following sections.

Screening

In the Screening step, the Project Proponent refers to the list of projects subject to EIA in Annex II and III of the Decree 18/2015/ND-CP and identify if the interested project needs an Environmental Protection Plan SEA and EIA which appraisal level (i.e. district, national or provincial) will be required for that project. This step may take up to 15 days per common practice because consultation with both national and local authorities may be needed if the Project Proponent faces difficulty in defining the type of EIA or the appraisal level applicable for their projects.

Scoping

There is no scoping step required in the regulatory EIA process of Vietnam. The Project Proponent together with their consultant define the scope of the impact assessment including project boundary, baseline survey, impacts and sensitive receptors to be assessed, as well as the scope of stakeholder engagement. Dialogue with the authority on the scope of EIA is not commonly conducted during this stage.

Impact Assessment and Report Preparation

There is no regulatory preferred impact assessment methodology. The Project Proponent together with their consultant decides the methodology of assessment. According to Circular No. 27/2015/TT-BTNMT, impacts assessment must be conducted for each phase of the project (i.e., preparing, construction, operation and decommissioning, and any activities that have potential environmental impacts). Impacts assessment must be specific for each source of impact and each impact receiver. Each impact must be assessed in detail regarding its magnitude, duration, and scale. Impact should be qualified and quantified using calculation or modeling (if modeling is feasible) and assessed against applicable standards. However in common practice, social, biodiversity and cumulative impacts are usually not assessed to a sufficient extent (as compared to good international practice) due to lack of specific requirements in EIA regulations.

The EIA report shall follow the structure of contents provided in Appendix 2.3 of Circular No. 27/2015/TT-BTNMT, respectively. Decree No. 18/2015/ND-CP requires that an Environmental Protection Plan SEA or EIA report be prepared concurrently with the feasibility report for the project. The report must be submitted for approval before applying for construction license.

Stakeholder Engagement

It is noted that stakeholder engagement is required for EIA report only. Stakeholder engagement involving all stakeholders is commonly not conducted because the EIA regulations only requires a limited number of stakeholders that must be consulted (i.e. commune level People's Committee and Father Front Committee which are considered to be the representatives of local affected community). Large scale stakeholder engagement that includes face-to-face meetings with affected community can be requested, upon decision of the commune level People's Committee. However, this practice has rarely happened, due to limited capacity of the commune level People's Committee on working with large scale development projects.

Commonly, the Project Proponent is required to send a consultation request letter along with a written summary of project information, potential environmental and social impacts associated and mitigation measures proposed to relevant stakeholders. Within 15 working days upon receiving request from the Project Proponent, the relevant stakeholders shall provide their responses in writing. The forms of stakeholder engagement request and stakeholder's response are provided in Appendix 2.3 of Circular No. 27/2015/TT-BTNMT.

Engagement is not required and thus no stakeholder needs to be involved in the following cases:

- An investment project in a consolidated production, business or service zone whose EIA report has been approved by a competent authority in the phase of building the zone's infrastructure facilities, provided that this project conforms with the sector and trade planning in the approved EIA report of such zone;
- An investment project in a sea area for which the administration responsibility has not yet been assigned to any commune level People's Committee; and
- An investment project involving state secrets.

A Project Proponent investing in a consolidated production, business or service line unconformable with the sector planning in the approved EIA report of such a zone (e.g. Industrial Park, Economic Zone) shall consult the agency having approved the EIA report in the phase of building the zone's infrastructure facilities (i.e. MoNRE or local DoNRE).

10.6.3 EIA Approval Process and Timeline

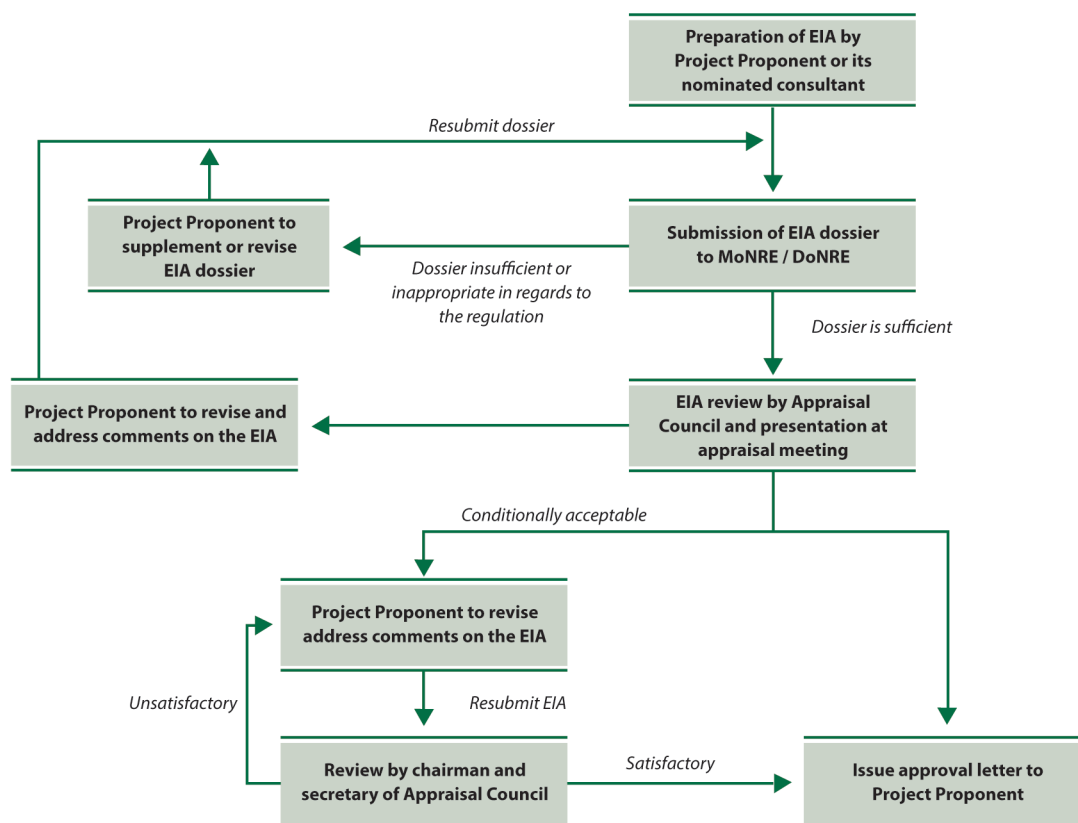
After finishing preparation of the EIA report, the project proponent should submit a dossier to the appraisal authority. The dossier must include the following documents: (see detail in article 6 of circular No. 27/2015/TT-BTNMT)

- A written request for appraisal and approval of the EIA report (required for EIA only);
- The EIA report (at least 7 copies)
- The Feasibility Study report of the Project.

EIA Appraisal and Approval

In the EIA appraisal process, provincial DoNRE or the Department of EIA Appraisal and Approval of MoNRE will form an appraisal council. An EIA appraisal council is normally composed of representatives of environmental management authorities that have jurisdiction related to the project and environmental specialists. Normally, over 50% of the appraisal council members are specialized in the environmental field and other fields related to the project's sector. For an EIA appraised by MoNRE, the appraisal council must include representatives of the provincial-level DoNRE of the locality in which the project is to be implemented. The process of EIA approval is presented in **Figure 10.6-2**. (see detail in article 9 of circular No. 27/2015/TT-BTNMT)

Figure 10.6-2 EIA Appraisal and Approval Process



Upon receiving the dossier, the appraisal authority is required to respond to the Project Proponent within five (5) working days regarding whether the submitted dossier is complete. Once the dossier is determined to be complete, an appraisal council will be established to appraise the EIA report. The time limit for appraising and approving an EIA report is 45 working days by MoNRE and 30 working days by the other assessment authority (not including the time for addressing the comments and additional requests of the appraisal council) after receiving a complete and valid dossier as regulated in Decree 18/2015/ND-CP.

