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2	14/09/2016	Update with Changed Plant Configuration	MFC Consortium	See attachment of reviewers' signatures	
1		Response LSP's Comments	ERM	See attachment of reviewer's signature	
0		Issue For Review	ERM	See attachment of reviewer's signature	
REV.	DATE (dd/mm/yyyy)	DESCRIPTION	PREPARED	CHECKED	APPROVED


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REVISION LOG

Rev.	Date (dd/mm/yyyy)	Revised Detail			
		Item	Page	Article	Description
0		all	all	all	Issue For Review
1		all	all	all	Response LSP's Comments
2	14/09/2016	all	all	all	Updated based on changes to project configuration


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DISCLAIMER

It is upon the Contractor to solicit, acquire and comply with all information, laws, rules, regulations, and Applicable Standards which is/are necessary and/or required for and applicable to the Contractor's performances of the works hereunder.

The Contractor hereby agrees and acknowledges that the Employer makes no representation or warranty, express or implied, regarding the accuracy or completeness of any or all information, laws, rules, regulations, and Applicable Standards which is/are necessary and/or required for and applicable to the Contractor's performances of the works hereunder. THE EMPLOYER HEREBY EXPRESSLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ALL RESPECTS, and the Contractor agrees that neither the Employer nor any of its affiliate(s), director(s), officer(s), employee(s), consultant(s), professional advisor(s), and duly authorised representative(s) shall have any liability to the Contractor or any of its affiliate(s), director(s), officer(s), employee(s), consultant(s), professional advisor(s), and duly authorised representative(s) in any way relating to those information, laws, rules, regulations, and Applicable Standards which is/are necessary and/or required for and applicable to the Contractor's performances of the works hereunder or the Contractor's or its affiliate(s)', director(s)', officer(s)', employee(s)', consultant(s)', professional advisor(s)', and duly authorised representative(s)' reliance thereupon and/or use thereof.


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1 INTRODUCTION

LSP Construction HSSE&S Management Plan (LCHSSE&S MP) sets out the detailed requirements for EPC Contractors; LSP to oversee and manage the construction activities of seven (7) main packages to ensure their operations fully comply with the Health, Safety, and Environmental Management System (HSEMS) and all applicable standards during the construction phase of the Project. The LCHSSE&S MP also establishes actions that need to be undertaken in order to avoid, alleviate, mitigate and remedy the potential impacts that were systematically identified during the development of the Project's Environmental and Social Impact Assessment. The LCHSSE&S MP also provides an overview of the construction work plans and a map of the site, depicting the project components.

The LCHSSE&S MP, therefore, provides a structure for the development, implementation, and review of the health, social, safety, environmental, and security (HSSE&S) controls and process carried out by both LSP and those parties working on its behalf (i.e. EPC contractors and their subcontractors) to ensure the risks to HSSE&S are minimised during the construction activities. In addition, it should be noted this LCHSSE&S MP is living document. The plan will be internally reviewed by management on a regular basis and may need to be updated, revised to ensure that it continues to be suitable, adequate and effective during the Projects construction phase, and meets the commitment to continual improvement. This version is based on relevant regulations, guidelines and standards at the time of writing of the revision to the ESIA dated September 2016.

Moreover, each EPC contractor and subcontractor is to prepare their own HSE Management Plan's (HSE MPs) to address the health, safety and environmental risks associated to the activities that they are in control of. The Contractor HSE MPs would: note the relevant construction activities they are undertaking on the project; establish the health, safety and environmental measures they will be undertaking during those activities; specify what monitoring programs will be implemented to assess the effectiveness of the mitigation measures; and identify who is responsible for the varies tasks and actions recorded in the HSE MPs. The Contractor HSE MPs must comply with this LCHSSE&S MP.

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2 PROJECT DESCRIPTION

2.1 OVERVIEW OF THE PROJECT

The Long Son Petrochemicals Complex Project (herein referred to as “the Project”) is located in Hamlet 2 and Rach Gia Hamlet, Long Son Commune, Vung Tau City, Ba Ria – Vung Tau Province, Vietnam. The Complex is spread over 464 ha. The physical settings around the Project are described below:

- To the North: Hamlet 1 and 2 and Ben Da Port;
- To the South: Ganh Rai bay;
- To the East: Hill 84; and
- To the West: Rang River and Ong Ben river mouth.

The Project consists of two major components: a Petrochemical Plant and an associated Seaport. The main features are presented in **Table 1** and layouts of the Project are provided in **Figure 1** and **Figure 2**.


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Table 1 **Project Land Use**

No.	Items	Area Coverage	
		(m ²)	(ha)
1.	Petrochemical Plant	4,640,000	464.0
1.1	Road and drainage	429,000	42.9
1.2	Administration building	3,000	0.3
1.3	Canteen building	1,000	0.1
1.4	Maintenance workshop & warehouse	7,000	0.7
1.5	Lab building & lab workshop	3,000	0.3
1.6	Emergency and first aid center	1,000	0.1
1.7	Common truck scale	1,000	0.1
1.8	Remaining area of the administration area (e.g. parking, planting, etc.)	28,000	2.8
1.9	Main Production	1,286,000	128.6
1.9.1	Process area of each plant		
	- Olefin Plant	279,000	27.9
	- HDPE Plant	69,000	6.9
	- LLDPE Plant	68,000	6.8
	- PP Plant	44,000	4.4
	- Central Utility Plant	100,000	10.0
	- Tank Farm	514,000	51.4
1.9.2	Warehouse of Polyolefins Plants (the Warehouse 1 and the Warehouse 2)	146,000	14.6
1.9.3	Fire pond	60,000	6.0
1.9.4	HP Flare	6,000	0.6
1.10	Green area ¹	239,000	23.9
1.11	Dumping area	345,000	34.5
1.12	Construction Laydown Area	590,000	59.0
2.	Seaport	1,934,997	194
2.1	Trestle, Berths, main approach channel and turning basin	1,804,210	181
2.2	Construction jetty	130,787	13

Note: 1 – Green area, 24.70 ha, is 10.78% of total utilized area (item 1.1 to 1.9).


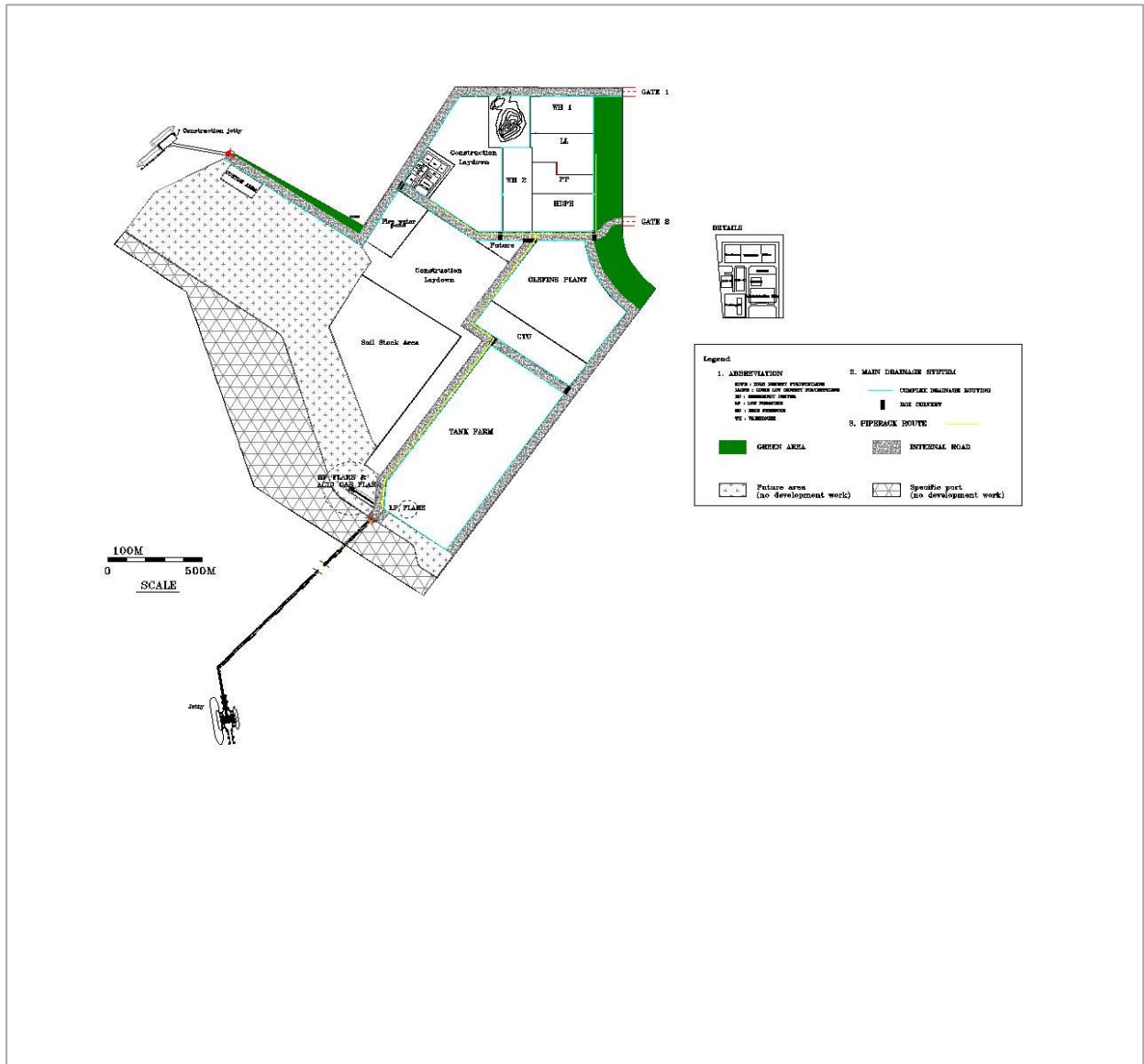
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Figure 1 **Layout of the Project**





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Figure 2 **Layout of Seaport**



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2.2 CONSTRUCTION ACTIVITIES AND SCHEDULE

The Construction Phase consists of three major activities which are (1) Seaport construction (2) Land development and (3) Petrochemical Plant and Common Infrastructures construction. The details are provided in **Table 2**.

Table 2 Construction Activities

Major Components	Construction Activities
Seaport construction	<ul style="list-style-type: none"> Hydrocarbon Jetty - to transfer feedstock and product for the Petrochemical Plant; and Construction Jetty - to import construction materials, including heavy lift modules.
Land development	<p>The land development activities will commence after construction of seawater flood protection and drainage system, and will extend over 21 months. The land development scope will include general earthwork, i.e., site clearing, site levelling and soil improvement.</p> <ul style="list-style-type: none"> The existing vegetation including fruit plants, mangrove trees, and rice field will be removed from the area of 169.2 ha. 468,000 m3 of rock must be crushed using heavy machineries; 234,000 m3 of dense rock will be blasted by explosives. All rock generated from rock blasting will be crushed before using for levelling and road construction. The Project area will be elevated. The minimum and maximum existing elevation at the Project area are about -2.0 – +28.0 ND (excluding hill areas). The total material quantity that will be used for levelling is about 6,938,000 m3. The source of material for levelling includes in-place soil and rock and imported material. Soil improvement will be undertaken in order to improve soil bearing capacity and decrease long term settlement. The method used will depend on soil type, and may include dynamic compaction, soil replacement, stone columns prefabricated vertical drain with preloading and vacuum consolidation with preloading. Seawater flood protection of approximately 6,354 m in length and height of 3 m will be constructed along the Project boundary in a Southwesterly direction.
Petrochemical Plant and Common Infrastructures	<p>Main Production Plants</p> <ul style="list-style-type: none"> Olefins Plant High Density Polyethylene (HDPE) Plant Linear Low Density Polyethylene (LLDPE) Plant Polypropylene (PP) Plant Supporting Units <p>Central Utility Plant (CTU) (contains a Steam Generation Unit and Water Plant)</p> <ul style="list-style-type: none"> Tank Farm Common Infrastructure


Remark *¹ Common infrastructure includes Perimeter fence and gate, administration building, canteen, maintenance workshop & warehouse, Laboratory-I & Laboratory-II, Emergency Centre and First Aid centre, common truck scale.

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It is anticipated that, in general, construction activities will be carried out for eight (8) hours per day and six (6) days per week. During periods of lagging progress, to catch up the project schedule, the working time may be extended. However, it shall comply with the Vietnamese law and regulations. The construction is scheduled to take approximately 51 months and the detailed schedule is provided in **Table 3**.

Table 3 **Construction Schedule**

Key Activities	Construction Schedule	Duration (Months)
1. Seaport Construction		
1) Construction Jetty	1 st Quarter 2017 – 1 st Quarter 2019	25
2) Hydrocarbon and Coal Jetties	1 st Quarter 2017 – 1 st Quarter 2020	39
2. Land Development	1 st Quarter 2017 – 4 th Quarter 2018	24
3. Petrochemical Plant Construction		
1) Main Production Plant		
a) Olefins Plant	2 nd Quarter 2018 – 1 st Quarter 2021	36
b) Polyolefin Plants	2 nd Quarter 2018 – 1 st Quarter 2021	33
2) Supporting Units		
a) Central Utility Plant	2 nd Quarter 2018 – 4 th Quarter 2020	32
b) Tank Farm and Interconnecting Pipelines & Pipe Rack	2 nd Quarter 2018 – 1 st Quarter 2021	34
c) Complex Wastewater Treatment Unit	2 nd Quarter 2018 – 2 nd Quarter 2020	27
d) Common Infrastructure	2 nd Quarter 2018 – 2 nd Quarter 2020	26

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3 APPLICABLE STANDARDS


The framework of the LCHSSE&S MP has been developed with due regard to relevant legal requirements, National Standards and International Standards. The framework includes laws and requirements to which all relevant parties must adhere from the commencement of the Project through the completion of the rehabilitation works and decommissioning activities. It is noted that this version is based on relevant regulations, guidelines and standards at the time of writing of the ESIA dated September 2016 and is needed to be reviewed annually during construction phase.

3.1 HEALTH, SAFETY AND ENVIRONMENTAL LAWS


The health, safety and environmental laws and legal texts that are applicable during the construction phase of the project are noted in the following sections.