The appraisal council will call for an appraisal meeting, in which the Project Proponent is required to present the EIA in front of the council and address the questions and comments of the council. At the end of the appraisal meeting, the appraisal council will verbally announce whether the EIA is unacceptable, acceptable or conditionally acceptable. If the EIA is deemed unacceptable, the EIA needs to be revised and goes through the appraisal process again. In the case that the EIA is conditionally acceptable, the appraisal council will provide comments and additional requirements on the EIA within three days after the appraisal meeting. The Project Proponent will then revise the EIA accordingly before resubmitting to the appraisal authority. The revised EIA will not go through the appraisal process again, but will be reviewed by the chairman and secretary of the appraisal council only. The time for addressing the comments and additional requests of the appraisal council can take up to 6 months as common practice.

Within 15 working days after the appraisal council considers that the EIA report (or the revised EIA report, in the case of resubmitting) is complete and acceptable, an approval letter will be issued to the Project Proponent.

10.7 Basic Questions about EIA

Questions	Answers
1) What formal legislation exists concerning requirement of EIA?	<ul style="list-style-type: none"> • Law on Environmental Protection (LEP) effected on 23 June 2014 • Decree on Environmental Protection Planning, Strategic Environmental Assessment, Environmental Impact Assessment and Environmental Protection Plans (No. 18/2015/ND-CP) • Circular on Strategic Environmental Assessment, Environmental Impact Assessment and Environmental Protection Plans (No. 27/2015/TT-BTNMT)
2) Which type of projects are required to undertake EIA?	<ul style="list-style-type: none"> • According to Appendix II Decree No. 18/2015/ND-CP , 113 project types shall undertake Environmental Impact Assessment Report and submitted to EIA assessment report authorities for approval • Appendix III Decree No. 29/2011/ND-CP has indicated that there are 11 project types in the list of projects under the responsibilities on appraising and approving the report on Environmental Impact Assessment of Ministry of Natural Resources and Environment, which EIA Report shall be made and submitted to Ministry of Natural Resources and Environment for appraisal and approval
3) What are the components of the EIA report?	<p>The Environmental Impact Assessment reports will composed of main subject-matters as follow;</p> <ul style="list-style-type: none"> • Chapter 1 : summary of project • Chapter 2 : natural environment conditions and socio-economic conditions in the project area • Chapter 3 : assessment and predictions of environmental impact for project • Chapter 4 : measures for prevention and mitigation of negative impact and response to risks and incidents of project • Chapter 5 : Environmental Management and Surveillance Program • Chapter 6 : Consultation with the community

Questions	Answers
4) What authority involve in EIA procedure in Vietnam?	<ul style="list-style-type: none"> • Ministry of Natural Resources and Environment (MoNRE) (except for the national defense and security secrets project) • Ministry of National Defense and the Ministry of Public Security (for the national defense and security secrets project) • People's Committee of province
5) When will EIA be prepared?	<p>According to Article 19 in LEP 2014, Carrying out the Environment Impact Assessment</p> <ol style="list-style-type: none"> 1. Owners of projects regulated in Clause 1 Article 18 of LEP 2014 shall carry out, on his own, or hire an advisory organization to carry out the environmental impact assessment and take statutory responsibility for the conclusive result after carrying out such assessment. 2. The environment impact assessment must be performed in the preparatory stage of the project. 3. The conclusive result yielded after carrying out the environment impact assessment shall be expressed in the form of the report on environmental impact assessment. 4. Expenses incurred from the formulation and inspection of the report on environmental impact assessment, and included in total investment budget shall be covered by the project owner.
6) What are the steps of EIA in Vietnam?	Environmental Impact Assessment in Vietnam has 4 steps, which are Screening, Consultation, Scoping and Implementation of EIA and EIA approval process
7) What are the tools of EIA?	<ul style="list-style-type: none"> • Environmental Impact Assessment (EIA) • Environmental Protection Plan

Questions	Answers
8) Who is EIA developer?	<p>According to Article 19 in LEP 2014, Owners of projects shall carry out, on his own, or hire an advisory organization to carry out the environmental impact assessment according to Article 13 in Decree No. 18/2015/ND-CP</p> <ol style="list-style-type: none"> 1. The project owner or the advisory organization conducting EIA must meet all requirements below: <ol style="list-style-type: none"> a) There are staff members in charge of EIA meeting requirements prescribed in Clause 2 of this Article; b) There is specialist staff members related to the project obtaining at least Bachelor's degrees; c) There are laboratories, inspection and calibration devices eligible for performing measurement, sampling, processing and analysis of environmental samples serving the EIA of the project; if there is not any laboratory with decent equipment for inspection and calibration, it is required to have a contract with a unit capable of carrying out inspection and calibration. 2. The staff members in charge of EIA must obtain at least Bachelor's degrees and Certificate in EIA consultancy
9) Is there any requirement for public consultation in EIA process?	Not specify by law, however, in accordance with ADB's safeguard policies on environment which is recognized in Myanmar, public consultation will be held at least twice: once during the early stages of EIA field work and once when the draft report is available, and prior to loan appraisal by ADB.
10) How timing in approval process?	<ul style="list-style-type: none"> • Within 45 working days from the date on which the satisfactory application is received regarding projects under assessment of the Ministry of Natural Resources and Environment • Within 30 working days from the date on which the satisfactory application is received regarding projects not under assessment of the Ministry of Natural Resources and Environment
11) Fee of approval process	Not specified, However, Article 19 in LEP2014 has addressed that the project owner shall cover expenses incurred from the formulation and inspection of the report on environmental impact assessment, and included in total investment budget.

Questions	Answers
12) How long is EIA valid?	<p>Project owners must repeat the report on the environmental impact assessment when:</p> <ul style="list-style-type: none"> a) The project is not executed within a period of 24 months as from the date on which the decision on approving the report on environmental impact assessment is made; b) Project location has been changed as against the approved plan specified in the report on environmental impact assessment; c) An increase in the size, capacity and technological changes can cause adverse impacts on the environment in comparison with the approved alternatives identified in the report on environmental impact assessment.
13) Penalties	Not specified

Annex A : Project Applicable to EIA

List of the Projects Require an EIA SEA and Environmental Protection Plan According to Pursuant to Government's Decree No. 18/2015/ND-CP date February 14, 2015 on Environmental Protection Planning, Strategic Environmental Assessment, Environmental Impact Assessment and Environmental Protection Plans

Types and Sizes of Projects Requiring EIA Reports

Item	Types of projects or activities	Size
1.	Projects under competence to decide investment policies of the National Assembly; or competence to decide investment approval of the Government or the Prime Minister	All
2.	<p>Projects using land of national parks, wildlife sanctuary, world heritage sites, biosphere reserves; projects using land of historic-cultural sites or national scenic beauties;</p> <p>Projects for deforestation; change in forest land uses; change in paddy land uses</p>	<p>All</p> <ul style="list-style-type: none"> • Forest or specialized forest area: at least 5 hectares • Natural forest area: at least 10 hectares • Other forest area: at least 50 hectares • Paddy land changed into non-agricultural land area: at least 5 hectares
Construction projects		
3.	Construction projects for technical infrastructure of urban areas or residential areas	Area: at least 5 hectares
4.	Projects for new or renovated drainage system in urban areas or residential areas; dredging of canals, rivers, or lakes	<ul style="list-style-type: none"> • Length of a project for new or renovated drainage system in urban areas or residential areas: at least 10 km; • Dredged canals, rivers, or lakes area: at least 5 hectares; • Total dredging volume: at least 50,000 m³

Item	Types of projects or activities	Size
5.	Construction projects for infrastructure of industrial parks, hi-tech zones, industrial complexes, export processing zones, commercial zones, craft villages and other concentrated business areas	All
6.	Construction projects for supermarkets or shopping malls	Floor area: at least 10,000 m ²
7.	Construction projects for class 1 or class 2 markets in the cities or towns	All
8.	Construction projects for medical examination and treatment facilities and other health facilities	Scale: at least 50 beds
9.	Construction projects for tourist accommodation establishments or residential areas	<ul style="list-style-type: none"> • Tourist accommodation establishment scale: at least 50 rooms; • Residential area: at least 500 inhabitants or 100 households
10.	Construction projects for tourist resorts; sports, recreational centers or golf courses	Area: at least 10 hectares
11.	Construction projects for cemeteries or crematoria	Cemetery area: at least 20 hectares; All, regarding crematoria
12.	Construction projects for fighting works, military training centers, shooting ranges and defense ports; military depots; and defense-economic zones	All
13.	Construction projects for sea encroachment	<ul style="list-style-type: none"> • Coastal boundary length: at least 1,000 m; or • encroachment area: at least 5 hectares
Construction material projects		
14.	Construction projects for cement or clinker plants	<ul style="list-style-type: none"> • All construction projects for cement plants • Capacity: at least 100,000 metric tons of clinkers per year

Item	Types of projects or activities	Size
15.	All construction projects for brick, roofing tile and fibrocement sheet plants	<ul style="list-style-type: none"> Capacity: at least 100 million standard bricks or roofing tiles per year or 500,000 m² of roofing fibro-cement sheets per year
16.	All construction projects for flooring and walling tiles	Capacity: at least 500,000 m ² per year
17.	Construction projects for construction supplies and materials	Capacity: at least 50,000 metric tons of products per year
18.	Projects for asphalt, commercial concrete and other	Capacity: at least 100 metric tons of products per day
Transport projects		
19.	Construction projects for underground or cable car traffic works	<ul style="list-style-type: none"> All, regarding underground traffic works; length of cable cars: at least 500 m
20.	Construction projects for automobile highways and automobile roads from class I to III; mountainous road class IV; railways, overhead railways	<ul style="list-style-type: none"> All, regarding automobile highways and automobile roads from class I to III; railways, overhead railways; Length of class IV mountainous roads: at least 50 km
21.	Construction projects for airports (runways, cargo terminals, passenger terminals)	<ul style="list-style-type: none"> All runways, passenger terminals; Capacity of cargo terminals: at least 200,000 metric tons of goods per year
22.	Construction projects for road bridges or rail bridges	Length: at least 500 m (excluding feeder roads)
23.	Construction projects for river and sea ports; asylum harbors; projects for dredging of navigable channels, inland waterway jet	<ul style="list-style-type: none"> River ports and seaports: Capable of receiving 1,000 DWT ships or larger; Asylum harbors: capable of receiving 1,000 DWT ships or larger Dredging: at least 50,000 m³ per year
24.	Construction projects for car terminals or railway stations	Land area: at least 5 hectares

Item	Types of projects or activities	Size
Projects for electronics, power and radioactivity		
25.	Construction projects for nuclear reactors; construction projects for nuclear power plants, or thermal power plants	All
26.	Construction projects for business facilities using radioactive substances or arising radioactive waste	All cases arising radioactive waste exceed permitted limit
27.	Construction projects for wind power plants, photo-electric power plants, hydroelectric plants	<ul style="list-style-type: none"> • Wind power plant or photoelectric power plant area: at least 100 hectares • Reservoir capacity: at least 100,000 m³ of water • Hydroelectric power plants capacity: at least 10 MW
28.	Construction projects for electricity transmission lines and power stations	<ul style="list-style-type: none"> • Electricity transmission lines: at least 100 kV; • Power stations capacity: at least 500 kV
29.	Projects for manufacture or processing of electrical or electronic equipment and electronic components	<ul style="list-style-type: none"> • Electronic equipment, electrical or electronic components capacity: at least 500,000 products per year; • Electrical equipment capacity: at least 500 metric tons of products per year
Projects for irrigation, forest extraction and cultivation		
30.	Construction projects for water reservoirs	Reservoir volume: at least 100,000 m ³
31.	Construction projects for irrigation and water supply and drainage works for agricultural, forestry and fishery production	Irrigation and water supply and drainage work area: at least 500 hectares
32.	Projects for dykes and sea and river embankments	Length: at least 1,000 m
33.	Project for forest extraction	<ul style="list-style-type: none"> • Planted forests which are zoned production forests at least 200 hectares in area • At least 50 hectares in area regarding natural production forests

Item	Types of projects or activities	Size
34.	Projects for industrial crop zones; cattle feed crop zones; herbal ingredient crop zones; and consolidated zones for vegetable and flower plantation	Area: at least 50 hectares
Projects for mineral exploration, extraction and processing		
35.	Projects for extraction of sand, gravel, leveling materials	<ul style="list-style-type: none"> • Crude sand or gravel: at least 50,000 m³ of per year; • Crude leveling materials: at least 100,000 m³ of per year
36.	Projects for solid mineral extraction (not using toxic chemicals, industrial explosives)	<ul style="list-style-type: none"> • Mineral or earth and stone waste: at least 50,000 m³ per year • Mineral or earth and stone waste: at least 1,000,000 m³
37.	Projects for exploration of rare earth, radioactive minerals; projects for extraction and processing of solid minerals using harmful chemicals or industrial explosives; projects for processing and refining of non-ferrous metals, radioactive metals, rare earth	All
38.	Projects for processing of solid minerals not using harmful chemicals	<ul style="list-style-type: none"> • Capacity: at least 50,000 m³ of products per year; • Earth and stone waste volume: at least 500,000 m³ of per year
39.	Projects for water extraction for business and domestic purposes	<ul style="list-style-type: none"> • Ground water capacity: at least 3,000 m of water per day and night; • Surface water capacity: at least 50,000 m³ of water per day and night;
40.	Projects for extraction of mineral water, natural hot water (underground or on the surface)	<ul style="list-style-type: none"> • Bottled water capacity: at least 200 m³ of water per day and night; • Other water capacity: at least 500 m³ of water per day and night;
41.	Projects for sorting and enrichment of rare earth and radioactive minerals	Capacity: at least 500 metric tons of products per year
Projects for oil and gas		
42.	Project for oil and gas extraction	All

Item	Types of projects or activities	Size
43.	Construction projects for oil refineries (except those on LPG filling and lubricant preparation); petrochemical, drilling fluid, or petro chemistry plants; construction projects for oil and gas pipelines; construction projects for oil and gas transit centers	<ul style="list-style-type: none"> • All construction projects for oil refineries plants (except those on LPG filling and lubricant preparation); • petrochemical, drilling fluid, or petro chemistry plants: capable of at least 500 metric tons of products per year; or • construction projects for oil and gas pipelines: capable of at least 20 km of pipelines; • All construction projects for oil and gas transit centers
44.	Construction projects for petroleum depots and shops	Storing volume: at least 200 m ³
Projects for waste treatment		
45.	Construction projects for recycling and treating solid waste and/or hazardous waste plants	All regarding hazardous waste; Normal solid waste capacity: at least 10 metric tons per day
46.	Construction projects for urban or industrial sewage treatment system	All
Projects for engineering and/or metallurgy		
47.	The projects of producing water for metallurgy plants	<ul style="list-style-type: none"> • All, regarding projects using scraps as materials; • Projects using other material capacity: at least 1,000 metric tons of products per year
48.	Construction projects for metal rolling mills	Capacity: at least 2,000 metric tons of products per year
49.	Construction projects for shipyards	Capable of receiving 1,000 DWT ships or larger
50.	Construction projects for container and trailer manufacturing and repairing plants	<ul style="list-style-type: none"> • Capable for producing at least 500 containers or trailers per year • Capable for repairing at least 2,500 containers or trailers per year
51.	Construction projects for locomotives and compartments building, repairing and assembling plants	All

Item	Types of projects or activities	Size
52.	Construction projects for motorbike and automobile manufacturing and assembling plants	<ul style="list-style-type: none"> Capacity: at least 5,000 motorbikes per year; Capacity: at least 500 automobiles per year
53.	Construction projects for machinery and tool machinery manufacturing plants	Capacity: at least 1,000 metric tons of products per year
54.	Construction projects for metal plating, coating and polishing plants	Capacity: at least 500 metric tons of products per year
55.	Construction projects for formed aluminum manufacturing plants	Capacity: at least 2,000 metric tons of products per year
56.	Construction projects for weapon, military supplies and technical equipment manufacturing and repairing plants	All
Projects on timber processing and glass, ceramic and china manufacture		
57.	Construction projects for timber, woodchips of natural timber processing mills	Capacity: at least 3,000 m ³ of products per year;
58.	Construction projects for plywood plants	Capacity: at least 100,000 m ² per year
59.	Construction projects for wood product plants	Depot area: at least 10,000 m ²
60.	Construction projects for glass, ceramic and china plants	Capacity: at least 1,000 metric tons of products per year or at least 10,000 products per year
61.	Construction projects for bulb and thermos plants	Capacity: at least 1,000,000 products per year
Projects for food manufacturing and processing		
62.	Construction projects for food pre-processing or processing establishments	Capacity: at least 500 metric tons of products per year
63.	Construction projects for slaughterhouses	Capacity: at least 200 livestock per day; 3,000 poultries per day
64.	Construction projects for aquatic product, fish paste, aquatic by-product processing establishments	Capacity: at least 100 metric tons of products per year
65.	Construction projects for sugar mills	Capacity: at least 10,000 metric tons of sugar per year