Legislation


Legislation, Decrees, Circulars & Standards	Issued by	Issued date	Name/ Description
Legislation			
Law on Peoples' Health No.21	National Assembly	30 Jun 1989	
Law on Environmental Protection No. 55/2014/QH13	National Assembly	01-Jan-2015	Framework environmental law
Law on Water Resources	National Assembly	21-Jun-2012	Framework law on the management and protection of water resource
Law on Biodiversity	National Assembly	13-Nov-2008	Requirement for biodiversity conservation and sustainable development
Law on Chemicals	National Assembly	21-Nov-2007	Framework law on handling, use, storage, transport, trading manufacturing of chemicals.
Law on inland waterway navigation	National Assembly	24-Jun-2004	Requirements for inland waterway navigation activities
The Maritime Code 2005	National Assembly	14-Jun-2005	The legal requirements for use of ships and vessels for economic, scientific, technological, cultural, sport, and social purposes.
Law on Cultural Protection No. 28/2001/QH10	National Assembly	29-Jun-2001	Providing the activities of protecting and promoting the values of cultural heritages;

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Labour Code 2012	National Assembly	18-Jun-2012	Framework law on health and safety
Law on Grievance 2011 No. 02/2011/QH13	National Assembly	11-Nov-2011	Requirements for the general grievance mechanism
Law on Denouncement 2011 No. 03/2011/QH13	National Assembly	11-Nov-2011	
Land Law 2013 No. 45/2013/QH13	National Assembly	29-Nov-2013	Framework law on the powers and responsibilities of the State as representative of the ownership of land
Law on Investment No. 67/2014/QH13	National Assembly	26 Nov 2014	
Law on Fire Protection No. 27/2001/QH10	National Assembly	29-Jun-2001	
Amending and adding a number of articles of Law on Fire Protection No. 40/2013/QH13	National Assembly	22-Nov-2013	
Law on enterprise No. 68/2014/QH13	National Assembly	26-Nov-2014	
Law on revision and supplementary some articles of Petroleum law No. 10/2008/QH12	National Assembly	03-Jun-2008	
Directives			
Directive No. 35/2005/CT/TTg	The Prime Minister	17 Oct 2005	Implementation of Kyoto Protocol
Decrees			
Decree No. 201/2013/ND- CP	Government	27-Nov-2013	Detailing the implementation of a number of articles of the Law on Water Resources
Decree No. 45/2013/ND-CP	Government	10-May-2013	Providing the articles of the labor code on hours of work, hours of rest, occupational safety and occupational hygiene
Decree No. 18/2015/ND-CP	Government	14-Feb-2015	Regulation on Environmental Protection Planning, Strategic Environmental Assessment, Environmental Impact Assessment, and Environmental Protection Plans which took effect on 1 st April 2015
Decree No. 26/2011/ND-CP	Government	8-Apr-2011	Amending and supplementing a number of articles of the Government's Decree No. 108/2008/ ND-CP of October 7, 2008, detailing and guiding a number of articles of the Chemical

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			Law
Decree No. 65/2010/ND-CP	Government	11-Jun-2010	Guiding and detailing a number of articles of Biodiversity Law
Decree No. 108/2008/ND-CP	Government	28-Jun-2010	Detailing and guiding the implementation of a number of articles of the Chemical Law
Decree No. 19/2015/ND-CP	Government	14-Jun-2015	Detailing the implementation of a number of articles of the law on environmental protection
Decree No. 43/2014/ND-CP	Government	15-May-2014	Detailing a number of articles of the land law
Decree No. 59/2007/ND-CP	Government	9-Apr-2007	Regulations on hazardous waste management
Decree No. 19/2015/ND-CP	Government	14-Feb-2015	Detailing the implementation of a number of articles of the law on environmental protection
Decree No. 47/2014/ND-CP	Government	15-May-2014	Regulations on compensation, support, and resettlement upon land expropriation by the state
Decree No. 109/2003/ND-CP	Government	23-Aug-2004	On the conservation and sustainable development of submerged areas
Decree No. 98/2010/ND-CP	Government	21-Sept-2010	Detailing a number of articles of the law on cultural heritage and the law amending and supplementing a number of articles of the law on cultural heritage
Decision			
Decision No. 16/2015/QD-TTg	The Prime Minister	22-May-2015	Providing regulations on recall and treatment of discarded products
Decision No. 07/2010/QD-UBND	Ho Chi Minh City People's Committee	29-Jan-2010	Management of Can Gio biosphere reserve
Decision No. 82/2008/QD-BNN	Ministry of Agriculture & Rural Development	17 Jul 2008	Providing list of endangered rare aquatic species need to be protected, recovered, and developed
Decision No. 15/2008/QD-BTNMT	Ministry of Natural Resources and Environment	31-Dec-2008 (Expired on July 1, 2016 but no update yet)	Underground water protection
Decision No. 130/2007/QD-TTg	The Prime Minister	2-Aug-2007	Approving a number of financial mechanisms and policies applicable to investment projects under the CDM.
Decision No. 104/2007/QD-BNN	Ministry of Agriculture &	27-Dec-2007	Ecotourism activity at National Park, Natural Reserve

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	Rural Development		
Decision No. 47/2007/QD-TTg	The Prime Minister	06-Apr-2007	Approval of the plan of organization of the implementation of the Kyoto Protocol under the United Nation Framework Convention on Climate Change (UNFCCC) for 2007-2010
Decision No. 3733/2002/QD-BYT	The Ministry of Health	10-Oct-2002	Providing allowed noise values at workplace
Decision No. 60/2002/QD-BKHCNMT	Ministry of Science & Technology	7-Aug-2002	Technical Guidance on Burial of Hazardous Wastes;
Decision No. 1775/QD-TTg	The Prime Minister	21-Nov-2012	Approval of project of greenhouse gas emission management; management of carbon credit business activities to the world market
Decision No. 45/QD-TTg	The Prime Minister	8- Jan-2014	Master plan approval for master plan of nation wide biodiversity conservation by 2020, with a vision to 2030
Circular			
Circular No. 25/2013/TT- BLDTBXH	Ministry of Labour–Invalids and Social Affairs	18-Oct-2013	Guiding the regime of allowances in kind for laborers working in dangerous or hazardous conditions
Circular No. 20/2013/TT- BCT	Ministry of Industry & Trade	5-Aug-2013	Regulations on plan and measures to prevent and respond to incidents in the chemical industry
Circular No. 50/2012/TT-BGTVT	Ministry of Transport	19-Dec-2012	National Management on the treatment of liquid oily waste generated from at Port
Circular No. 27/2015/TT- BTNMT	Ministry of Natural Resources and Environment	29–May–2015	Strategic environmental assessment, environmental impact assessment and environmental protection plans
Circular No. 12/2011/TT- BTNMT	Ministry of Natural Resources and Environment	14-Apr-2011	Regulations on hazardous waste management
Circular No. 36/2015/TT- BTNMT	Ministry of Natural Resources and Environment	30-Jun-2015	Management of hazardous wastes
Circular No. 01/2011/TT- BNNPTNT	Ministry of Agriculture & Rural Development	5 – Jan -2011	Providing list of endangered rare aquatic species need to be protected, recovered, and developed


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Circular No. 27/2010/TT-BKHCN	Ministry of Science & Technology	30-Dec-2010	Guiding measure of radiation, nuclear and environmental radioactive monitoring network
Circular No. 27/2014/TT-BKHCN	Ministry of Science & Technology	10-Oct-2014	Guiding Decree No. 107/2013/ND-CP
Circular No. 15/2014/TT-BTNMT	Ministry of Natural Resources and Environment	24-Mar-2014	Prescribing the formulation and grant of letter of endorsement and letter of approval for projects under the clean development mechanism (CDM) within the framework of the Kyoto Protocol.
Circular No. 40/2013/TT-BNNPTNT	Ministry of Agriculture & Rural Development	5-Sep-2013	Providing list of wild fauna and flora in the annexes of CITES
Circular No. 28/2010/TT-BCT	Ministry of Industry & Trade	28-Jun-2010	Specifying a number of articles of the Law on Chemical and the Government's Decree No. 108/2008/ND-CP of October 7, 2008, detailing and guiding a number of articles of the law on chemicals
Joint Circular No. 204/2010/TTLT-BTC- BTN&MT	Ministry of Finance - Ministry of Natural Resources and Environment	15-Dec-2010	Guiding a number of articles of the Prime Minister's Decision No.130/2007/QĐ-TTg (dated 2 August 2007) on a number of financial mechanisms and policies applicable to investment projects under the CDM.
Joint Circular No. 58/2008/TTLT-BTC- BTN&MT	Ministry of Finance - Ministry of Natural Resources and Environment	4-July-2008	Guiding the implementation of Decision No. 130/2007/QĐ-TTg on financial mechanisms and policies applicable to investment projects under the CDM.
Circular No. 13/2007/TT-BXD	Ministry of Construction	31-Dec-2007	Guiding some articles of Decree 59/2007/ND-CP
Circular No. 27/2014/TT-BTNMT	Ministry of Natural Resources and Environment	30-May-2014	Regulating the registration for groundwater extraction form of dossier for issue, extension, modification, re-issue pf water resource permit
Circular No. 18/2004/TT-BTNMT	Ministry of Natural Resources and Environment	23-Aug-2004	Guiding Decree 109/2003/ND-CP on conservation and sustainable development of wetlands
Joint Circular No 01/2001/TTLT-	Ministry of Science &	18 Jan 2001	Regulation on the Environmental Protection for the Selection of

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BKHCNMT- BXD	Technology - Ministry of Construction		Location for the Construction and Operation of Solid Waste Burial Sites
Standards			
QCVN 50:2013/BTNMT	Ministry of Natural Resources and Environment	25-Oct-2013	National Technical Regulation on Hazardous Thresholds for Sludges from Water Treatment Process
QCVN 40:2011/BTNMT	Ministry of Natural Resources and Environment	28-Dec-2011	National Technical Regulation on Industrial Wastewater
QCVN 08- MT:2015/BTNMT	Ministry of Natural Resources and Environment	21-Dec-2015	National technical regulation on surface water quality
QCVN 27:2010/BTNMT	Ministry of Natural Resources and Environment	16-Dec-2010	National Technical Regulation on Vibration
QCVN 26:2010/BTNMT	Ministry of Natural Resources and Environment	16-Dec-2010	National Technical Regulation on Noise
QCVN 22:2009/BTNMT	Ministry of Natural Resources and Environment	16-Nov-2009	National Technical Regulation on Emission of Thermal Power Industry
QCVN 20:2009/BTNMT	Ministry of Natural Resources and Environment	16-Nov-2009	National Technical Regulation on Industrial Emission of Organic Substances
QCVN 19:2009/BTNMT	Ministry of Natural Resources and Environment	16-Nov-2009	National Technical Regulation on Industrial Emission of Inorganic Substances and Dusts
QCVN 07:2009/BTNMT	Ministry of Natural Resources and Environment	16-Nov-2009	Defining the threshold value of hazardous waste contents
QCVN 06:2009/BTNMT	Ministry of Natural Resources and Environment	7-Oct-2009	National Technical Regulation on Hazardous Substances in Ambient Air
QCVN 05:2013/BTNMT	Ministry of Natural Resources and Environment	25-Oct-2013	National Technical Regulation on Ambient Air Quality
QCVN 02:2009/BYT	Ministry of	17-June-2009	National Technical Regulation on

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	Health		Domestic Water Quality
QCVN 01:2009/BYT	Ministry of Health	17-June-2009	National Technical Regulation on Drinking Water Quality
QCVN 14:2008/BTNMT	Ministry of Natural Resources and Environment	31-Dec-2008	National Technical Regulation on Domestic Wastewater Discharge
QCVN 10:2008/BTNMT	Ministry of Natural Resources and Environment	31-Dec-2008	National Technical Regulation on Coastal Water Quality
QCVN 09-MT:2015/BTNMT	Ministry of Natural Resources and Environment	21-Dec-2015	National Technical Regulation on Ground Water Quality
QCVN 08-MT:2015/BTNMT	Ministry of Natural Resources and Environment	21-Dec-2015	National Technical Regulation on Surface Water Quality
TCVN 6707:2009	Ministry of Science and Technology	21-Dec-2009	Providing the requirement for warning sign for HW
TCVN 6706:2009	Ministry of Science and Technology	21-Dec-2009	Providing the requirement on classification of HW
TCVN 6705:2009	Ministry of Science and Technology	21-Dec-2009	Normal solid wastes - Classification
TCVN 5507: 2002	Ministry of Science and Technology	2002	Hazardous chemicals – Code of practice for safety in production, commerce, use, handling and transportation
TCVN 5126:1990 (NA)	Ministry of Science and Technology	1990	Vibration- Permissible values at workplaces

3.2 **INTERNATIONAL TREATIES AND STANDARDS**


The international health, safety and environmental treaties and standards that are applicable during the construction phase of the project are noted in the following sections:

- The Equator Principles (June 2013, Version III);
- The IFC's Performance Standards on Social and Environmental Sustainability (IFC's PSs) (2012);
- IFC's Environmental Health and Safety Guidelines;

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- The Kyoto Protocol to the UNFCCC on Climate Change (1997);
- The United Nations Convention on Biological Diversity (1992);
- The Basel Convention on Transboundary Movement of Toxic and Hazardous Waste (1989);
- The Ramsar Convention on Wetland (1971);
- The International Union for Conservation of Nature and Natural Resources, Red List of Threatened Species (1964);
- The United Nations Convention on the Law of the Sea (UNCLOS) 1982/1994;
- The Vienna Convention for the Protection of the Ozone Layer (1985);
- The Montreal Protocol 1987/90/92/95/97/99 on the Control of Substances that Deplete the Ozone Layer (CFCs, HFCs);
- The Protocol of 1978, Relating to the International Convention for the Prevention of Pollution from Ships 1973 (MARPOL) Annexes I and II;
- The United Nations Framework Convention on Climate Change 1992/1994;
- The Convention concerning the Protection of the World Cultural and Natural Heritage; and
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

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4


HEALTH, SAFETY AND ENVIRONMENTAL POLICIES

LSP's Health, Safety and Environmental (HSE) policy commits the Project to provide and maintain a healthy and safe working environment for local communities and their entire workforce, including contractors, subcontractors, and suppliers.

In order to achieve its HSE commitment, LSP aims to:

- As a minimum, comply with all HSE Applicable Standards, including HSE local laws and regulations, and international HSE standards;
- Initialise and execute an effective HSE management system with the purpose for achieving progressive improvement;
- Develop a culture supportive to HSE management throughout the company;
- Provide appropriate and sufficient resources for HSE management;
- Ensure that all their employees and others as appropriate receive adequate and appropriate information, instruction, supervision and training;
- Construct and maintain proactive relations with stakeholders including local communities;
- Minimise exposure and risk of Project workers and the local community to environmental, health and safety impacts; and
- Promote the local community's socio-economic benefit from the development and operation of the facility.

All Project personnel including LSP staffs, EPC contractors, and sub-contractor are expected to be responsible for their own HSE performance and that of others who might be affected by their works.

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5 ROLES AND RESPONSIBILITIES

5.1 INTRODUCTION

Having an appropriate organisational structure in place, with all people having defined roles and responsibilities, is essential to ensuring the overall success of this LCHSSE&S MP. This section provides details of both the organisational structure, and the various roles and responsibilities of both LPS and EPC Contractor personnel.

5.2 ORGANISATIONAL STRUCTURE

LSP has developed an organisational structure for the construction phase to ensure that all works can be executed in a manner consistent with the requirements of this LCHSSE&S MP, which is depicted in **Figure 1**.

5.3 DESCRIPTION OF ROLES AND RESPONSIBILITIES

The roles and responsibilities of key resources involved in the construction phase of the Project, under the LCHSSE&S MP, are noted in the following sections.

5.3.1 Overall Project Director

The Overall Project Director is responsible for the arrangements and for ensuring that the construction of the Project is executed at all time in such a manner as to ensure, so far as is reasonably practicable, the health, safety and welfare of all employees and others who may be affected by its construction. In particular, the Overall Project Director will:

- Ensure there is an effective company policy for health and safety and that all employees, contractors, subcontractors and temporary workers are made aware of their individual responsibility;
- Ensure that the management system is maintained and is fit for purpose;
- Ensure that the operations are sufficiently resourced with competent and trained personnel to comply with the requirements of the management system; and
- Ensure that all managers, Project personnel understand and fulfil their responsibilities with regard to HSSE&S.

Figure 1 Organisation of HSSE&S Management Team during Construction



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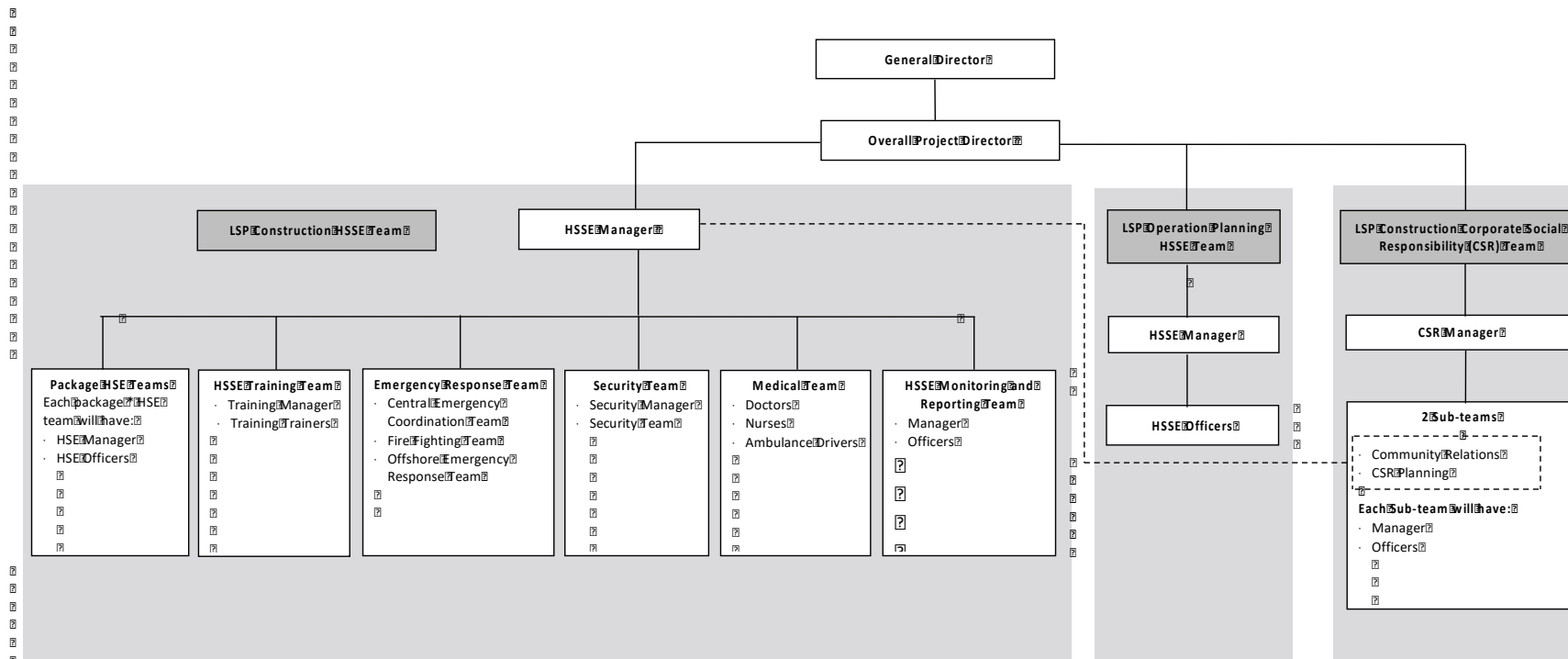
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Note:

Package A: Defines Plant, Tank Farm, Complex Interconnecting pipelines/pipe racks, Land development in tank farm area, Topside facilities in hydrocarbon jetties, Complex Wastewater treatment Unit and HP Flare/LP Flare System

Package B/C/D: Polyolefins Plant (HDPE/PP/LDPE)

Package F: Sea Port (excluding Topside in the Hydrocarbon jetties and construction jetties which are under the scope of the Contractor Package A and Package B respectively)


Package G: Central Utility Plant (including Steam Generation Unit and Water Plant)

Package H: Common Infrastructure in the Complex including Administration Building, Laboratory Building, Canteen Building, Emergency Center, First Aid Center and Polyolefins Product Warehouse)

Package I: Complex Road including Drainage, Street Lighting, CCTV, Green Area, Topside for construction jetties, Complex truck scale, and Blowdown System

Package L: Land development work in the whole complex except tank farm area

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5.3.2 *LSP Construction HSSE Team*

The LSP Construction HSSE Team will lead the management of all issues related to health, safety, security and environment. For social aspect will be managed by LSP Construction Corporate Social Responsibility (CSR) Team. The responsibilities are provided as follows:


- Collaborate with LSP's Construction CSR Team to establish and implement LSP's HSSE Management System during the construction phase;
- Ensure LSP's HSE policy is applied by all of LSP's staff, EPC Contractors, subcontractors and other third parties engaged in work for, or on behalf of LSP;
- Review and approve the HSSE MS documents and MPs of the EPC Contractors;
- Review the HSSE performance reports collated by the HSSE Monitoring and Reporting Team and report these to the Overall Project Director, government and local authorities and Lenders;
- Lead HSSE audits and inspections, committees, and incident investigations of the EPC contractors and subcontractors.

5.3.2.1 *HSSE Manager*

The roles and responsibilities of the HSSE Manager are listed as follows:

- Ensure that LSP's corporate and project level policies are being applied by all workers on site, regardless of whether they are a Project personnel or visitor;
- Provide support to operations (including subcontractors) towards the implementation and maintenance of LCHSSE&S MP;
- Lead, facilitate or assist with the investigation of HSSE incidents and development and implementation of corrective and preventive actions; and
- Ensure that notification and reporting procedures to the relevant statutory authorities are carried out.

The HSSE Manager oversees six teams: the Package HSE Team; the HSSE Training Team; the Emergency Response Team; the Security Team; the Medical Team; and the HSSE Monitoring & Reporting Team. The roles and responsibilities of the aforementioned teams are noted in the following sections.

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5.3.2.2 *Package HSE Teams*

- Collaborate with the HSE teams of the EPC Contractors to manage all HSSE issues of EPC Contractors and subcontractors;
- Review the HSSE performance reports from EPC Contractors and transfer to the HSSE Monitoring and Reporting Team;
- Lead regular HSSE inspection and audits; and
- Lead incident investigations.

5.3.2.3 *HSSE Training Team*

- Development of an HSSE training matrix, plan, programs, etc. in collaboration with the EPC Contractors;
- Keep HSSE training records;
- Coordinate with the EPC Contractors to ensure new workers or existing workers are trained in accordance with the training matrix and plan;
- Conduct audit to ensure compliance with training matrix and plan;
- Prepare and report information regarding to training record to all stakeholders, authorities, lenders, and others per requirement upon the request.


5.3.2.4 *Emergency Response Teams*

- Develop onshore and offshore Emergency Preparedness and Response Plans (EPRPs) that provide specific procedures to respond to each identified emergency situation for the construction phase;
- Coordinate and respond to emergencies timely and in compliance with the EPRPs;
- Be involved in incident investigation teams as necessary;
- Conduct a drill and emergency evacuation
- Provide safety statistics to the HSSE Monitoring and Reporting Team; and
- Provide the necessary measures to manage emergencies, including emergency response facilities and resources.

The three teams below are under the management of the Emergency Response Team:

Teams	Responsibilities
Central Emergency	<ul style="list-style-type: none"> • Receive all emergency cases occurring during the construction

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Teams	Responsibilities
Coordination Team	<ul style="list-style-type: none"> phase; and Allocate proper resources and equipment to respond to emergency cases timely.
Fire Fighting Team	<ul style="list-style-type: none"> Develop and submit a Fire Prevention and Fighting Plan to local authorities for approval as required; Follow the Fire Prevention and Fighting Plan which will developed and submitted to local authorities for approval; Ensure necessary measures to fight fire, including equipment, resources; Conduct fire-fighting timely and in compliance with the approved Fire Prevention and Fighting Plan; Be involved in incident investigation teams as necessary; Provide safety statistics to the HSSE Monitoring and Reporting Team; Lead regular Fire extinguisher inspection; and Prepare Fire Prevention and Fighting Report and submit to the SSE Monitoring and Reporting for review periodically.
Offshore Emergency Response Team	<ul style="list-style-type: none"> Follow the Offshore EPRP to respond to offshore emergency cases.

5.3.2.5 *Security Team*


- Provide security measures including resources and Security Plan in line with the Applicable Standards; and
- Prepare Security Report and submit to the HSSE Monitoring and Reporting for review periodically.
- Assist the HSE Manager in providing on the ground traffic management controls.

5.3.2.6 *Medical Team*

- Ensure the medical facility is equipped with sufficient and adequate materials, equipment;
- Provide treatment to patients/ injured workers timely;
- Be involved in incident investigation teams as necessary; and
- Provide health and safety statistics to the HSSE Monitoring and Reporting Team.

5.3.2.7 *HSSE Monitoring and Reporting Team*

- Conduct environmental monitoring according to the monitoring plan;
- Review HSSE performance reports submitted by other teams;

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- Prepare the HSSE Monitoring Report which is collated from following sources:
 - The HSSE performance reports from the EPC Contractors;
 - Reports submitted by other teams (i.e. Emergency Response Team, Medical Team, Security Team); and
 - Environmental monitoring reports.
- Submit the HSSE performance reports to the HSSE Manager and Overall Project Director for review.

5.3.3 LSP's Operation Planning HSSE Team

The roles and responsibilities of LSP's Operational Planning HSSE Team are as follows:


- Develop and implement a full ESMS and HSSE MPs for the operation phase;
- Conduct QRA, HAZOP and other process safety studies;
- Provide consulting relevant to process safety to LSP's engineering team;
- Obtain HSSE related permits required for the operation phase; and
- Organise HSSE training, including development of an HSSE training matrix, plan, program, etc. and provision of training facilities, resources and trainers, in order to be technically ready at operation commencement.

5.3.4 LSP's Construction Corporate Social Responsibility (CSR) Team

The LSP CSR Team will lead the management of all social issues as follows:

- Collaborate with LSP's Construction HSSE Team to establish and implement LSP's ESMS for the construction phase;
- Ensure the HSSE&S policy is applied;
- Conduct social monitoring and audits as required; and
- Report to the lenders on social issues and progress with implementing the various requirements in line with the Applicable Standard.

The LSP Construction CSR Team oversees five other teams: the Stakeholder Engagement Team; the Grievance Management Team, the EPC Coordination Team, the Resettlement Action Plan and Livelihood Restoration Plan Team and the Community Development Team. The roles and responsibilities of the aforementioned teams are noted in the following sections.

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5.3.4.1 *Stakeholder Engagement Team*

- Ensure full implementation of the Stakeholder Engagement Plan;
- Collaborate with other teams (i.e. RAP and LRP Team, Grievance Management Team) to carry out stakeholder engagements as required;
- Closely coordinate with local authorities to conduct information disclosure, public consultation, stakeholder engagement; and
- Collaborate with the EPC Coordination Team to disclose recruitment and procurement information to Project Affected Peoples (PAPs).

5.3.4.2 *Grievance Management Team*


- Develop and implement a Grievance Management Plan as recommended in the Supplemental Resentment Action Plan (SRAP) and Stakeholder Engagement Plan (SEP);
- Collaborate with the RAP and LRP Team to classify resettlement-related grievances;
- Work with the LSP Construction HSSE Manager to resolve Project construction-related grievances;
- Ensure all grievances are recorded, including type of grievance, by whom, when, resolution, feedback from the complainants; and
- Conduct internal grievance monitoring and reporting as required.

5.3.4.3 *EPC Coordination Team*

- Work with the Package HSE Teams and EPC Contractors to do local recruitment and procurement as much extend; and
- Work with the Package HSE Teams and EPC Contractors to manage influx issues.

5.3.4.4 *Resettlement Action Plan (RAP) and Livelihood Restoration Plan (LRP) Team*

- Work with the local authorities to manage resettlement and compensation in line with the Applicable Standards;
- Coordinate, collaborate with relevant partners to develop and implement an LRP and additional assistances for the PAPs based on the recommendation in the SRAP in compliance with IFC requirements;
- Collaborate with the Grievance Management Team to develop and implement the Grievance Management Plan;

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- Follow up with the Land Fund Development Centre about the resolution progress of the resettlement-related grievances;
- Collaborate with the Stakeholder Engagement Team to implement other engagement activities relating to resettlement; and
- Conduct monitoring of SRAP and LRP implementation.


5.3.4.5 Community Development Team

- Ensure full implementation of the Community Development Plan (CDP); and
- Conduct monitoring of CDP implementation.
- Report the result of CDP implementation to relevant parties

5.3.5 EPC Contractor HSSE Teams

All EPC contractors must have a HSSE Team in place during the construction phase of the Project. The roles and responsibilities of the EPC contractors HSSE Team is as follows:

- Establish and implement their own ESMSs and HSE MPs in line with the Applicable Standards and this MP;
- Manage their personnel, subcontractors and suppliers in line with their own ESMSs and HSSE MPs;
- Ensure their worker and sub-contractors are fully competent by ensuring their attendance at the training organised and provided as required;
- Report all incidents to the LSP Package HSE Teams and participate in and assist incident investigations conducted by LSP;
- Participate in regular inspections and audits conducted by the Package HSE Teams and conduct their own regularly;
- Ensure closure of identified non-conformances according to agreed timelines;
- Conduct HSSE monitoring onsite in line with the Monitoring Plan;
- Report their HSSE performance to the Package HSE Teams regularly as required;
- Participate in HSSE committees organised by LSP's Construction HSSE Team and communicate HSSE information and notifications to relevant people with their organisation as required;
- Assist LSP's Grievance Management Team in resolving any grievances received related to their construction activities;
- Provide LSP's Stakeholder Engagement Team with construction information for community information disclosure purposes; and


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- Provide LSP's EPC Coordination and Stakeholder Engagement Teams with manpower needs sufficiently in advance to maximize local recruitment.

5.3.6 Subcontractors

All subcontractors must:

- Comply with the EPC Contractor's ESMS and HSSE MPs;
- Establish HSSE Teams comprised of sufficient resources and competency to ensure compliance with the EPC Contractors' ESMS and HSSE MPs;
- Reporting HSSE performance to the EPC Contractors regularly as required;
- Report all incidents to the EPC Contractors and participate in and assist incident investigations conducted by LSP's Package HSE Teams;
- Participate in regular inspections and audits conducted by LSP's Package HSE Teams and EPC Contractors;
- Ensure closure of identified non-conformances according to agreed timelines;
- Participate in HSSE committees organised by the LSP Construction HSSE Team and communicate HSSE information and notifications to relevant people with their organisation as required; and
- Ensure their workers are fully competent by ensuring their attendance at the training organised and provided as required.

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6 THE SCOPE OF LSP CONSTRUCTION HSSE&S MANAGEMENT PLAN

This LCHSSE&S MP is developed to serve as a guideline of implementations for the entire Construction Phase. LSP shall include all requirements specified in the LCHSSE&S MP into its construction contract specifications to ensure that measures are implemented by all Construction EPC Contractors and Subcontractors. However, it shall be noted that LSP hold the overall responsibility to ensure all requirements specified in this LCHSSE&S MP are strictly implemented during the construction period.

The LCHSSE&S MP focuses on the activities related to the entire construction works. This plan will be updated, revised and extended on a regular to suit all construction activities and sites throughout the construction period.

6.1 HSSE&S ASPECTS, OBJECTIVES AND TARGETS

Health, social, safety, environmental, and security aspects must be identified to ensure that all HSSE&S aspects are understood and properly managed. In addition, objectives and targets are developed and implemented to meet LSP's Health, Safety and Environmental policy.