Item	Types of projects or activities	Size
66.	Construction projects for alcohol and spirit breweries	Capacity: at least 500,000 liters of products per year
67.	Construction projects for beer and beverage breweries	Capacity: at least 10,000,000 liters of products per year
68.	Construction projects for monosodium glutamate plants	Capacity: at least 5,000 metric tons of products per year
69.	Construction projects for milk manufacturing and processing plants	Capacity: at least 10,000 metric tons of products per year
70.	Construction projects for oil manufacturing and processing plants	Capacity: at least 10,000 metric tons of products per year
71.	Construction projects for confectionary makers	Capacity: at least 5,000 metric tons of products per year
72.	Construction projects for refined water and bottled refined water plants	Capacity: at least 2,000 m ³ of water per year
Projects for farm product processing		
73.	Construction projects for cigarette plants or tobacco ingredients processing plants	<ul style="list-style-type: none"> • Capacity: at least 100,000,000 cigarettes per year; • Capacity: at least 1,000 metric tons of tobacco ingredients per year
74.	Construction projects for farm product or starch manufacturing and processing establishments	<ul style="list-style-type: none"> • Manufacturing and processing of dried products : at least 10,000 metric tons of products per year • Manufacturing and processing of fresh products: at least 1,000 metric tons of products per year
75.	Construction project for tea, cashew nut, cocoa, coffee, and/or peppercorn processing establishments	<ul style="list-style-type: none"> • Dry manufacturing and processing Capacity: at least 5,000 metric tons of products per year • Wet manufacturing and processing capacity: at least 1,000 metric tons of products per year

Item	Types of projects or activities	Size
Groups of projects for animal husbandry and animal feed processing		
76.	Construction projects for animal feed processing establishments	Capacity: at least 1,000 metric tons of products per year
77.	Construction projects for aquaculture establishments	Water surface area: at least 10 hectares; extensive farming project area: at least 50 hectares
78.	Construction projects for livestock and poultry husbandry establishments; wild animal raising and caring establishments	<ul style="list-style-type: none"> • Livestock and poultry husbandry area: at least 1,000 m² • Wild animal husbandry area: at least 500 m²
Projects for fertilizer and plant protection product production		
79.	Construction projects for fertilizer plants	Capacity: at least 1,000 metric tons of products per year
80.	Projects for fertilizer and plant protection product warehouses	<ul style="list-style-type: none"> • Plant protection product warehouses capacity: at least 500 metric tons and • fertilizer warehouses: at least 5,000 metric tons
81.	Projects for plant protection product plants	All
82.	Projects for plant protection product bottling or packing establishments	Capacity: at least 300 metric tons of products per year
83.	Construction projects for organic or micro-bio fertilizer plants	Capacity: at least 10,000 metric tons of products per year
Projects for chemicals, pharmaceuticals and cosmetics		
84.	Construction projects for pharmaceutical or veterinary drug plants; production projects for medicinal materials (including medicinal chemistry and excipient materials)	<ul style="list-style-type: none"> • All, regarding vaccine production • Veterinary drugs, medicinal materials capacity (including medicinal chemistry and excipient materials): at least 50 metric tons of products per year
85.	Construction projects for cosmetics plants	Capacity: at least 50 metric tons of products per year
86.	Construction projects for chemical, plastic, plastic-based product or paint-based product plants	Capacity: at least 100 metric tons of products per year

Item	Types of projects or activities	Size
87.	Construction projects for plastic product or plastic bead plants	Capacity: at least 1,000 metric tons of products per year
88.	Construction projects for detergent and additive plants	Capacity: at least 1,000 metric tons of products per year
89.	Projects for plant protection discharge substance, explosive and fire device plants	All
90.	Construction projects for industrial explosive plants; fixed explosive warehouses; chemical warehouses	<ul style="list-style-type: none"> • All industrial explosive plants; fixed explosive warehouses capable for storing at least 5 metric tons of products • Chemical warehouse capacity: at least 500 metric tons
91.	Construction projects for salterns	Area: at least 100 hectares
Projects for paper and stationery production		
92.	Construction projects for paper pulp and paper from raw materials plants	Capacity: at least 300 metric tons of products per year
93.	Construction projects for paper or carton packaging from paper pulp or scrap plants	Capacity: at least 5,000 metric tons of products per year
94.	Construction projects for stationery plants	Capacity: at least 1,000 metric tons of products per year
Projects for textiles, dyeing and garment		
95.	Construction projects for weaving or dye- weaving establishments	All
96.	Construction projects for nondye weaving establishments	Capacity: at least 10,000,000 m ² of fabrics per year
97.	Construction projects for textile and garment manufacturing and processing plants	<ul style="list-style-type: none"> • Capacity: at least 50,000 products per year for those involving the washing and bleaching process • Capacity: at least 2,000,000 products per year for those not involving the washing and bleaching process
98.	Construction projects for industrial washing and laundering	At least 50,000 products per year
99.	Production projects for silk and synthetic fibers	At least 1,000 metric tons of products per year

Item	Types of projects or activities	Size
Other projects		
100.	Construction projects for old ship demolition or clean-ship plants	All
101.	Construction projects for oil rubber and latex processing plants	Capacity: at least 1,000 metric tons of products per year
102.	Construction projects for medical product and equipment from medical plastics and rubber plants	Capacity: at least 100,000 products per year
103.	Construction projects for footwear plants	Capacity: at least 1.000.000 pairs per year
104.	Construction projects for rubber tires and tubes plants	<ul style="list-style-type: none"> • Capacity of rubber tires and tubes of automobiles or tractors: at least 50,000 products per year • Capacity of bikes or motorbikes: at least 100,000 products per year
105.	Construction projects for printing ink and other printing material plants	<ul style="list-style-type: none"> • Printing ink capacity: at least 500 metric tons of per year and • printing material capacity: 1,000 products per year
106.	Construction projects for battery and cell factories	Capacity: at least 50,000 kWh per year or at least 100 metric tons of products per year
107.	Construction projects for tanning establishments	All
108.	Construction projects for manufacturing CO ₂ gas, filling and liquefying gases, manufacturing industrial gas	Capacity: at least 3.000 metric tons of products per year
109.	Projects for relocation	At least 300 households
110.	Projects for yards for raw materials, scrap	Area: at least 1 hectares
111.	Projects not listed from Nos.1 thru 100 at least 500 m ³ of industrial wastewater per day and night or at least 200,000 m ³ of exhaust per hour or at least 5 metric tons of solid waste per day and night	All

Item	Types of projects or activities	Size
112.	Projects for renovation, expansion, upgrading and capacity increase	Scale and capacity equivalent to the projects from Nos. 1 thru 110
113.	Projects having work items with size and capacity up to the level of projects listed from Nos. 1 thru 110 of this Appendix	All

Types and sizes of projects requiring EIA reports under assessment and approval of The ministry of natural resources and environment

Item	Types of projects or activities	Size
1.	Projects under competence to decide of the National Assembly, the Government and the Prime Minister.	All
2.	Projects that use land of national parks, wildlife sanctuary	Projects that use at least 1 hectares of land of national historical-cultural monument; at least 5 hectares of land of world heritage sites or national scenic beauties; or at least 10 hectares of land of biosphere reserves.
3.	Construction projects for nuclear power plants, nuclear fusion power plants, nuclear reactors	<ul style="list-style-type: none"> • Construction projects for at least 600 MW power plants; • construction projects for hydroelectric power plants, irrigation works with a capacity of at least 100,000,000 m³ of water.
4.	Construction projects for sea encroachment	<ul style="list-style-type: none"> • Construction projects for at least 20 hectares; project that use at least 20 hectares of protection forests or • specialized forests, at least 100 hectares of natural forests; projects using at least 10 hectares of paddy land.