During the ESIA preparation, the potential HSSE&S impacts and/or risks associated to the construction of the Project were identified and addressed systematically.

The details of these aspects, objectives and targets for the construction phase of the Project are listed in **Table 4**.



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Table 4 **Identification of HSSE&S Aspects, Objectives, and Targets**

Environmental Aspects	Objective	Target	Mitigation Measure and Implementation
1. Air Quality	<ul style="list-style-type: none"> The air quality (dust and other pollutants) in and around construction site is maintained at acceptable levels throughout the construction period 	<ul style="list-style-type: none"> Ambient air quality is maintained to be in compliance with applicable standard 80% of grievance from local community in relation to air and dust is managed properly 	<ul style="list-style-type: none"> EPC Contractors' Air Quality Management Plan (Diffuse Sources) EPC Contractors' Air Quality Management Plan (Point Sources)
2. Greenhouse Gas	<ul style="list-style-type: none"> Minimise GHGs emission from construction activities and transportation 	<ul style="list-style-type: none"> The energy/ fuel consumption during construction phase is reduced to lowest as possible 	<ul style="list-style-type: none"> EPC Contractors' Air Quality Management Plan (Point Sources) LSP's ESMS
3. Noise	<ul style="list-style-type: none"> Minimise impact from the noise generated by equipment/ machineries during the construction phase 	<ul style="list-style-type: none"> Noise and nuisance to be compliance with applicable standard 	<ul style="list-style-type: none"> EPC Contractors' Noise and Vibration Management Plan EPC Contractors' Worker Occupational Health and Safety Management Plan
4. Water Quality	<ul style="list-style-type: none"> Minimising the release of a turbid effluent from the dredging activities Prevent contaminant of stormwater drains and waterways due to construction activities 	<ul style="list-style-type: none"> Effluent, surface water quality to be compliance with applicable standards Chemicals, hazardous material and waste shall be properly controlled and stored without contamination to environment 	<ul style="list-style-type: none"> Dredging Management Plan EPC Contractors' Surface Water Management Plan (Terrestrial) EPC Contractors' Surface Water Management Plan (Marine) EPC Contractors' Hazardous Materials Management Plan Worker Accommodation Management Plan EHSS Management Plan for Land Clearance Phase
5. Soil and Groundwater	<ul style="list-style-type: none"> Minimise the potential contamination of ground water due to land clearing Minimise risk of soil and groundwater Contamination due to unplanned spillages and 	<ul style="list-style-type: none"> Organic soil from the excavation activities will be re-used on site Chemicals, hazardous material and waste shall be properly controlled and stored without 	<ul style="list-style-type: none"> EPC Contractors' Soil and Groundwater Management Plan EHSS Management Plan for Land Clearance Phase


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Environmental Aspects	Objective	Target	Mitigation Measure and Implementation
	leakages	contamination to environment	
6. Biodiversity and Ecosystem Services	<ul style="list-style-type: none"> To avoid disturbance of wildlife and wildlife habitat caused by the construction activities 	<ul style="list-style-type: none"> Application of clearance protocols. Safe removal of all wildlife during clearance activities. No wildlife hunting, trading, and cooking by construction workers. Landscaping with local indigenous species (non-invasive species) 	<ul style="list-style-type: none"> Biodiversity Action Plan Biodiversity Offset Strategy EHSS Management Plan for Land Clearance Phase
7. Fisheries	<ul style="list-style-type: none"> To avoid impact on fishery resources To minimise the loss of aquaculture ponds, salt fields, and mudflats during construction phase 	<ul style="list-style-type: none"> No fishery resources affected by dredging activities 	<ul style="list-style-type: none"> Dredging Management Plan Stakeholder Engagement Plan Livelihood Restoration Plan Biodiversity Offset Strategy EHSS Management Plan for Land Clearance Phase
8. Waste Management	<ul style="list-style-type: none"> Minimize volume of waste generated by the Project Maximise the use of recycles and sustainable materials whenever technically and commercially practicable Minimize pollution and hazards from waste to environment 	<ul style="list-style-type: none"> Workers awareness in reuse, recycle and reduction Non-hazardous waste shall be collected and disposed with safety Hazardous waste shall be stored, managed and disposed properly to prevent contamination to environment 	<ul style="list-style-type: none"> EPC Contractors' Waste Management Plan (Hazardous Waste) EPC Contractors' Waste Management Plan (Non Hazardous Waste) Worker Accommodation Management Plan
9. Socio-Economic	<ul style="list-style-type: none"> Minimize disturbance and maintain community security 	<ul style="list-style-type: none"> All grievances from local community are properly managed 	<ul style="list-style-type: none"> Livelihoods Restoration Plan Community Development Action Plan Stakeholder Engagement Action Plan Supplemental Resettlement Action Plan Community Grievance Management Plan

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Environmental Aspects	Objective	Target	Mitigation Measure and Implementation
			<ul style="list-style-type: none"> Local Recruitment and Procurement Plan Community Health Action Plan Cultural Heritage Chance Finds Procedure Security Management Plan Worker Accommodation Management Plan Influx Management Plan
10. Traffic	<ul style="list-style-type: none"> Minimize disruption to traffic caused by construction activities to ensure the safety of all road users 	<ul style="list-style-type: none"> Workers conduct and awareness in safety and traffic regulation No death, or any loss related to traffic and transport 	<ul style="list-style-type: none"> EPC Contractors' Traffic Management Plan (Marine) EPC Contractors' Traffic Management Plan (Terrestrial) EHSS Management Plan for Land Clearance Phase Community Health plan
11. Unplanned and Accidental Events	<ul style="list-style-type: none"> All construction workers to acknowledge and aware of mitigation measures in relation to environment i.e. hazardous spillage and leakage Develop and implement an emergency plan to minimize adverse damage of environmental incident 	<ul style="list-style-type: none"> No major/serious incident happen in construction period An emergency plan with relevant hazardous prevention tools and equipment are ready for all sites and workers Workers to be periodically trained for environmental emergency response procedure 	<ul style="list-style-type: none"> Worker Training Plan Emergency Response Plan Worker Accommodation Management Plan
12. Accumulative Impacts	<ul style="list-style-type: none"> Minimise the disturbance of terrestrial and marine ecology due to the construction activities 		<ul style="list-style-type: none"> Biodiversity Action Plan Detailed Design Document

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6.2

SUB PLANS


Based upon the outcomes of the ESIA, there are Sub Plans which are developed to guide Project personnel in the implementation of all mitigation and management measures. These Sub Plans outline the measures, procedures, monitoring and reporting requirements and responsibilities required on the ground to achieve the objectives, performance criteria, and targets for the construction phase of the Project. The lists of Sub Plans are provided as follows:

- Community Grievance Management Plan (Ref: LSP-1S03-0001);
- Community Development Action Plan (Ref: LSP-1S03-0002);
- Cultural Heritage Chance Finds Procedure (Ref: LSP-1S03-0003);
- Influx Management Plan (Ref: LSP-1S03-0004);
- Supplemental Resettlement Action Plan (Ref: LSP-1S03-0005);
- Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006);
- Local Recruitment and Procurement Plan (Ref: LSP-1S03-0007);
- Livelihood Restoration Plan (Ref: LSP-1S03-0008);
- Community Health Action Plan (Ref: LSP-1S03-0009);
- EHSS Management Plan for Land Clearance Phase (Ref: LSP-1S01-0001);
- Emergency Response Plan (Ref: LSP-1S01-0002);
- Worker Training Management Plan (Ref: LSP-1S01-0003);
- Worker Accommodation Management Plan (Ref: LSP-1S01-0004);
- Security Management Plan (Ref: LSP-1S01-0006);
- Dredging Management Plan (Ref: LSP-1S01-0020); and
- Biodiversity Offset Plan (Ref: LSP-1S01-0021).

6.3

SITE SPECIFIC ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLANS


EPC contractor and subcontractor is to prepare their own HSE Management Plan's (HSE MPs) to address the health, safety and environmental risks associated to the activities that they are in control of. The Contractor HSE MPs would: note the relevant construction activities they are undertaking on the project; establish the health, safety and environmental measures they will be undertaking during those activities; specify what monitoring programs will be implemented to assess the effectiveness of the mitigation measures; and identify who is responsible for the varies tasks and actions

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recorded in the HSE MPs. The Contractor HSE MPs must comply with this LCHSSE&S MP and all applicable regulations, standards and permits.

In developing their HSSE&S Management Plan's the contractors must take reference from the following template documents, to ensure the impacts identified within the Projects ESIA are effectively managed:

- Air Quality Management Plan (Diffuse Sources) (Ref: LSP-1S01-0007);
- Air Quality Management Plan (Point Sources) (Ref: LSP-1S01-0008);
- Noise and Vibration Management Plan (Ref: LSP-1S01-0009);
- Surface Water Management Plan (Terrestrial) (Ref: LSP-1S01-0010);
- Surface Water Management Plan (Marine) (Ref: LSP-1S01-0011);
- Soil and Groundwater Management Plan (Ref: LSP-1S01-0012);
- Biodiversity Action Plan (Ref: LSP-1S01-0013);
- Waste Management (Hazardous Materials) (Ref: LSP-1S01-0014);
- Waste Management (Non Hazardous Waste) (Ref: LSP-1S01-0015);
- Hazardous Material Management Plan (Ref: LSP-1S01-0016);
- Traffic Management Plan (Terrestrial) (Ref: LSP-1S01-0017);
- Traffic Management Plan (Marine) (Ref: LSP-1S01-0018);
- Worker Occupational Health and Safety Management Plan (Ref: LSP-1S01-0019).

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7

MITIGATION MEASURES AND MONITORING REQUIREMENTS

This section describes the mitigation measures and monitoring requirements to be implemented during the construction phase of the Project. Project personnel, EPC Contractors must apply and implement the mitigation measures and monitoring plans noted in this section to the relevant activities that they are undertaking to minimise and prevent potential impacts that may occur during construction phase.

7.1

OVERVIEW OF ADVERSE IMPACTS AND MEASURES

During the construction phase of the Project potential impacts related to health, safety, and environmental may arise. Such impacts and related mitigation measures have been identified and assessed in terms of environmental aspects based on activities related to the Project during the preparation of the ESIA report. The environmental aspects that have the potential to be impacted during the construction phase are as follows:

- Air Quality;
- Greenhouse Gas;
- Noise;
- Water Quality;
- Groundwater and Soil;
- Biodiversity;
- Fisheries;
- Waste management;
- Socio-Economic;
- Traffic;
- Unplanned and Accidental Events; and
- Cumulative Impacts.


The details of potential impacts, relevant mitigation measures, including who is responsible for their implementation are specified in **Table 5**.

7.2

OVERVIEW OF ENVIRONMENTAL MONITORING

During the construction phase, environmental monitoring will be conducted in order to ensure legislative compliance, track any environmental changes due to the Project construction and ensure that all identified impacts are being effectively mitigated.

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The monitoring plan during this phase can be divided into two periods: (1) Land development and (2) Construction of inland and marine components. Accordingly, some parameters, sampling locations, frequencies, and responsible parties determined for these two phases are different due to the type of impact and their significance. The summaries of the environmental monitoring plan are provided in **Table 5**.



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Table 5 *The summaries of the environmental monitoring plan*

Environmental Aspect	Effects and causes of impacts	Overall of Measures	Residual Impacts	Compliance: (reference to applicable standards, Sub-Plan)	Implementing Unit
1. Air Quality	<p>Dispersion of fugitive dust from the disturbance of soil and material stockpile</p> <p>Emission of air pollution from machinery and vehicles</p>	<ul style="list-style-type: none"> • Apply water sprays at dust generated area, soil and material stockpiles, and any other exposed surfaces • Limit the vehicle speed in the project boundary • Limit stockpile heights and areas, and removal of materials should take place from downwind side within physical barriers and windbreaks • Minimize vehicle movements at some construction area • The loads carried by the vehicle should be covered by clean impervious sheeting • Coordination of the construction schedule to minimise dust emissions during peak times • Batching plants and rock crushers/sorters to be fitted with filters/sprays • Cleared vegetation will either be composed or reused for stabilization purposes • Contractual provisions to be included with all material suppliers • Use of the grievance mechanism will be utilised to record complains from affected stakeholders • Assigning haul routes away from sensitive areas • Install wheel washing facilities at appropriate positions • Use low sulfur fuels for machinery and vehicle as applicable 	Minor	<p>Air Quality Management Plan (Diffuse Sources) (Ref: LSP-1S01-0007)</p> <p>Air Quality Management Plan (Point Sources) (Ref: LSP-1S01-0008)</p> <p>Traffic Management Plan (Terrestrial) (Ref: LSP-1S01-0017)</p> <p>Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006)</p> <p>Community Grievance Management Plan (Ref: LSP-1S03-0001)</p> <p>EHSS Management Plan for Land Clearance Phase (Ref: LSP-1S01-0001)</p>	EPC Contractors


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		<ul style="list-style-type: none"> Undertake scheduled maintenance to reduce fuel use and poor air quality Inspection and maintenance of machinery It should equip the labor protection for workers working on welding. 			
2. Greenhouse Gas	Emission of Greenhouse Gas to atmosphere leading to climate change	<ul style="list-style-type: none"> Minimise fuel consumption where feasible. Develop and implement preventive maintenance plan for emission sources Record the consumption of fuels to evaluate the quantity of GHGs emitted into the atmosphere 	Moderate	Air Quality Management Plan (Point Sources) (Ref: LSP-1S01-0008) Local Recruitment and Procurement Plan (Ref: LSP-1S03-0007)	EPC Contractors
3. Noise	Noise generated by construction quipment/ machineries Noise generated by transportation of construction equipment/ materials and personnel Vibration caused by construction activities Vibration caused by construction activities	<ul style="list-style-type: none"> Install acoustic barriers close to the source, or receptor where necessary. Ensure all contractors on site have effectively controlled noise levels from equipment Equipment to be operated and maintained in accordance with manufacturer specifications Limit the hours of operation for specific pieces of equipment or activities that generate loud noise Inform the public and sensitive receptors about the Project and potential construction related consequences Locate equipment emitting high noise away from sensitive receptors Appoint a staff at site to manage and respond to noise complaints Limit the exposure period of employee to noise in according to regulation or relevant standards Periodic medical hearing checks for workers Avoid night-time transportation 	Negligible-Moderate	Noise and Vibration Management Plan (Ref: LSP-1S01-0009) Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006) Community Grievance Management Plan (Ref: LSP-1S03-0001) Traffic Management Plan (Terrestrial) (Ref: LSP-1S01-0017) Worker Occupational Health and Safety Management Plan (Ref: LSP-1S01-0019) EHSS Management Plan for Land	EPC Contractors


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		<ul style="list-style-type: none"> • Reduce Project traffic routing through community areas wherever possible • Select routes for construction traffic entering and leaving • Heavy trucks shall be tested on noise and vibration level. • Only works causing low noise can be executed after 22.00 onsite • Foundation for machine platform will be constructed with high quality concrete • Install Anti-vibration rubber gaskets and springs • Avoid impact of pile driving in sensitive area • Impact or impulse tools should not be used from 5.00 p.m. to 8.00 a.m. weekdays and 5.00 p.m. to 9.00 a.m. weekends • Comply with relevant regulations in Vietnam regarding safety in preservation, transport, use and disposal of industrial explosive materials • Execute blasting according relevant regulations in Vietnam • Do not carry out rock transport activities within 15 minutes after rock blasting • Maintain safety distances for human receptors, and buildings/structures 		<p>Clearance Phase (Ref: LSP-1S01-0001)</p> <p>Noise and Vibration Management Plan (Ref: LSP-1S01-0009)</p> <p>Traffic Management Plan (Terrestrial) (Ref: LSP-1S01-0017)</p> <p>Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006)</p> <p>Community Grievance Management Plan (Ref: LSP-1S03-0001)</p> <p>EHSS Management Plan for Land Clearance Phase (Ref: LSP-1S01-0001)</p>	
4. Sediment	Sediment disturbance from dredging activities	<ul style="list-style-type: none"> • Using facilities and dredging equipment in accordance to the local geological conditions of project area • Guidance provided to workers for operating the equipment • Dredging and land fill location must be studied and selected 	-	Dredging Management Plan (Ref:LSP-1S01-0020)	EPC Contractors

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		<ul style="list-style-type: none"> Increased turbidity at a dredge site should be minimized to the extent possible through the use of less instructive dredging procedures and timing of activities Dumping, dredging, and filling waste must apply the requirements about mitigating methods and Decree No. 44/2011QD-UBND The dredging plan must be submitted to DONRE of Ba Ria- Vung Tau Province 			
5. Water Quality	Discharge of run-off water to surface water during land development	<ul style="list-style-type: none"> Prior to any works commencing, the Project Sponsor should determine Project Specific standards for a key range of surface water parameters of concern The selected route of access roads should limit the need for cut or fill to be used and path of access roads as much as possible Access outside of these roads to be limited to avoid disturbing other areas of vegetation and soil Temporary trafficked areas and access roads formed during construction will be constructed as appropriate Set the schedule to avoid clearing operations during the rainy season Project Sponsor is to develop an overarching soils and surface water management plan (including monitoring measures) for the construction phase, which the EPC Contractors are required to comply with In the event that immediate handover of the site is not possible, a maintenance and monitoring plan is to be developed and implemented Delineation of clearance boundaries prior to works 	Minor to Moderate	<p>Surface Water Management Plan (Terrestrial) (Ref: LSP-1S01-0010)</p> <p>Soil and Groundwater Management lan (Ref: LSP-1S01-0012)</p> <p>Biodiversity Action Plan (Ref: LSP-1S01-0013)</p> <p>EHSS Management Plan for Land Clearance Phase (Ref: LSP-1S01-0001)</p>	EPC Contractors

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		<p>commencing</p> <ul style="list-style-type: none"> • Planning and staging of vegetation removal works • Install supplementary sediment control features • Removed vegetation should be either mulched or used in surface water management features • Minimisation of the exposed and unmanaged soils within the disturbed footprint • Use of perimeter banks/diversions channels around disturbed/ cleared area • Add surface protection measures, such as mulched vegetation, wherever possible • Other features such as silt fences and check dams should be used wherever possible • Where required, storm-water management structures will be designed to collect silt-laden surface runoff and allow the removal of silt by natural settlement • Drainage systems, erosion control measures and storm- water ponds will be regularly inspected and maintained • Develop effective rehabilitation/ revegetation or re-use strategies • All oil waste, paints, chemicals, will be collected into bins before disposal • Daily collection of materials which is not used to re-use or to treat periodically • The ditch is located around material yard, and sewer grates from coarse to fine are set up along ditch 			
	Impacts to water quality caused by dredging activities and port	<ul style="list-style-type: none"> • The Project Sponsor should insist that the management, mitigation and monitoring measures in the regulatory EIA should be rigorously enforced 	Minor	Surface Water Management Plan (Marine) (Ref: LSP-1S01-0011)	EPC Contractors

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	construction	<ul style="list-style-type: none"> Minimising the extent of the area dredged and a release of a turbid effluent from the dredging ship When utilizing a grab-dredger a silt curtain around the grab will be used No overflow is permitted from the Trailing Suction Hopper Dredger The Lean Mixture Overboard system will only be in operation at the beginning and end of the dredging cycle Dredged marine mud will be disposed of only in the designated disposal area in accordance with the approvals conditions Disposal vessels will be fitted with tight bottom seals Barges will be filled to a level, which ensures that material does not spill over during transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action After dredging, any excess materials will be cleaned from decks and exposed fittings before the vessel is moved The contractor(s) will ensure that the works cause no visible foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the dredging site Monitoring and automation systems will be used to improve the crew's information Control and monitoring systems will be used to alert the crew to leaks or any other potential risks When the dredged material has been unloaded at the disposal areas, any material that has 		Dredging Management Plan (Ref: LSP-1S01-0020) Waste Management (Non Hazardous Waste) (Ref: LSP-1S01-0015) Waste Management (Hazardous Materials) (Ref: LSP-1S01-0014) Traffic Management Plan (Marine) (Ref: LSP-1S01-0018)	
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		<p>accumulated on the deck or other exposed parts of the vessel will be removed and placed in the hold or a hopper</p> <ul style="list-style-type: none"> Dredgers will maintain adequate clearance between vessels and the seabed at all states of the tide and reduce operations speed to ensure that excessive turbidity is not generated Planning the dredging campaign to limit the risks of generating a turbidity plume near marine habitats Ensuring that the dredging vessels comply with the MARPOL 73/78 Convention 			
	Contamination of groundwater	<ul style="list-style-type: none"> Discharge of groundwater generated from the dewatering process discharged at water management structures 	Negligible	<p>Surface Water Management Plan (Terrestrial) (Ref: LSP-1S01-0010)</p> <p>Soil and Groundwater Management Plan (Ref: LSP-1S01-0012)</p>	EPC Contractors
	Impacts on water quality from domestic wastewater discharge	<ul style="list-style-type: none"> Ensure appropriate siting of portable toilets and appropriate on-going management of these facilities Ensure appropriate lining of portable toilets Disinfect the area around the portable toilet facilities regularly Water is not allowed to be discharged out of portable toilets but will be collected and treated by sanitary trucks. The portable toilet should be constructed in according to the Ministry of Health in 2003 	Negligible	Waste Management (Non Hazardous Waste) (Ref: LSP-1S01-0015)	EPC Contractors
	Impacts on seawater quality from accidental spills	<ul style="list-style-type: none"> The Project should establish an environmental protection and management system and collaborate regularly with the maritime inspectors Maintenance of storage tanks, treatment plants, 	Minor	<p>Surface Water Management Plan (Marine) (Ref: LSP-1S01-0011)</p> <p>Emergency Response Plan (Ref:</p>	EPC Contractors


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		<p>pipes and components will be carried out regularly</p> <ul style="list-style-type: none"> • All construction plants and machinery should be maintained in good working order • The Emergency Response Plan is to include provisions relating to spills and leaks • Keep a store of spill response equipment at the fuel facility and bowzers • Regular training with all possibilities of risks and incidents causing oil spillage • Fuel and oil stores must be sited away from the site drainage system and surface waters • All refueling of plant and machinery must take place in designated, hard stand areas • A bund will be constructed around any fuel storage tanks. The volume of the bund area is 1.1 times compared to the volume of the tanks • Regularly checking the fuel pump systems, valves and installing the floats inside of the tanks • Regularly checking the tight-fitting of pumps and pipeline system • Water spraying systems to cool down permanent fuel storage tanks on the hot days will be installed and used • Regularly maintaining equipment and machines. All ancillary equipment should be contained securely within the bund when not in use • The tank will be designed to meet the high safety standards • Corrosion protections will be used in steel tanks and piping if required • The Project Sponsor will collaborate with the 		<p>LSP-1S01-0002)</p> <p>Hazardous Material Management Plan (Ref: LSP-1S01-0016)</p>	
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		<p>authorities in checking, prevention and detecting incidents of oil leakage and spillage</p> <ul style="list-style-type: none"> • The integrity of all fuel oil storage tanks will be checked daily by visual means • Hazardous Management Plan should be prepared prior to commencing the construction phase • Properly trained personnel to conduct fuel and chemical handling according to formal procedures to reduce risks of incident • All spills will be immediately contained and cleaned up. • Contaminated areas will be remediated and post remediation verification will be carried out 			
6. Groundwater and Soil	Loss of topsoil as a result of land clearing	<ul style="list-style-type: none"> • During the land preparation, the mitigation measures developed with regards to surface water quality management will serve to prevent soil loss through limiting TSS loading in surface water bodies • Delineation of clearance boundaries to limit the areas • Scheduling clearance activities to avoid rainfall to the extent possible • Stabilisation of slopes and berms • The excavated soil in the ash pond will be used to construct the berms if possible • Control erosion through diversion drains, sediment fences, and sediment retention basins 	Negligible	<p>Surface Water Management Plan (Terrestrial) (Ref: LSP-1S01-0010)</p> <p>Surface Water Management Plan (Marine) (Ref: LSP-1S01-0011)</p> <p>Soil and Groundwater Management Plan (Ref: LSP-1S01-0012)</p> <p>Biodiversity Action Plan (Ref: LSP-1S01-0013)</p> <p>EHSS Management Plan for Land Clearance Phase (Ref: LSP-1S01-0001)</p>	EPC Contractors
	Soil and groundwater contamination due to unplanned events of	<ul style="list-style-type: none"> • The source of any backfill is to be nominated prior to any site works commencing 	Negligible	Hazardous Material Management Plan (Ref: LSP-1S01-0016)	EPC Contractors


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	spillages and leakages	<ul style="list-style-type: none"> An investigation of the usage of the site from where the backfill material will be sourced, and surrounding areas, will be undertaken In the event that the Phase One investigation of historical usage indicates potential for contamination, a more detailed investigation to be undertaken All back fill brought to site is to have gone through these steps prior to being accepted. A log showing the source of all backfill brought to site is to be kept and continually updated Fuels, chemicals and waste storage facilities will be covered and will be located on hard standing surfaces Any refuelling activities will only take place within a designated hard stand area with spill kits present Secondary containment, with appropriate drainage connection and/or provision for removal of spilled liquids, will be provided Use of spill control kits to contain and clean small spills and leaks Implementing a training program to familiarise staff with Emergency procedures and practices Any contaminated soil will be stored in hazardous waste storage facilities and collected by a licensed waste collector 		Soil and Groundwater Management Plan (Ref: LSP-1S01-0012) Biodiversity Action Plan (Ref: LSP- 1S01-0013) Emergency Response Plan (Ref: LSP- 1S01-0002)	
	Soil and groundwater contamination due to in appropriate waste management	<ul style="list-style-type: none"> Mobile toilets will be provided throughout the construction sites and sanitary effluent must not be disposed of on, or adjoining the site All waste and wastewater must be managed appropriately 	Negligible	Waste Management (Hazardous Materials) (Ref: LSP-1S01-0014) Waste Management (Non Hazardous Waste) (Ref: LSP-	EPC Contractors

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		<ul style="list-style-type: none"> A Hazardous Materials Management Plan and a Construction Waste Management Plan will be developed and implemented for the construction phase 		1S01- 0015)	
7. Biodiversity	Impacts to terrestrial and marine biodiversity during site development, land reclamation and construction of petrochemical plant and seaport facilities	<ul style="list-style-type: none"> Identify and clearly mark the proposed area for land clearance and if there is any a natural habitat or microhabitat feature found in such area, it will be relocated to adjacent natural habitat area A routine inspection program will be scheduled and implemented Prior to construction works, measures should be taken to map out how new water channels will flow adjacent to the Project and similarly how aquaculture mangrove ponds All landscaping shall be conducted using local indigenous species. No invasive species are to be used in landscaping Biodiversity Action Plan and Biodiversity Offset Strategies will be developed 	Moderate	Biodiversity Action Plan (Ref: LSP- 1S01-0013) Biodiversity Offset Plan (Ref: LSP-1S01-0021) EHSS Management Plan for Land Clearance Phase (Ref: LSP-1S01-0001)	EPC Contractors
	Impacts to Terrestrial and Marine Biodiversity due to Construction and Structural Presence at Site on Flora & Wildlife/ Fauna	<ul style="list-style-type: none"> A wildlife protection team will be established to sweep areas for wildlife prior to clearance work and rescue any remaining wildlife Native species should be used for soft-landscaping as much as possible and avoid introduction of invasive species to natural 	Negligible	EHSS Management Plan for Land Clearance Phase (Ref: LSP-1S01-0001) Biodiversity Action Plan (Ref: LSP- 1S01-0013)	EPC Contractors
	Impacts to terrestrial and marine biodiversity due to alteration of the light environment	<ul style="list-style-type: none"> Night time lighting should be controlled as far as possible Regular monitoring potential effects of the artificial lighting and flaring on wildlife 	Minor	Biodiversity Action Plan (Ref: LSP- 1S01-0013)	EPC Contractors
8. Fisheries	Impacts to fisheries due	<ul style="list-style-type: none"> Dredging will be carried out at times specified to any 	Minor to	Dredging Management Plan	EPC Contractors


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	<p>to marine dredging activities for jetty access routes and turning basins</p> <p>Impacts to fisheries due to loss of terrestrial habitat from land development and petrochemical plant construction</p>	<p>locally affected population (e.g. near shore fishers, oyster farmers and net fishers). The Project Company will collaborate with local authorities to communicate with fishing communities in advance of commencing the dredging activities. Affected communities should be informed and supported for relocation at least three months prior to commence this activity.</p>	Moderate	<p>(Ref: LSP-1S01-0020)</p> <p>Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006)</p> <p>Community Grievance Management Plan (Ref: LSP-1S03-0001)</p> <p>Supplemental Resettlement Action Plan (Ref: LSP-1S03-0005)</p> <p>Surface Water Management Plan (Marine) (Ref: LSP-1S01-0011)</p>	
9. Waste Management	<p>Impacts from all type of waste generated during the construction</p>	<ul style="list-style-type: none"> Develop specific requirements to manage avoid, reduce and reuse waste during the construction phase for all of the wastes identified. Education of all workers on site shall be undertaken to avoid, reduce and reuse wastes generated. Every contractor must provide adequate temporary storage container and also storage area for all types of waste Non-hazardous solid waste shall be handled by licensed and reputable waste disposal companies with applicable laws and regulations Hazardous waste must be managed in accordance with Circular No. 12/2011/TT-BTNMT The ESMP include specific requirements to manage avoid, reduce and reuse waste and educate these principles to all workers Waste disposal facilities shall be sited and signposted 	No residual impact	<p>Waste Management (Hazardous Materials) (Ref: LSP-1S01-0014)</p> <p>Waste Management (Non Hazardous Waste) (Ref: LSP-1S01-0015)</p> <p>EHSS Management Plan for Land Clearance Phase (Ref: LSP-1S01-0001)</p>	EPC Contractors