Item	Types of projects or activities	Size
5.	Construction projects for oil refineries; construction projects for establishments manufacturing chemicals, plant protection products, detergents, additives, chemical fertilizers or processing rubber	Construction projects for at least 10,000 metric tons products per year
	projects for cement plants	Construction projects with capacity of at least 1,200,000 metric tons of cement per year
	Projects for business rising radioactive waste; construction projects for battery plants	Construction projects with capacity of at least 300,000 kWh per year or 600 metric tons of products per year
	Construction projects for paper pulp mills	Construction projects with capacity of at least 25,000 tons of products per year
	Construction projects for oil, monosodium glutamate, sugar, milk processing plants	Construction projects with capacity of at least 50,000 metric tons of products per year
	Construction projects for beer or beverage plants	Construction projects with capacity of 30,000,000 liters of products per year
	Construction projects for alcohol or spirit breweries	Construction projects with capacity of 2,000,000 liters of products per year
	Construction projects for dye- weaving establishments	Construction projects with capacity of at least 100,000,000 m ² of fabrics per year
	Construction projects for aquatic product processing	Construction projects with capacity of 5,000 metric tons of products per year

Item	Types of projects or activities	Size
6.	Projects for oil extraction; projects for extraction of solid mineral, sand, gravel or leveling materials	Projects with capacity of at least 500,000 m ³ of crude materials per year
	Projects for dredging of waterway, navigable channels, piers;	Projects with capacity of at least 500,000 m ³ per year or at least 10,000,000 m ³ of dredged materials
	Projects for mineral extraction	Mining area of at least 50 hectares or a weight of at least 10,000,000 m ³ of mineral or earth and stone waste
	Projects for rare earth and radioactive mineral extraction exceeding the exemption under the provisions of the law on safety and radiation control; projects for sorting and enrichment of rare earth and radioactive minerals	Projects with capacity of at least 50,000 tons of products per year
	Projects for processing and refining of rare earth, ferrous metals and radioactive minerals	Projects with capacity of at least 100,000 tons of refined ores per year
	Projects for water or minerals under competence to decide of the Ministry of Natural Resources and Environment.	All
7.	Construction projects for infrastructure of industrial parks, export-processing zones, hi-tech zones, industrial complexes, tourism, recreational, or urban areas	Construction projects with an area of at least 200 hectares
	Construction projects for ports or piers	Construction projects for at least 50,000 DWT ships
	Construction projects for refining of iron or steel	Construction projects with capacity of at least 200,000 products per year.

Item	Types of projects or activities	Size
8.	Construction projects for recycling and processing of ordinary solid waste	Construction projects with capacity of at least 250 metric tons per day and night
	Projects for recycling and processing of hazardous waste; construction projects for medical examination and treatment facilities	Construction projects with scope of at least 500 beds (except for those approved by the Ministry of Health)
	Construction projects for concentrated sewage treatment systems	Construction projects with capacity of at least 5,000 m ³ per day and night regarding industrial wastewater, or at least 50,000 m ³ per day and night regarding domestic wastewater.
9.	Projects for extension, upgrade, or capacity expansion of business facilities up to capacity equivalent to projects listed from No.1 thru No.8 of Appendix III.	
10.	Projects having at least one item in the projects listed from Nos.1 thru No.9 of Appendix III.	
11.	The projects listed in the Appendix II which are located in the administrative divisions of at least two provinces or on the territorial waters not identifiable under administrative management of the People's Committee of the provinces or projects which are located in the administrative divisions of at least 2 countries.	

Types and Sizes of Projects Requiring Strategic Environmental Assessment (SEA) reports

Item	Types of projects or activities	Size
1.	Socio-economic development strategies and master plans of socio-economic areas, key economic areas, economic corridors, economic rims	All
2.	Socio-economic development master plans of provinces, cities, special zones affiliated to central governments and administrative - economic units	All
3.	National strategies for development of system of economic zones, export processing zones, hi-tech zones, and industrial parks	All
4.	Strategies, planning, or plans for development of industries and fields having dramatic impacts on the environment <ul style="list-style-type: none"> 4.1 National strategies and planning for development of industries and fields <ul style="list-style-type: none"> 4.1.1 National strategies for development of industry, agriculture and rural development, transport, construction, tourism, and health 4.1.2 Strategies or planning for development of electricity, hydroelectricity, thermoelectricity, atomic energy and nuclear power; extraction of oil and gas, petro chemistry; paper; chemical industries, fertilizers, plant protection products; rubber; textiles; cement; steel; exploration, mining and mineral processing 4.1.3 Strategies or planning for development of agriculture, forestry, aquaculture, irrigation, or animal husbandry 4.1.4 Strategies or planning for development of infrastructure in road traffic, railway traffic, sea traffic, river traffic, port traffic or air traffic 4.1.5 Strategies or planning for overall urban system; planning for construction materials 4.1.6 Strategies and planning for development of tourism and golf courses 4.1.7 Strategies and planning for development of medical examination and treatment network 	All

Item	Types of projects or activities	Size
	4.2 Planning for development of inter-provincial and inter-regional industries and fields 4.2.1 Planning for development of aquatic products 4.2.2 Planning for development of irrigation 4.2.3 Planning for development of hydroelectricity 4.2.4 Planning for development of transport 4.2.5 General planning for urban areas 4.2.6 Planning for extraction and processing of minerals 4.2.7 Land-use planning 4.2.8 Planning for use of marine resources	
5.	Amendments to strategies, planning, or plans	All
	5.1 Strategies, planning, or plans mentioned in Section 1, 2, 3 and 4 of this Appendix not undergone assessment of SEA reports before the amendments 5.2 Strategies, planning, or plans mentioned in Section 1, 2, 3 and 4 of this Appendix posing risks of negative impact on the environment due to the amendments	
6.	Strategies, planning, or plans as prescribed by the National Assembly, the Government of the Prime Minister	All

Reference: Decree on Environmental Protection Planning No. 18/2015/ND-CP

Annex B : Guideline of EIA Content

According to Circular on Strategic Environmental Assessment, Environmental Impact Assessment and Environmental Protection Plans (No. 27/2015/TT-BTNMT)

Content of EIA Report

Chapter 1: Summary of project

1.1. Name

Accurate name of the Project (according to the investment report, the feasibility study report or equivalents).

1.2. Project owner

Sufficient and accurate name of the Project owner, address and contact; full name and position of the legal representative of the Project owner.

1.3. Geographic location

Clearly describe geographic location (including co-ordinates according to current standards, boundary, etc.) of the location of the Project in relation to:

- Natural factors (traffic system; system of rivers, lakes and other water resources forests, biosphere reserves, national parks, nature reserve, nature reserve of the world, etc.)
- Socio-economic factors (residential areas; urban areas; business facilities; culture and religion works; historical remains, etc.)
- Other factors around the project area likely to be affected the Project.

Notes: Information about factors mentioned above must be showed in the geographic location diagram with appropriate scale (the Project owner may provide administrative map of the Project area or satellite image, if necessary) and clear annotation.

- Proposed locations (if any) and selected location.

Notes:

- Clarifying current conditions of management and use of land on which the Project is located
- Describing the conformity between the selected location and regulations of law and development planning that approved by the competent authorities.

1.4. Project description (selected plan)

1.4.1. Objectives

1.4.2. Quantity and size of work items

Adequately and thoroughly list and describe quantity and size (space and time) of work items, according to each phase of the Project, which are likely to affect the environment during the execution of the Project, attach diagrams and general drawings of work items or diagrams and separate drawings of each work item that is likely to affect the environment. The above work items shall be classified into 2 types as follows:

- Primary work items: work items serving business purposes of the Project;
- Auxiliary work items: transportation, post and telecommunications, electricity supply, water supply, rainwater drainage, sewerage, site clearance, relocation, trees, wastewater treatment plants, solid waste treatment or ground, forest protection works, fishery protection works, saltwater intrusion prevention, alum spread prevention, hydrological change prevention, prevention of erosion and siltation; work items for oil spill response, fire and explosion, environmental incidents and other work items (depending on type of the Project).