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		<p>throughout the construction site</p> <ul style="list-style-type: none"> Waste clean-up measures should be undertaken on a fortnightly basis to collect any waste or unused materials All waste collected should be managed and disposed of in accordance with the required regulations Contractors employed to manage waste should be required to identify ways to avoid, reduce and recycle wastes Monitoring of the waste contractor using chain-of-custody documentation for the disposal of wastes shall be undertaken The waste contractor shall report to LSP on an annual basis on any cross-boundary transport of waste Assess the adequacy of the operation of all waste disposal sites utilised by the contractors to ensure that adequate environmental standards are being met 			
10. Socio-Economic	Impacts from Permanent Land Acquisition	<ul style="list-style-type: none"> SRAP for physically displaced households, includes provisions of security of tenure, assistance during relocation process etc. Develop and include a consultative LRP as part of the SRAP Monitor the implementation of the LRP and update the LRP until livelihood of affected people are proven to be completely restored or improved Support social welfare programmes and assistance projects that focus on vulnerable groups Develop a SEP including assigning Community Liaison Officer 	Moderate	<p>Supplemental Resettlement Action Plan (Ref: LSP-1S03-0005)</p> <p>Livelihood Restoration Plan (Ref: LSP-1S03-0008)</p> <p>Community Development Action Plan (Ref: LSP-1S03-0002);</p> <p>Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006)</p> <p>Community Grievance</p>	EPC Contractors

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		<ul style="list-style-type: none"> Implement the company grievance as a part of the SEP Develop a CDP Partner with the government to develop a plan for either relocating the affected fishing boats 		Management Plan (Ref: LSP-1S03-0001)	
	Impacts on Cultural Heritage	<ul style="list-style-type: none"> A competent professional on cultural heritage should be hired to conduct a field –based study of Ba Ong Temple and to provide his/her consultation during the relocation and restoration process of the temple The Project Sponsor can provide their support in rebuilding/ restoring and Ba Ong Temple at the new location if needed A Chance Finds Procedure should be established Install warning signage and high visibility temporary fencing the Hang Xom Lon archaeological site Induction training for workers should include the awareness raising A Community Liaison Officer should be assigned Establish and implement a special traffic regulation and safety plan for the Project on annual festival days of Nha Lon Long Son Safe and appropriate vehicles should be provided for transporting workers 	Minor	Supplemental Resettlement Action Plan (Ref: LSP-1S03-0005) Cultural Heritage Chance Finds Procedure (Ref: LSP-1S03-0003) Worker Training Management Plan (Ref: LSP-1S01-0003) Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006) Community Grievance Management Plan (Ref: LSP-1S03-0001) Traffic Management Plan (Terrestrial) (Ref: LSP-1S01-0017) Traffic Management Plan (Marine) (Ref: LSP-1S01-0018) EHSS Management Plan for Land Clearance Phase (Ref: LSP-1S01-0001)	EPC Contractors
	Impacts from Influx of Migrant Construction Workers during the Construction Phase	<ul style="list-style-type: none"> An Influx Management Plan should be developed The Project Sponsor and the EPC Contractor should work closely with the provincial authorities in order to ensure sufficient supply of water, electricity and waste collection service for the Project's activities without hindering the current supplies for local 	Negligible to Minor	Influx Management Plan (Ref: LSP- 1S03-0004) Worker Accommodation Management Plan (Ref: LSP-1S01- 0004)	EPC Contractors

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		<p>community in the island</p> <ul style="list-style-type: none"> Dining service and canteen should be offered within worker camps A budget for local road repairing should be prepared The Project will implement the SEP. Community Liaison Officers of the Project Grievance Management Plan and Contractor Code of Conduct shall be developed and implemented Workers Accommodation Management Plan shall be developed and implemented Co-ordinate with local authorities for managing workers in construction site 		<p>Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006)</p> <p>Community Grievance Management Plan (Ref: LSP-1S03-0001)</p> <p>Worker Training Management Plan (Ref: LSP-1S01-0003)</p> <p>Worker Occupational Health and Safety Management Plan (Ref: LSP- 1S01-0019)</p> <p>EHSS Management Plan for Land Clearance Phase (Ref: LSP-1S01-0001)</p>	
	Impacts on Community Health and Safety due to Construction Activities	<ul style="list-style-type: none"> All new drivers employed throughout the course of the Project's construction Speed limits will be enforced for all Project vehicles. Local communities will be familiarised with traffic management 	<p>Negligible for impact on Community Health; Minor to Moderate for Impact on Community Safety.</p>	<p>Worker Training Management Plan (Ref: LSP-1S01-0003)</p> <p>Traffic Management Plan (Terrestrial) (Ref: LSP-1S01-0017)</p> <p>Traffic Management Plan (Marine) (Ref: LSP-1S01-0018)</p> <p>Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006)</p> <p>Community Grievance Management Plan (Ref: LSP-</p>	EPC Contractors


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				1S03-0001)	
	Impacts on Employment and Economy during the Construction Phase	<ul style="list-style-type: none"> Local recruitment and procurement management plans should be developed and implemented A skills training programme should be included in the Livelihoods Restoration Plan Basic business skill training and capacity building should be included in the Community Development Plan Information on job opportunities should be nominally disclosed to project affected communities at least three months prior to recruitment time. However, the precise timing may depend on the nature of the upcoming works Assistance plan for vulnerable groups should be included in the SRAP 	Positive	EHSS Management Plan for Land Clearance Phase (Ref: LSP-1S01-0001) Local Recruitment and Procurement Plan (Ref: LSP-1S03-0007) Livelihood Restoration Plan (Ref: LSP-1S03-0008) Community Development Action Plan (Ref: LSP-1S03-0002); Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006) Community Grievance Management Plan (Ref: LSP-1S03-0001) Supplemental Resettlement Action Plan (Ref: LSP-1S03-0005) EHSS Management Plan for Land Clearance Phase (Ref: LSP-1S01-0001)	EPC Contractors
11. Traffic	Impacts to Road Traffic during the Construction Phase, before the access road is built	<ul style="list-style-type: none"> The Project should try to use the waterway for mobilisation of the heavy equipment and construction materials- In case that road traveling is unavoidable, the Project will prepare and implement a Road Traffic Management Plan 	Moderate	Traffic Management Plan (Terrestrial) (Ref: LSP-1S01-0017) Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006)	EPC Contractors


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				Community Grievance Management Plan (Ref: LSP-1S03-0001)	
	Impacts to Road Traffic during the Construction Phase	<ul style="list-style-type: none"> The Project will prepare and implement a Road Traffic Management Plan All workers, except those living near-by, shall come to the worksite by shuttle buses In conjunction with the local authorities, consider the installation of temporary speed bumps and/or provide traffic wardens to control the traffic speed in residential areas Conduct road safety awareness campaigns All Project related drivers will be required to undergo driver training Communities and residents along Project routes will be made aware of the risks associated with heavy vehicle traffic through engagement and awareness-raising initiatives The Project will consider the HSE measures that need to be taken to ensure the safe passage of pedestrians and animals at narrow sections of the roads Canvas is used to cover facilities transporting earth, sand stone and debris. Make wet route of material transport within construction site The Project will work with the local and national government to ensure the roads that are used by Project related vehicles are properly maintained The Project will minimise its road transport activities 	Minor	Traffic Management Plan (Terrestrial) (Ref: LSP-1S01-0017) Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006) Community Grievance Management Plan (Ref: LSP-1S03-0001) Traffic Management Plan (Terrestrial) (Ref: LSP-1S01-0017) Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006) Community Grievance Management Plan (Ref: LSP-1S03-0001)	EPC Contractors


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		to as low as possible during the festivals at Nha Lon National Cultural Heritage			
	Impacts to Marine Traffic during the Construction Phase	<ul style="list-style-type: none"> The Project will prepare and implement a Marine Traffic Management Plan All Project related drivers will be required to undergo driver training Ships and barges have been registred to get the certification in accordance with regulations Canvas is used to cover facilities transporting earth, sand stone, and debris. Coordinate with Maritime Administration, Department of Waterway Management 	Minor	Traffic Management Plan (Marine) (Ref: LSP-1S01-0018) Worker Training Management Plan (Ref: LSP-1S01-0003)	EPC Contractors
12. Occupational health	Impact due to construction activities	<ul style="list-style-type: none"> To equip with labour safety tools like helmet, cloths, gloves, glasses, reflective cloth etc. The contractor provides the labour contact and insurance Be able to get the medical check-up yearly 	Minor	Worker Training Management Plan (Ref: LSP-1S01-0003)	EPC Contractors
13. Unplanned and Accidental Events	Impacts due to Vessel Collision	<ul style="list-style-type: none"> The project will install navigation signs and equipment in the construction area of the port to warn against vessel collisions A dedicated safety distance between construction area of marine components and navigation route will be provided to relevant authorities and local fisherman The construction contractor shall coordinate with relevant authorities to disseminate information regarding the construction schedule, construction area, and activities The construction contractor shall install buoy, navigation light, or warning sign as appropriate to demarcate the construction area 	Minor	Emergency Response Plan (Ref: LSP-1S01-0002) Worker Training Management Plan (Ref: LSP-1S01-0003)	EPC Contractors


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		<ul style="list-style-type: none"> Storing flammables away from ignition sources and oxidizing materials Pressurized gas cylinders should be secured properly and should not be placed beyond the sides or ends of vehicles Use of dedicated fitting, dikes, and hoses specific to materials in storage tanks Inspection programs to maintain the mechanical integrity and operability of pressure vessels, tanks, piping systems, relief and vent valve systems The design of fire protection and firefighting system must be in accordance with NPFA standard Train operators on release prevention including drills specific to hazardous materials as part of Emergency Preparedness Response Training Develop a preventive maintenance program for process equipment and pipelines Install leak detection system for instance tank level sensor, gas detector for detection of flammable and toxic substances in operating areas and tank farm and connected to alarm system Have booms, skimmers and dispersants on site for small spills to water. Emergency response plan should include informing the public and relevant parties Training program for employee should consist of basic hazard awareness, site-specific hazards, safe work practices, and procedures for fire, evacuation, and natural disaster as appropriate 			
14. Cumulative Impact	Air Quality, noise, and surface water	<ul style="list-style-type: none"> Management of emissions to prevent the cumulative impacts is needed to be communicated to all 	-	Air Quality Management Plan (Diffuse Sources) (Ref: LSP-1S01-	EPC Contractors

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		<p>construction contractors</p> <ul style="list-style-type: none"> • Communicate with adjoining project owners to determine when will be the period of greatest overlap in soil disturbing/exposing activities, noise generating construction activities • Should a large increase in TSP, PM2.5 or PM10 levels be noted, and then ongoing air quality monitoring data should be shared between projects on Long Son Island. • Identify sensitive receptors that may be impacted by noise from more than one project, and ensure that specific mitigation measures and consultation is undertaken • LSP has committed to a large range of surface water management measures • LSP should work with local regulatory authorities to ensure that all EPC contractors are complying with relevant regulations. • Where there is an overlap in dredging activities between the Project and the adjoining shipyard, appropriate boundaries between the two sites will be defined and communicated to all contractors. A monitoring programme will also be established to track changes in water quality near the interface • The Project's grievance response plan will include provisions to identify where the cause of the grievance originates from an adjoining project, means to communicate this to the relevant project owner 		<p>0007)</p> <p>Air Quality Management Plan (Point Sources) (Ref: LSP-1S01-0008)</p> <p>Noise and Vibration Management Plan (Ref: LSP-1S01-0009)</p> <p>Surface Water Management Plan (Terrestrial) (Ref: LSP-1S01-0010)</p>	
	Terrestrial and Marine Biodiversity Cumulative	<ul style="list-style-type: none"> • The Project has committed to offsetting vegetation losses such that there is no net loss of both 	-	Biodiversity Action Plan (Ref: LSP- 1S01-0013)	EPC Contractors

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	Impact	terrestrial and marine (mostly tidal mudflat) habitat values		Biodiversity Offset Plan (Ref: LSP- 1S01-0021)	
	Socio-Economic Cumulative Impact - Positive Economic Impact	<ul style="list-style-type: none"> LSP to give consideration to sharing information regarding the Community Development Programme with other projects Sharing information regarding local procurement and purchasing approaches with other projects 	-	Community Development Action Plan (Ref: LSP-1S03-0002); Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006) Community Grievance Management Plan (Ref: LSP-1S03-0001)	EPC Contractors
	Socio-Economic Cumulative Impact - Physical and Economic Displacement	<ul style="list-style-type: none"> Work with local authorities to identify plots of land (and their owners) that will be required by more than one project, and thus will likely need to go through two rounds of land acquisition. To minimise disruption and long-term uncertainty, negotiate with authorities and other project owners to undertake the full acquisition of this land. Seek to cooperate with the project owners of the adjoining shipyard and refinery to identify fishermen who specifically utilise the area impacted by these projects (through loss of boat mooring access and disruption to access to fishing grounds) and seek to include them when planning livelihood restoration measures. 	-	Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006) Community Grievance Management Plan (Ref: LSP-1S03-0001) Supplemental Resettlement Action Plan (Ref: LSP-1S03-0005) Livelihood Restoration Plan (Ref: LSP-1S03-0008) Community Development Action Plan (Ref: LSP-1S03-0002)	EPC Contractors
	Socio-Economic Cumulative Impact - Influx	<ul style="list-style-type: none"> LSP has developed, or is planning to develop, a range of measures to comprehensively manage influx (both formal and informal) and associated impacts 	-	Influx Management Plan (Ref: LSP- 1S03-0004)	EPC Contractors
	Unplanned and Accident Events Cumulative Impact	<ul style="list-style-type: none"> When developing the Emergency Response Plan, consultation will be undertaken with owners of surrounding projects 	-	Emergency Response Plan (Ref: LSP- 1S01-0002)	EPC Contractors

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				Stakeholder Engagement Action Plan (Ref: LSP-1S03-0006)	
				Community Grievance Management Plan (Ref: LSP-1S03-0001)	



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Table 6 Overview of Environmental Monitoring for Construction Phase


Aspect, Potential Impact/ Issue	Phase		Sampling parameters	Sampling Stations	Monitoring frequency	Applicable Standards	Responsibility	Reporting
	Land Development	Construction						
Air Quality	✓	✓	<ul style="list-style-type: none"> TSP, PM₁₀, PM_{2.5} CO SO₂ NO₂ Wind Speed and Wind Direction 	4 Stations	Quarterly	<ul style="list-style-type: none"> Vietnam National Environmental Standards 	LSP HSSE Monitoring & Reporting Team & their sub-contractor	LSP HSSE Monitoring and Reporting Team
	✓	✓	<ul style="list-style-type: none"> TSP CO SO₂ NO₂ 	4 Stations	Bi-Annually	<ul style="list-style-type: none"> Vietnam National Environmental Standards 	LSP HSSE Monitoring & Reporting Team & their sub-contractor	LSP HSSE Monitoring and Reporting Team
		✓	EPC Contractor requirements	AS specified in the EPC Contractors Management Plan	See EPC Contractor Management Plan	<ul style="list-style-type: none"> See EPC Contractor Management Plan 	EPC Contractors	LSP HSSE Monitoring and Reporting Team
Noise	✓	✓	<ul style="list-style-type: none"> Leq (1-hr) Leq (24-hr) L_{dn} L_{max} Background noise (L₉₀) 	4 Stations	<u>Land Development</u> <ul style="list-style-type: none"> Bi-Annually, (Each round will be carried out continuously for 2 consecutive days) 	<ul style="list-style-type: none"> IFC Standards 	<u>Land Development</u> LSP HSSE Monitoring & Reporting Team	LSP HSSE Monitoring and Reporting Team
	✓	✓	<ul style="list-style-type: none"> Leq (1-hr) 	<u>Land Development</u> <ul style="list-style-type: none"> 4 Stations 			<u>Construction</u> EPC	