1.4.3. Execution measures and technology of work items of the Project

Make a detailed description of execution measures and technology of work items of the Project likely to create negative impact on the environment and specify grounds for the selected measure and technology.

1.4.4. Production and operation technology

Make a detailed description of production and operation technology likely to create negative impact on the environment and specify grounds for the selected technology accompany with an illustrated diagram. The illustrated diagram must show factors that may occur, such as: sources of waste generation and other factors other than the waste such as change in water balance, siltation, erosion, shaking, noise, encroachment on natural ecoregions, encroachment upon residential areas, vestiges, religion and culture works, business areas.

1.4.5. List of proposed machinery and equipment

Make a list of primary machinery and equipment of the Project.

1.4.6. Raw materials and fuel (input) and products (output) of the Project

Make a list of composition and properties of raw materials (input) and products (output) of the Project together with instructions in their trade name and chemical formula (if any).

1.4.7. Schedule

Make a detailed schedule of work items according to every phase of the Project from the start to the finish date and to be shown in diagrams.

1.4.8. Investment

Clarify total investment and investment sources of the Project, especially the investment rate of environment protection activities of the Project.

1.4.9. Management and execution of the Project

Describe manpower demand, organizational structure and connection between departments and divisions; accommodation of workers according to every phase of the Project. The project management shall be illustrated by a flowchart.

The division in charge of the environment shall specify its number of employees in charge, their qualifications and training levels.

Requirements: The above essential contents of the Project (scope; phases; measure, quantity of work items; production and operation technology; demand for energy, materials, water, machinery and equipment, schedule) shall be summarized as follows:

Phase	Activities	Schedule	Technology / Method	Environmental factors likely to occur
1	2	3	4	5
Preparation				
Construction				
Operation				
Other phase (if any)				

With respect to a renovation project, extension project, upgrade project, or capacity increase project, apart from the above information, it is required to clarify current conditions of existing business facilities, work items, equipment and technology that are kept using in the renovation, extension or upgrade project; work items and equipment that are replaced, adjusted, supplemented, or connected with new work items.

Chapter 2: Natural environment conditions and socio-economic conditions in the project area

2.1. Natural environment conditions

2.1.1. Geography and geology

Make a description of objects, phenomena or processes that are likely to affect the Project (provide details of the Project if it probably changes geography or scenery factors, or relates to mineral extraction or underground works).

2.1.2. Climate and meteorology

Make a description of typical climate and meteorology constituents with sufficient figure chain, suitable for the type and location of the Project, that serve as the basis for calculation and forecast of the Project's impact such as: temperature, wind direction and speed, rainfall, etc., particularly about irregular events.

2.1.3. Hydrography

Make a description of typical hydrography with sufficient figure chain, suitable for the type and location of the Project that serve as the basis for calculation and forecast of the Project's impact such as: water level, flow, flow rate, etc.

2.1.4. Current quality of constituents of soil, water and air environment

- Clarify the quality of environmental constituents on which the Project probably create direct impact, for example the air environment that directly receives the exhaust fumes from the Project (paying more attention to the affected areas at the end of the main wind directions), the water resource receiving the sewage from the Project, the soil quality of the proposed location, etc.
- Give reviews and comments in terms of the environment quality in comparison with environmental technical regulations and standards, identify the pollution causes; make a preliminary assessment of the carrying capacity of the environment in the project area according to sufficient environmental data collected from sampling and analysis of environmental constituents.
- Specify sampling locations for quality analysis as prescribed in regulations of law in force.
- Every location for sampling and measurement must have a code, co-ordinate, time and place instruction, as well as, be shown in the clear tables and illustrated in the diagram on the project location map. The measurement, sampling and analysis must comply with procedures and regulations on monitoring and analysis of the environment and be certified by the competent authority.
- Carry out the conformity assessment of the selected location with the characteristics of natural environment of the project location.

Notes: Regarding a radioactive-related project, it is required to make a detailed description of radioactive monitoring process, monitoring results; assessment of current conditions and preliminary analysis of causes.

2.1.5. Biological resources

The biodiversity of the project area and affected areas, including:

- Data and information about terrestrial biodiversity that is likely to be affected by the Project, including:
 - habitat and eco-sensitive areas (inland wetlands, nature reserve, biosphere reserves, the world natural heritage sites in and around the project area)
 - distance from the Project to nearest eco-sensitive areas
 - area of forest types (if any)
 - list and the current status of the plants, wildlife, including endangered and rare species that are given priority in terms of protection, and endemic species in the area that are likely to be affected by the Project

- Data and information about biodiversity of marine and coastal wetlands that is likely to be affected by the Project, including the characteristics of marine ecosystems and coastal wetlands, the list and status of plankton, benthos, fishes and other aquatic resources (if any).

Requirements of Section 2.1:

- Latest data about the natural environment conditions from the physical survey conducted by the investor or the consultancy unit. Specify source and time of survey in case of data of another unit;
- Specify reference materials and data.

2.2. Socio-economic conditions

2.2.1. Economic conditions

Describe economic activities (industry, agriculture, transport, mineral extraction, tourism, trade, services and other fields), jobs and income of households that are likely to be affected by the Project execution.

2.2.2. Socio-economic conditions

- Specify demographic characteristics, conditions of health, culture, education, standard of living, the poverty rate, the cultural, social, or religious works, historical remains, residential areas, urban areas and other related works likely affected by the Project.
- Carry out the conformity assessment of the selected location with the socio-economic nature of the project location.

Requirements of Section 2.2:

- Data about socio-economic conditions must be updated at the time of implementation of EIA accompany with origin, time and reliability of such data;
- Regarding projects invested in concentrated business zones, it only requires description of development investment activities and environment protection activities of the concentrated business zones in the Section 2.2.

Chapter 3: Assessment and predictions of environmental impact for project

General rules: The assessment and predictions of environmental impact for the Project to natural environment, socio-economic conditions and communities shall be carried out according to the preparation phase, construction phase, operation phase and other phases (dismantling, closing, environmental remediation and other activities likely to affect the environment) of the Project (if any) and affecting sources and affected objects must be detailed. Each impact shall be evaluated particularly in terms of levels, scope of space and time (conducting quantitative and qualitative evaluation and detail the Project using calculation and model methods (if applicable)).

3.1. Assessment and predictions

3.1.1. Preparation phase

There are following primary contents:

- Assess the suitability between the project location and environment conditions and socio-economic conditions in the project area
- Assess the impact of appropriation of land, emigration, and relocation (especially for households losing residential land, farmland and facing unemployment)
- Assess the impact of the site clearance (clearance of vegetation, leveling, and other activities).

3.1.2. Construction phase

There are following primary contents:

- Assess and predict impact of construction materials' extraction for the Project (under scope of the Project)
- Assess and predict impact of transport of construction materials, machinery and equipment
- Assess and predict impact of execution of work items of the Project or the execution of the Project (if the Project has no work item).

3.1.3. Operation phase

There are following primary contents:

- Assess and predict impact of waste generation sources (gas, liquid and solid)
- Assess and predict impact of non-related waste sources.

3.1.4. Other phases (dismantling, closing, environmental remediation and other activities likely to affect the environment) (if any)

It is required to primarily predict the remaining waste after the operation phase and other environmental issues relating to the activities of demolition, rehabilitation, and improvement in the project area.

Requirements pertaining to Sections 3.1.1, 3.1.2, 3.1.3 and 3.1.4:

- Each affecting source shall be assessed according to the affected objects, scope, level, probability of impact, the rehabilitation of the affected objects
- The affecting source related to the waste must be clarified: It is required to specify quantity, load and concentration of all specific waste parameters of the Project and compare with standards and technical regulations in force, specify waste generation space and time
- It is needed to clarify the affecting sources related to waste (noise, vibration, erosion, slide, collapse, land subsidence, erosion of river, stream, lake, coast; silting of river-beds, streambed, lakebed, seabed; change of levels of water surface and underground water; salinization; alkaline intrusion; deforestation, losing of vegetation and wildlife, impact on sensitive ecosystems, degradation

of environmental physical and biological components; biodiversity change, the impacts of climate change and the other waste-unrelated affecting sources)

- The most important negative and positive impacts that need to be assessed and predicted include: Impact on natural environment components; impact on biodiversity; impact of community's health; and impact on climate change
- The assessment and predictions of impact on the community's health must clarify extent of impact in connection with the size and scope of the affected community
- The assessment and predictions of a renovation, extension, upgrade, or capacity increase project shall be carried out according to collective impacts of new waste sources and waste sources of the existing business facilities.

3.1.5. Assessment and predictions of impact caused by risks and incidents of project

- The assessment and predictions of impact on the environment and the community's health caused by risks and incidents of the Project shall base on result of predictions of the Project (feasibility study report or equivalent) or presumptive risks and incidents occurring in the Project phases (preparation, construction, operation and other phases (if any))
- It is required to specify extent, space and time occurring the impact due to risks or incidents.

3.2. Comments about details and reliability of results of assessment and predictions

Give objective comments about details and reliability of results of assessment and predictions of environmental impacts likely occurring during the execution of the Project. Regarding issues lacking essential reliability, the objective and subjective grounds shall be clarified (lack of information and data; outdated existing data; non-accurate and reliable data that is self-collected; the unreliable or fairly reliable assessment method; poor employees in charge of EIA; and other reasons).

Notes: The assessment and predictions of impact not related to the waste (noise, vibration, erosion, slide, collapse, land subsidence, erosion of river, stream, lake, coast; silting of river-beds, streambed, lakebed, seabed; change of levels of water surface and underground water; salinization; alkaline intrusion; deforestation, losing of vegetation and wildlife, degradation of environmental physical components; biodiversity declines, etc.) must clarify the scope, extent of impact in conjunction with time and affected objects.

Chapter 4: Measures for prevention and mitigation of negative impact and response to risks and incidents of project

4.1. Measures for prevention and mitigation of negative impact

- 4.1.1. Preparation phase
- 4.1.2. Construction phase
- 4.1.3. Operation phase
- 4.1.4. Other phases (if any)

4.2. Measures for prevention and response to risks and incidents of project

- 4.2.1. Preparation phase
- 4.2.2. Construction phase
- 4.2.3. Operation phase
- 4.2.4. Other phases (if any)

According to results of evaluation and predictions of impact on the environment and the community's health caused by risks and incidents of the Project, it is required to propose measures for management, prevention and response to risks and incidents following every phase of the Project (preparation, construction, operation and other phases (if any)).

4.3. Proposal for execution of environmental protective measures and works

- Summary of budget estimates for every environmental protective measure and work.
- Description of organizational and operational structure of environmental protective works.

Requirements:

- With regard to every phase prescribed in Section 4.1 and 4.2 of this Appendix, the proposal of measures for prevention and mitigation of impact on the environment and the community's health must satisfy the following rules:
 - Every negative impact that is predicted in Chapter 3 requires equivalent prevention and mitigation measure. In case it is unable to carry out feasible measure, it is required to provide explanation and propose handling measure;
 - Clarify the results of implementation of mitigation measures for negative impact in accordance with standards and regulations in force.
 - Specify feasibility of every measure, space, time and result of the measure;
 - In case measures for prevention and mitigation of negative impact of the Project relate to several agencies and organizations, it is required to clarify the names of those agencies and organizations and make cooperation proposal
- With respect to renovation, extension, upgrade or capacity increase project prescribed in Point 4.1.3 and 4.2.3 of this Appendix, it is required to specify result of implementation of measures for prevention and mitigation of negative impact, prevention and response to environment incidents and their causes; condition of existing environmental protection measures and works and the connection with the system of measures and works.

Chapter 5: Environmental management and surveillance program

5.1. Environmental management program

The environmental management program shall be established according to results of Chapters 1, 3 and 4 as follows:

Phase	Activities	Environmental impact	Environmental protection measures and works	Funding for environmental protection measures and works	Schedule	Responsibility for implementation	Responsibility for surveillance
1	2	3	4	5	6	7	8
Preparation							
Construction							
Operation							
Other phase (if any)							

5.2. Environmental surveillance program

The environmental surveillance program shall be launched during the execution of the Project and set up according to preparation, construction, operation and other phases of the Project (if any). The program shall include surveillance of waste and other environmental issues, in particular:

- Surveillance of waste water and exhaust: monitor the flow of waste and the typical parameters of the treated waste water and exhaust with a minimum frequency of 1 time per 3 months (unless otherwise provided by law); location of surveillance points shall be described and shown in the diagram with clear annotation.
- Surveillance of solid waste: monitor total emissions (when the waste generated) in temporary storage location.

- The continuous monitoring of waste shall comply with law on environment protection, particularly:
 - Continuous monitoring of waste water: apart from periodic monitoring, the continuous monitoring of wastewater shall apply to treated wastewater in concentrated wastewater treatment plants of infrastructure of the industrial parks; treated wastewater of the Project outside industrial parks with waste water discharge of 1,000 m³ per day and night or more (not including cooling water).
 - Continuous monitoring of exhaust: apart from periodic monitoring, the continuous monitoring of wastewater shall apply to the following projects: cement production; thermo-electric plants (other than thermo-electric plants using natural gaseous fuels); steel production with capacity of over 200,000 tons per year; chemical manufacturing plants and chemical fertilizers with capacity of 10,000 tons per year; oil industrial plants with capacity of 10,000 tons per year; and industrial boiler with capacity of over 20 tons of steam per hour.
- Monitoring surroundings: only applying to the operation phase of the project that has generated radioactive with a minimum frequency of 1 time per 6 months; location monitoring points must be selected to ensure representation and must be described together with illustrative diagrams.
- Monitoring other environmental issues (if the Project may have an impact): the phenomenon slide, collapse, subsidence, erosion, sedimentation; changes of surface water level, groundwater, salinization, alum intrusion, endangered and rare species given priority to protection to keep track their changes over space and time of those issues problem with a minimum frequency of 01 time per 06 months.

Requirements:

- For monitoring of waste: only monitor types of waste or waste parameters in which the project is likely eliminate into the environment
- Design the sampling location of waste in accordance with regulations and standards in force (if any)
- The measurement, sampling and analysis must be certified by the competent authority
- The results of monitoring of environmental parameters must be matched with the standards and regulations in force.

Chapter 6: Consultation with the community

6.1. Summary of process of consultation with the community

Make a summary of process of consultation between the People's Committee of the commune and the organizations under direct impact of the Project (hereinafter referred to as affected organizations) and the consultation with the community under the direct impact of the Project (hereinafter referred to as the affected community) in the form of meeting as follows:

6.1.1. Summary of consultation with the People's Committee of the commune and affected

Describe the process of community consultation that has been organized and specify the number, symbol, time of issue of the document sent by the project owner to the People's Committee of commune where the Project is situated and the affected organizations; numbers, symbols, time of issue of the writing response of the People's Committee of the commune and the affected organizations.

If there is no response from the People's Committee of the commune and the affected organizations, it is required to prove that those authorities failed to give such response.

6.1.2. Summary of consultation with the affected community

Describe the cooperation between the project owner and the People's Committee of the commune where the Project is situated in organization of the consultation meeting with the affected community and details of composition.

6.2. Results of consultation with the community

6.2.1 Opinions of the People's Committee of the commune and affected organizations

Specify opinions of the People's Committee of the commune and affected organizations in terms of contents of EIA report and attached proposals (if any).

6.2.2 Opinions of representative of the affected community

Make a summary of opinions against the contents of EIA report presented by the project owner at the meeting and their proposals.

6.2.3. Responses and commitment of the project owner in terms of the above proposals.

Specify accepted proposals with commitment and non-accepted proposals with explanation of the project owner.

Notes: Copies of request for consultation, responses of required agencies and organizations, copies of meeting minutes of consultation meeting with the affected community shall be attached to the Appendix of the EIA report.