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Aspect, Potential Impact/ Issue	Phase		Sampling parameters	Sampling Stations	Monitoring frequency	Applicable Standards	Responsibility	Reporting
	Land Development	Construction						
				<u>Construction</u> <ul style="list-style-type: none"> 2 Stations 	K2 during blasting rock time <u>Construction</u> <ul style="list-style-type: none"> Bi-Annually 		Contractor	
	-	✓	<ul style="list-style-type: none"> EPC Contractor requirements 	AS specified in the EPC Contractors Management Plan	<ul style="list-style-type: none"> See EPC Contractor Management Plan 	<ul style="list-style-type: none"> See EPC Contractor Management Plan 	EPC Contractors	LSP HSSE Monitoring and Reporting Team
Vibration	✓	✓	<ul style="list-style-type: none"> Peak Particle Velocity 	4 Stations	<ul style="list-style-type: none"> Monthly (each round will be carried out continuously for 2 consecutive days). 	<ul style="list-style-type: none"> Vietnam National Environmental Standards 	<u>Land Development</u> LSP HSSE Monitoring & Reporting Team	LSP HSSE Monitoring and Reporting Team
	✓	-	<ul style="list-style-type: none"> Frequency 				<u>Construction</u> EPC Contractor	
	-	✓	EPC Contractor requirements	AS specified in the EPC Contractors Management Plan	See EPC Contractor Management Plan	See EPC Contractor Management Plan	EPC Contractors	LSP HSSE Monitoring and Reporting Team
Surface water	✓	✓	<ul style="list-style-type: none"> Turbidity TSS Oil and grease 	2 Coastal stations	Bi-Annually	<ul style="list-style-type: none"> Vietnam National Environmental 	<u>Land Development</u> LSP HSSE	LSP HSSE Monitoring and Reporting Team

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Aspect, Potential Impact/ Issue	Phase		Sampling parameters	Sampling Stations	Monitoring frequency	Applicable Standards	Responsibility	Reporting
	Land Development	Construction						
			<ul style="list-style-type: none"> DO COD NH4+ Coliform 			Standards	Monitoring & Reporting Team	
Surface water	✓	✓	<ul style="list-style-type: none"> pH NH4+ Oil and grease Coliform Hg, Cu, Fe Phenol 	3 Coastal stations	Bi-Annually	<ul style="list-style-type: none"> Vietnam National Environmental Standards 	<u>Construction</u> EPC Contractor (Package F)	LSP HSSE Monitoring and Reporting Team
Surface water	✓	✓	<ul style="list-style-type: none"> pH BOD COD DO 	5 Coastal Station	Bi-Annually (The samples will be taken at 3 different depths at each site)		<u>Land Development</u> LSP HSSE Monitoring & Reporting Team	LSP HSSE Monitoring and Reporting Team

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Aspect, Potential Impact/ Issue	Phase		Sampling parameters	Sampling Stations	Monitoring frequency	Applicable Standards	Responsibility	Reporting
	Land Development	Construction						
			<ul style="list-style-type: none"> SS Total coliform Oil and Grease 		per each time)		Reporting Team <u>Construction</u> EPC Contractor (Package F)	
Surface water	✓	✓	<ul style="list-style-type: none"> Turbidity TSS Oil and grease DO COD NH4+ Coliform 	2 river stations	Bi-Annually	<ul style="list-style-type: none"> Vietnam National Environmental Standards 	LSP HSE Monitoring and Reporting Team	LSP HSSE Monitoring and Reporting Team
	✓	✓	<ul style="list-style-type: none"> pH BOD COD SS NO2- NO3- Cl- PO43- Oil & grease Coliform Zn Cu 	<u>Land Development</u> <ul style="list-style-type: none"> 4 river stations <u>Construction</u> 3 river stations	Bi-Annually	<ul style="list-style-type: none"> Vietnam National Environmental Standards 	<u>Land Development</u> <ul style="list-style-type: none"> LSP HSE Monitoring and Reporting Team <u>Construction</u> <ul style="list-style-type: none"> EPC Contractor 	LSP HSSE Monitoring and Reporting Team

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Aspect, Potential Impact/ Issue	Phase		Sampling parameters	Sampling Stations	Monitoring frequency	Applicable Standards	Responsibility	Reporting
	Land Development	Construction						
			<ul style="list-style-type: none"> Benzene Phenol 					
Surface water	-	✓	<ul style="list-style-type: none"> EPC Contractor requirements 	AS specified in the EPC Contractors Management Plan	See EPC Contractor Management Plan	<ul style="list-style-type: none"> See EPC Contractor Management Plan 	<ul style="list-style-type: none"> EPC Contractors 	LSP HSSE Monitoring and Reporting Team
Sediment	✓	✓	<ul style="list-style-type: none"> 13 USEPA priority pollutant Metals THC 	2 Coastal stations	Bi-Annually	<ul style="list-style-type: none"> Vietnam National Environmental Standards 	<ul style="list-style-type: none"> LSP HSE Monitoring and Reporting Team 	LSP HSSE Monitoring and Reporting Team
	✓	✓	<ul style="list-style-type: none"> Zn Hg Cu As THC 	<u>Land Development</u> <ul style="list-style-type: none"> 4 river stations <u>Construction</u> <ul style="list-style-type: none"> 2 coastal stations 3 River stations 	Bi-Annually	<ul style="list-style-type: none"> Vietnam National Environmental Standards 	<ul style="list-style-type: none"> LSP HSE Monitoring and Reporting Team 	LSP HSSE Monitoring and Reporting Team
	-	✓	<ul style="list-style-type: none"> EPC Contractor requirements 	AS specified in the EPC Contractors Management Plan	See EPC Contractor Management Plan	<ul style="list-style-type: none"> See EPC Contractor Management Plan 	<ul style="list-style-type: none"> EPC Contractors 	LSP HSSE Monitoring and Reporting Team
Groundwater	✓	✓	The parameters to be analysed will depend on the substance released.	At and around the location of release. Number of samples	<ul style="list-style-type: none"> Immediately after each accidental 	<ul style="list-style-type: none"> Vietnam National Environmental 	<u>Land Development</u> <ul style="list-style-type: none"> LSP HSE 	LSP HSSE Monitoring and Reporting Team

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Aspect, Potential Impact/ Issue	Phase		Sampling parameters	Sampling Stations	Monitoring frequency	Applicable Standards	Responsibility	Reporting
	Land Development	Construction						
			Parameters may include: <ul style="list-style-type: none"> Metals; Volatile organic compounds; Semi volatile compounds; and Total petroleum hydrocarbons. 	depends on the scale of the release and the estimated impacted area	release and then, if an impact is identified, <ul style="list-style-type: none"> Quarterly thereafter. 	Standards	Monitoring and Reporting Team <u>Construction</u> <ul style="list-style-type: none"> LSP HSE Monitoring and Reporting Team EPC Contractor responsible for the release 	
	-	✓	EPC Contractor requirements	AS specified in the EPC Contractors Management Plan	<ul style="list-style-type: none"> See EPC Contractor Management Plan 	<ul style="list-style-type: none"> See EPC Contractor Management Plan 	EPC Contractors	LSP HSSE Monitoring and Reporting Team
Soil	✓	✓	The parameters to be analysed will depend on the substance released. Parameters may include: <ul style="list-style-type: none"> Metals; Volatile organic 	At and around the location of release. Number of samples depends on the scale of the release and the estimated	<ul style="list-style-type: none"> Immediately after each accidental release and then, if an impact is 	<ul style="list-style-type: none"> Vietnam National Environmental Standards Refer to US Standard and 	<u>Land Development</u> <ul style="list-style-type: none"> LSP HSE Monitoring and Reporting 	LSP HSSE Monitoring and Reporting Team

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Aspect, Potential Impact/ Issue	Phase		Sampling parameters	Sampling Stations	Monitoring frequency	Applicable Standards	Responsibility	Reporting
	Land Development	Construction						
			compounds; <ul style="list-style-type: none"> Semi volatile compounds; and Total petroleum hydrocarbons 	impacted area	<ul style="list-style-type: none"> identified, Quarterly thereafter. 	Dutch Standard	Team <u>Construction</u> <ul style="list-style-type: none"> LSP HSE Monitoring and Reporting Team EPC Contractor responsible for the release 	
	-	✓	EPC Contractor requirements	AS specified in the EPC Contractors Management Plan	<ul style="list-style-type: none"> See EPC Contractor Management Plan 	<ul style="list-style-type: none"> See EPC Contractor Management Plan 	EPC Contractors	LSP HSSE Monitoring and Reporting Team
Biodiversity	✓	-	<ul style="list-style-type: none"> Type of Vegetation Removed Area of Vegetation Removed Consistency between area approved for removal and area removed 	Variable, dependent upon where vegetation is being removed	Weekly	<ul style="list-style-type: none"> IFC Performance Standard 6 	<ul style="list-style-type: none"> LSP HSE Monitoring and Reporting Team EPC Contractors 	LSP HSSE Monitoring and Reporting Team
	✓	-	<ul style="list-style-type: none"> Number of Animal 	Variable,	Prior to Vegetation			

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Aspect, Potential Impact/ Issue	Phase		Sampling parameters	Sampling Stations	Monitoring frequency	Applicable Standards	Responsibility	Reporting
	Land Development	Construction						
			Relocated • Type of Animal Relocated	dependent upon where vegetation is being removed	Removal Occurring			
	✓	-	• Number of Animal Relocated • Type of Animal Relocated	Variable, dependent upon where vegetation is being removed	Number of Animal fatalities	• IFC Performance Standard 7		
	-	✓	• Number of dead fish, marine mammals and marine reptiles	Within final dredging boundaries	Ongoing during dredging activities	• IFC Performance Standard 6		
	-	✓	• EPC Contractor requirements	AS specified in the EPC Contractors Management Plan	See EPC Contractor Management Plan	• See EPC Contractor Management Plan	• EPC Contractors	LSP HSSE Monitoring and Reporting Team
Dredging	-	✓	• Coastal water quality at dredging site and dumping site, dredging level and riverbed topography after dredging	Dredging site and dumping site, riverbed at dredging site	Quarterly	• Vietnam National Environmental Standards	• LSP HSE Monitoring and Reporting Team	LSP HSSE Monitoring and Reporting Team
	-	✓	• EPC Contractor requirements	AS specified in the EPC Contractors Management Plan	See EPC Contractor Management Plan	• See EPC Contractor Management Plan	• EPC Contractors	LSP HSSE Monitoring and Reporting Team
Run-off water	✓	✓	• Visual inspection of	Any discharge	Twice a day if	• N/A	• LSP HSE	LSP HSSE

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Aspect, Potential Impact/ Issue	Phase		Sampling parameters	Sampling Stations	Monitoring frequency	Applicable Standards	Responsibility	Reporting
	Land Development	Construction						
discharge			Colour, turbidity and overflowing	point	discharge occur		Monitoring and Reporting Team	Monitoring and Reporting Team
	✓	✓	<ul style="list-style-type: none"> TSS Oil and Grease 		After any rain of >10 mm	<ul style="list-style-type: none"> Vietnam National Environmental Standards 	<ul style="list-style-type: none"> EPC Contractors 	
	-	✓	<ul style="list-style-type: none"> EPC Contractor requirements 	AS specified in the EPC Contractors Management Plan	See EPC Contractor Management Plan	<ul style="list-style-type: none"> See EPC Contractor Management Plan 	<ul style="list-style-type: none"> EPC Contractors 	LSP HSSE Monitoring and Reporting Team
Domestic Wastewater	✓	✓	<u>Land development</u> <ul style="list-style-type: none"> Volume COD SS <u>Construction</u> <ul style="list-style-type: none"> Wastewater quality, Management practice 	<u>Land development</u> <ul style="list-style-type: none"> At temporary toilets of the site office Mobile toilet area <u>Construction</u> <ul style="list-style-type: none"> After septic tank of temporary toilets 	Continuous logging of volume and quarterly monitoring of quality	<ul style="list-style-type: none"> Vietnam National Environmental Standards 	<ul style="list-style-type: none"> LSP HSE Monitoring and Reporting Team EPC Contractors 	LSP HSSE Monitoring and Reporting Team
	-	✓	EPC Contractor requirements	AS specified in the EPC Contractors Management Plan	See EPC Contractor Management Plan	<ul style="list-style-type: none"> See EPC Contractor Management 	<ul style="list-style-type: none"> EPC Contractors 	LSP HSSE Monitoring and Reporting Team

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Aspect, Potential Impact/ Issue	Phase		Sampling parameters	Sampling Stations	Monitoring frequency	Applicable Standards	Responsibility	Reporting
	Land Development	Construction						
Hydrotest water discharge	-	✓	<ul style="list-style-type: none"> TSS Metals Oil and grease 	At the holding tank/pond	Before any batch discharge	<ul style="list-style-type: none"> Plan Vietnam National Environmental Standards 	<ul style="list-style-type: none"> LSP HSE Monitoring and Reporting Team EPC Contractors 	LSP HSSE Monitoring and Reporting Team
	-	✓	<ul style="list-style-type: none"> EPC Contractor requirements 	AS specified in the EPC Contractors Management Plan	See EPC Contractor Management Plan	<ul style="list-style-type: none"> See EPC Contractor Management Plan 	<ul style="list-style-type: none"> EPC Contractors 	LSP HSSE Monitoring and Reporting Team
Ground water discharge	-	✓	<ul style="list-style-type: none"> TSS Metals 	At the holding tank/pond	Before any batch discharge	<ul style="list-style-type: none"> Vietnam National Environmental Standards 	<ul style="list-style-type: none"> LSP HSE Monitoring and Reporting Team EPC Contractors 	LSP HSSE Monitoring and Reporting Team
	-	✓	<ul style="list-style-type: none"> EPC Contractor requirements 	AS specified in the EPC Contractors Management Plan	See EPC Contractor Management Plan	<ul style="list-style-type: none"> See EPC Contractor Management Plan 	<ul style="list-style-type: none"> EPC Contractors 	LSP HSSE Monitoring and Reporting Team
Solid waste (non-	✓	✓	<ul style="list-style-type: none"> Hazardous waste quantity 	At the temporary solid waste storage	Continuous logging and quarterly	<ul style="list-style-type: none"> Vietnam National 	<ul style="list-style-type: none"> LSP HSE Monitoring 	LSP HSSE Monitoring and

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Aspect, Potential Impact/ Issue	Phase		Sampling parameters	Sampling Stations	Monitoring frequency	Applicable Standards	Responsibility	Reporting
	Land Development	Construction						
hazardous and hazardous)			<ul style="list-style-type: none"> Non-hazardous waste quantity Smell Waste management practice 	houses/ sites	reporting to authorities	Environmental Standards	<ul style="list-style-type: none"> and Reporting Team EPC Contractors 	Reporting Team
	✓	✓	<ul style="list-style-type: none"> EPC Contractor requirements 	AS specified in the EPC Contractors Management Plan	See EPC Contractor Management Plan	<ul style="list-style-type: none"> See EPC Contractor Management Plan 	<ul style="list-style-type: none"> EPC Contractors 	LSP HSSE Monitoring and Reporting Team

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8

MANAGEMENT PROGRAMS AND COMMUNICATION

This section outlines the Project requirements for:

- Competence, training and awareness;
- Communication and reporting;
- Documentation, document control and record;
- Operational control of mitigation measures; and
- Emergency preparedness and response.

The details of each requirement are provided as follows;

8.1

COMPETENCE, TRAINING AND AWARENESS


The EPC Contractors and their subcontractors will ensure that workers are adequately implementing the LCHSSE&S MP, HES MP, as well as health, safety and environmental legal requirements and obligations. All employees and workers will particularly receive induction presentation on environmental awareness. This will be conducted in appropriate language.