Conclusion, Request and Commitment

1. Conclusion

It is required to make the conclusion about the following issues: whether all impacts are identified and assessed, remaining unpredictable issues; overall assessment of extent and scale of the identified impact; the feasibility of measures for mitigate negative impacts and prevention of and response to the environmental incident and risk; the negative impacts having no mitigation measure because it is beyond the ability of the project owners and the reasons.

2. Request

Request competent authorities to handle issues exceeding the ability of the project owner.

3. Commitment

Commitments of the project owner in terms of implementation of environmental management program, environmental surveillance program prescribed in Chapter 5 (including environmental technical regulations and standards that are compulsory); implementation of commitment to the community prescribed in Section 6.2.3 Chapter 6 of EIA report; and compliance of general regulations on environment protection according to every phase of the Project include:

- Commitment on environmental protection measures to be implemented and finished in the preparation phase
- Commitment on environmental protection measures to be implemented and finished in the construction phase
- Commitment on environmental protection measures to be implemented from the official operation to the closing phase
- Commitment on environmental protection measures to be implemented and finished in the closing phase (if any)
- Commitment to compensate and reduce environmental pollution in case environmental incidents and risks occur during the execution of the Project.

QR-CODE for download

EIA Related Regulation in AEC

QR-CODE for download

EIA Related Regulation in AEC



Country	EIA Related Regulation
 Thailand	<ol style="list-style-type: none"> 1) Enhancement and Conservation of National Environmental Quality Act (NEQA), 2nd Edition, B.E. 2561 (2018) 2) Notification of the Ministry of Natural Resources and Environment (MNRE) Re: Types and Sizes of Projects or Activities Requiring Environmental Impact Assessment Report and Rules, Procedures, Practices and Guidelines for Preparing Environmental Impact Assessment Report B.E. 2561 (2018) 3) Notification of the Ministry of Natural Resources and Environment (MNRE) Re: Rule, Procedure, Method and Guideline for Preparation of the Environmental Impact Assessment Report for Project or Activity which May Seriously Affect Community with respect to Quality of Environment, Natural Resources and Health B.E. 2561 (2018) 4) Type of Projects Located in Additional Conservation Forest According to Cabinet Resolution on 26th April 2011
 Brunei	<ol style="list-style-type: none"> 1) Environmental Protection and Management Order_No.S63, 2016 2) EIA Guidelines for Brunei Darussalam, 2012
 Cambodia	<ol style="list-style-type: none"> 1) Law on Environmental Protection and Natural Resources Management, 1996 2) Sub-decree on Environmental Assessment Process, No. 72 ANRK.BK, Royal Government, Council of Ministers, Phnom Penh, dated 11 August 1999 3) Sub-Decree on the Establishment of the Sub-Committee on Investment of the Provinces-Municipalities, No. 17 ANK/BK, Royal Government, Phnom Penh, dated 9 February 2005 4) Prakas on General Guidelines for Developing Initial and EIA Reports, MOE, N. 376 BRK.BST Phnom Penh, 02 September 2009
 Indonesia	<ol style="list-style-type: none"> 1) Law on Environmental Protection and Management No.32 Year 2009 2) Regulation of Minister of Environment of Republic of Indonesia (MOE) No.05 Year 2012 Regarding Types of Business Plan and/or Activities Plan that Requiring Environmental Impact Assessment 3) Regulation of Minister of Environment of Republic of Indonesia (MOE) No.16 Year 2012 Regarding Guidelines for Preparing Environmental Documents 4) Regulation of Minister of Environment No.17 Year 2012 regarding Guidelines for Community Engagement in the EIA and Environmental Permit 5) Regulation of the State Minister of the Environment No.08 Year 2013 regarding Procedure of Environmental Document and Environmental Permit Issuance Assessment and Evaluation 6) Government Regulation No. 51 Year 1993 on Environmental Impact Assessment

Country	EIA Related Regulation
 Lao PDR	<ol style="list-style-type: none"> 1) Environmental Protection Law (EPL) (Revised Version) No: 29/NA, 2012 2) Regulations for Implementing Decree 192/PM on Compensation & Resettlement of People Affected by Development Projects, 2005 3) Degree on Environmental Impact Assessment_NO. 112/PM., 2010 4) Ministerial Instruction on the Process of IEE of the Investment Projects and Activities No.8029/MONRE, 2013 5) Ministerial Instruction on the Process of ESIA of the Investment Projects and Activities, No. 8030/MONRE, 2013 6) Ministerial Agreement No. 8056/MONRE on Endorsement and Promulgation of List of Investment Projects and Activities Requiring for Conducting the IEE or ESIA No. 8056/MONRE, 2013
 Malaysia	<ol style="list-style-type: none"> 1) Environmental Quality Act, 1974 (Amendment, 1985)_ Section 34A 2) Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order, 1987 3) Natural Resources and Environment (Prescribed Activities) (Amendment) Order, 1997 (Sarawak) 4) Conservation of Environment (Prescribed Activities) Order, 2005 (Sabah) 5) Environment Quality (Amendment) Act, 2012 6) Environmental Impact Assessment (EIA) Procedure and Requirement in Malaysia, 2007
 Myanmar	<ol style="list-style-type: none"> 1) The Environmental Conservation Law_ No. 9/2012 2) Environmental Conservation Rules _ No. 50/2014 3) Environmental Impact Assessment Procedure_ No. 616/2015
 The Philippines	<ol style="list-style-type: none"> 1) Presidential Decree (PD) 1151 Philippine Environment Policy, 1977 2) Presidential Decree (PD) 1152 Philippine Environment Code, 1977 3) Presidential Decree (PD) 1586 Establishing the Environmental Impact Statement (EIS) System, 1978 4) Proclamation 2146 Proclaiming Certain Areas and Types of Projects as Environmentally Critical and Within the Scope of the Environmental Impact Statement System Established under Presidential Decree No. 1586., 1981 5) Department of Environment and Natural Resources (DENR) Administrative Order No. 30 Series of 2003 (DAO 03-30) (Implementing Rules and Regulations of Presidential Decree No.1586, Establishing the Philippine Environmental Impact Statement System)
 Singapore	<ol style="list-style-type: none"> 1) Environmental Protection and Management Act (EPMA) (Chapter 94A), Revised Edition, 2002 2) Code of Practice for Pollution Control (CoPPC)_SS593, 2013 3) PCD's Guidelines for Quantitative Risk Assessment (QRA) Study, 2010
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Advisors

ONEP

Dr.Raweewan Bhuridej, Secretary General of ONEP

Mr.Sukho Ubolthip, Deputy Secretary General

Mrs.Saowapa Hinjiranandhana, Director of EIA Development Division

PTT

Mr.Chansin Treenuchagron, President and Chief Executive Officer

Mr.Wittawat Svasti-Xuto, Chief Technology and Engineering Officer

Mr.Chansak Chuenchom, Executive Vice President

Editors

ONEP

Mrs.Rosalind Amornpitakpun, Chief of Technical and Database Section

Mr.Smit Chiramongkol

Mrs.Juthaporn Thongsodsang

Mr.Pongsatorn Puangsombat

Ms.Kochawan Sungkhavanich

Ms.Namfone Prinkchamrat

PTT

Dr.Kanatip Ratanachoo, Vice President

Mr.Rueangsak Wongwandee, Vice President

Mr.Wittaya Udomwongwiwat

Mr.Artit Teerapatsakul

Mr.Worawut Hamarn

Mr.Kittiphong Songrukkiat

Mrs.Chutimon Piromyaporn

Mr.Anak Karnpisit

Ms.Penrug Pengsombut

Mrs.Tanawadee Koonthong

Mr.Kittipon Chittanukul

Mr.Rachit Sattapun

Ms.Sirivimon Sanrach

Ms.Donnapa Jittadejchaiyapath

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Ministry of Natural Resources and Environment

60/1 Soi Phibulwattana 7 Rama VI Rd., Phaya Thai, Bangkok 10400

Telephone: +66 2265 6500 ext 6858, 6860

<http://www.onep.go.th/eia>

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Division of Environmental Impact Assessment Development
Office of Natural Resources and Environmental Policy and Planning
Ministry of Natural Resources and Environment
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