A Worker Training Management Plan (Ref: LSP-IS01-0003) shall cover the following issues

- General HSS&E awareness, including rules and regulations to be followed on the construction site and in the accommodation camps;
- General health, safety and security awareness, including an AIDS/HIV and STD awareness program; and
- Job-specific training for workers with responsibility for activities that could have an adverse impact on the environment or humans.

The core HSSE&S training consists of the following eight (8) elements that will be implemented onsite and is outlined in the proceeding sections:

1. HSSE&S Induction Training for all persons working at the site;
2. HSSE&S Training for Managers and Supervisors;
3. HSSE&S Training for Visitors;
4. Specific HSSE Training for hazardous work activities;

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5. Specific training on the legal requirements for staff in charge of occupational health and safety management;
6. Refresher HSSE&S Training Courses;
7. Fire, Evacuation and First-Aid Training; and
8. Pre-Commissioning and Commissioning Training.

The further details of HSSE&S training courses are provided Worker Training Management Plan (Ref: LSP-IS01-0003). This core training, the EPC Contractor, following approval from the Site HSSE Department, will establish ad-hoc training programs on request and or as training is identified as being necessary. A training matrix will identify specific program needs but will not limited the training program to only those needs identified in the matrix.

Any training service organization, which is contracted to provide training to Project employees (LSP, Contractors and Subcontractors) must be qualified and certified by Ministry of Labour Invalids and Social Affairs. Section 6 provides for further details on the competency of individual trainers.


8.2 **COMMUNICATION AND REPORTING**

Communication for this Project is categorized into two levels by referencing it to the organizational structure as 1) Internal Communication, and 2) External Communication.

8.2.1 **Internal Communication**

Internal communication is defined as a communication between LSP Construction HSSE Team, LSP Operation Planning HSSE Team, LSP Construction Corporate Social Responsibility (CSR) Team and EPC Contractors itself, with regards to health, social, security and environmental issues. The communication might include but not limit to:

- Routine daily, weekly, and monthly communication and monitoring and inspection;
- Follow up Non-Compliance Report (NCR) and corrective action;
- Formal monthly reporting and meeting to report progress and implementation, as well as follow-up non-compliance issues

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- Urgent communication when needed to address issues of immediate threat to the environment; and
- Conduct quarterly internal audits against the LCHSSE&S MP.

Internal communication guidelines are shown in **Table 7** and **Table 8**.


Table 7 *Internal Monitoring/Inspection, Meeting and Auditing Guideline*

No.	List	Participant	
		LSP	EPC Contractor
1.	Daily monitoring/inspection		x
2.	Weekly monitoring/inspection		x
3.	Monthly monitoring/inspection Monthly meeting	x	x
4.	Follow up NCR and corrective action	x	x
5.	Quarterly Internal audit	x	x
6.	Ad-hoc meeting (per case)	x	x

Table 8 *Internal Reporting Guideline*

No.	List	Originator	Receiver
1.	Weekly/monthly inspection report	Subcontractor	EPC Contractor
		EPC Contractor	LSP
2.	NCR and corrective action	EPC Contractor	Subcontractor
		LSP	EPC Contractor
3.	Environmental incident/accident report (per case)	EPC Contractor	LSP
4.	Monthly HSE report	EPC Contractor	LSP
5.	Quarterly HSE report	EPC Contractor	LSP
6.	Annual HSE report	EPC Contractor	LSP
7.	Quarterly audit report	LSP	EPC Contractor

Apart from regular self-monitoring/inspections (daily, weekly or monthly) by EPC Contractors, a regular monthly meeting to discuss monitoring and inspections is to be set up with participants from LSP, EPC contractors and, where relevant, subcontractors. The meeting agenda will be prepared before the meeting and inspection. It is responsibility of both LSP and EPC Contractor itself to issue Non-Compliance Report. The detail of the Non-Compliance Process is described in the next section.

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EPC Contractors and subcontractors (through the EPC Contractor) shall submit a regular inspection report including non-compliance report, and incident/accident report (per case) to LSP for review and approval. All reports will be consolidated as EPC Contractor's HSE performance report and finally submitted to the LSP on a monthly basis with the agreed format.

Communications will also include routine daily and weekly communication to address particular issue or problem, or to exchange information by telephone, fax, Email, or formal letter. It also includes urgent communications when needed (e.g. non-compliance, emergency response and incidents) to address issues that present an immediate threat to health, safety and the environment.

8.2.2 *External Communication*

External communication is defined as a communication between the Project (LSP and EPC Contractor) and third parties such as Lenders, Vietnam Government or relevant authorities, local communities on health social and environmental issues. External communication may include but not limit to:

- Routine communication and joint monitoring and inspection programs upon request from Lenders and local authorities;
- Urgent communication when needed to address issues of immediate threat to the environment;
- Public Disclosure see Community Grievance Management Plan (ref: LSP-1S03-0001);
- External audits; and
- Grievances redress mechanism.

External communication guidelines are shown in **Table 9** and **Table 10**.


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Table 9 *External Monitoring/Inspection, Meeting and Audit Guideline*

No.	List	Government/ Lender	Participant	
			LSP	EPC Contractor
1.	Monitoring/inspection upon request	x	x	x
2.	Ad-hoc meeting (per case)	x	x	
3.	Quarterly external audit and report	x	x	x

Table 10 *External Reporting Guideline*

No.	List	Originator	Reviewer/ Approver
1.	Bi-annual HSE report	LSP	Government/Lenders


A regular joint monitoring and inspection meeting should be set up with participants from Government, LSP and EPC Contractors to observe Project implementation against Construction HSSE&S Management Plan, and follow up critical NCR/corrective action has been found during internal inspection. The detail of the Non-Compliance Process is described in the next chapter.

Likewise, communications will also include routine daily and weekly communication to address particular issue or problem, or to exchange information by telephone, fax, Email, or formal letter. It also includes urgent communications when needed (e.g. non-compliance, emergency response and incidents) to address issues that present an immediate threat to health, safety or the environment.

In addition, external communication includes communication established for practical reasons between the EPC Contractors and local authorities for site-specific issues to be discussed. Any communication of this type will immediately be reported to the LSP with date, name of persons concerned and subject of discussion. Any external communication (via meeting, letter, site visit, etc.) shall be recorded by EPC Contractors.

8.2.3 *Reporting*

Reports from external communication as specified above will be submitted to Vietnamese's relevant authorities and Lender as noted in the following sections.

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8.2.3.1 *Bi-annual Report*

LSP shall prepare and submit the bi-annual report to the Department of Natural Resources and Environment at Province Level (DONRE), the Department of Health and Department of Labour, Invalids and Social Affairs and other relevant authorities such as people committee at District Level (if necessary) no later than sixty (60) days. The content of Bi annual report will follow the requirements of the relevant Ministries.

However, the covering item of annual report could be change as the requirement of the DONRE or Lender that the Project will be reached and complied with those requirements. In addition, LSP shall prepare and submit a quarterly or bi-annual report with content agreed upfront with Lender as required during the construction period.

8.2.3.2 *Audit Report*

External audit report is described in **Section 9.5**.

8.2.3.3 *Communication Language*

The formal communication language is Vietnamese and English. This will be applied to all written communication. However, other specific language may be used for communications involving construction works.


8.2.4 *Grievance Procedure*

An effective stakeholder engagement process, which includes providing access to information on a regular basis and conducting consultation to listen to the stakeholder concerns/feedbacks, can substantially help to prevent grievances from arising in the first place. However, sometimes for a project with high potential of health, safety and environmental risks, grievances of some form or level generally arise. Therefore, a grievance procedure needs to be developed and implemented to ensure that project related grievances could be identified, documented, solved and monitored.

8.2.5 *Control of Documents*

A Health, Safety and Environmental Document Control Register will be established and maintained by LSP's HSSE Team with the following key tasks:

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- Document title and registration number;
- Version number;
- Date of issue;
- Date of review; and
- Location of Hard Copy (if justified).

The LCHSSE&S MP and its addendum will be revised accordingly. The reviewed date will be recorded on the document cover.

When documents are reviewed and revised, any changes will be tracked electronically to enable readers to understand the changes.

A hard copy and electronic file of all supporting documents shall be placed in the Obsolete HSSE&S Documents File and listed on the Obsolete HSSE&S Documents Register.

Information to be entered into the Obsolete HSE Documents Register is:


- Obsolete environmental documents and file number;
- Document title and registration number;
- Issuance date; and
- Withdrawal date.

Distribution of any documentation by electronic file will be done only using Adobe PDF encrypted standard in order to avoid uncontrolled changes in the document. Both on-site and off-site backup files shall be kept for all documents.

It is also the responsibility of EPC contractors and their subcontractors to set up a standardised documentation system and controls. All documents, maps, drawing, procedures etc. in relation to health, safety and the environmental aspects of the construction of this Project shall be created and filed in the site office and related sites, and can be utilized any time as needed.

8.3

OPERATIONAL CONTROL OF MITIGATION MEASURES

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Construction activities that have the potential to give rise to significant health, safety and environmental impacts are controlled through the implementation of mitigation measures. The principles and procedures for application of relevant mitigation measures are described in the EPC contractors and subcontractors HSE MPs.

The overview and details of the health, safety and environmental mitigation measures and monitoring to be implemented are described in **Table 5**.

Prior to establishing the health, safety and environmental mitigation measures, rules, regulation and Best Available Technology describing the guidelines and good practices associated with significant environmental aspects have been established and communicated so that staffs understand their responsibilities, actual or potential health social and environmental impacts and other obligations associated with their tasks.


The health, safety and environmental mitigation measures will be reviewed every year during the Management Review Process (See Section 10), after a significant event or non-compliance, or following a change to a documented construction activity. The review process will include an assessment of their applicability and effectiveness and whether revised mitigation measures may be required.

LSP's HSSE Team, EPC contractors and subcontractors, where relevant, will be responsible to identifying those mitigation measures that show difficult implementation or limited results and propose appropriate improvements or changes that will be submitted for approval by the government authorities.

8.4 **EMERGENCY PREPAREDNESS AND RESPONSE**

Emergency situations and incidents shall be managed in accordance with the guideline for Emergency Response Plan (ref: LSP-1S01-0002). This describes the potential health, safety and environmental emergency situations and incidents that might occur during the construction period. Procedures have been developed to identify, manage and coordinate potential emergency incidents and responses.


For each potential emergency or incident the appropriate response plan includes measures regarding:

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- Response organization, roles and responsibility;
- Response equipment and products;
- Communication; and
- Reporting procedure.

LSP, EPC contractors and subcontractors shall also periodically test such procedures or organize emergency drills where practicable.

In addition, EPC contractors and subcontractors, where relevant are responsible for developing and implementing the emergency response procedure and related mitigation measures associated with emergency responses such as explosion, oil and toxic spillage, as well as hazardous material handling. Any accident and incident will be reported using the Incident & Accident Report as outlined in the Emergency Response Plan (ref: LSP-1S01-0002).

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9 MONITORING AND INSPECTION

9.1 INTRODUCTION

Monitoring and inspection is an integral part of the environmental management system as it establishes how the Project performs against environmental commitment. Schedules and procedures for monitoring and inspection should be developed at the outset in order to:

- Identify any negative impacts from construction activities;
- Assess the effectiveness of control measures;
- Demonstrate compliance with regulatory conditions; and
- Identify if further controls/corrective action is required.


Monitoring and inspection programs will be implemented for the duration of the construction phase of the Project. The program includes:

- Routine monitoring and inspection conducted by the relevant HSSE team (LSP, EPC contractor and subcontractor); and
- Compilation of monitoring and inspection reports noting non-compliances, corrective actions and their effectiveness.

The monitoring and inspection program is to be implemented as described in **Table 7**, **Table 8**, and relevant Site Specific HSSE&S Management Plans.

The monitoring and inspection reports will include the compliance status of all relevant aspects, including details of corrective actions that have been taken to remedy non-compliances and a comment on their effectiveness will be provided to the relevant HSSE Manager, EPC contractor and LSP officer.

Where a non-compliance has been identified and no corrective action has been undertaken, recommendations must be provided in the report that detail the actions required, who is to undertake that action and when the action is to be completed by.

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The compliance report may include photographic documentation and/or completed checklists.

All relevant monitoring and inspection reports must be submitted to Overall Project Director for acknowledgement.

The schedule of regular inspection, monitoring and reporting will be specified in the contractor's HSE MPs to ensure that the established standards of safety, health and environmental controls are maintained. Schedules, checklists, inspection records and reports should be maintained and kept at each site office and should be updated and used as part of the daily operation of the site.


Monitoring and inspection during the construction period can be categorized into the following level:

- At EPC contractor / subcontractor level, monitoring and inspection to ensure on a day to day basis that mitigation measures are fully implemented along with construction activities, and that results observed comply with the contractual obligations;
- At LSP level, routine monitoring and inspections to ensure that results provided by the EPC Contractor are corrected, to provide the necessary environmental coordination and interface with the Contractors, and to provide a comprehensive picture of the current environmental situation and efforts at site level.

9.1.1 *Monitoring and Inspection by EPC Contractor / Subcontractor*

The EPC contractor and/or subcontractor must have suitably qualified personnel (auditor) within its organization to undertake the required monitoring and inspection program. Each auditor will conduct routine inspection of sites and activities in their area of responsibility to evaluate compliance with commitments defined in the LCHSSE&S MP, EPC contractor's HSE MP, and subcontractors HSE MP.

Results of field observations, either documenting compliance or non-compliance with health, safety and environmental requirements will be reported on standard forms. The use of these standard forms will help to ensure that compliance related observations are

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recorded in a consistent manner and in a standard format. The information can be entered into the database that will be used to track the status of and allow analysis of non-compliance situations.

Monitoring activities complying with the applicable standards/guidelines will be primarily concern i.e. water quality, air quality, noise and vibration. For ambient air, noise and water quality, sampling and analysis shall be carried out using calibrated equipment and certified laboratory. The most up to date calibration certificates of equipment and the laboratory certifications must be appended to the relevant monitoring reports.

9.1.2 *Monitoring and Inspection by LSP*


The field staff or LSP's HSSE Team will visit and inspect each area under the control of a particular EPC contractor regular. Information collected during each visit will be reported on a standard form, which provides a checklist of issues to control, depending on the degree of compliance or non-compliance observed. The field staff of LSP's HSSE Team may join inspection with EPC Contractor and relevant agencies e.g. government authorities, Lenders Environmental and Social Consultants (LESC) and as agreed in order to observe and follow up any event or significant issues that have been reported. Inspection frequencies may be increased if the site presents a higher health, safety or environmental risk potential.

Where under the control of LSP monitoring activities complying with the applicable standards/guidelines will be conducted. Ambient air, noise and water quality, sampling and analysis shall be carried out using calibrated equipment and certified laboratory. The most up to date calibration certificates of equipment and the laboratory certifications must be appended to the relevant monitoring reports.

LSP may also undertake duplicate monitoring of activities and/or take duplicate environment samples where it feels the need to do so, i.e. in instances where they wish to independently confirm the compliance status of a particular activity.

9.1.3 *Monitoring and Inspection by Government Authority*

The government authority has the right to attend the monitoring and inspection of Project construction activities whenever as they need. And in special cases the LSP's

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HSSE Team may invite them to attend for attention and monitoring of those cases and as part of the aforementioned inspection and monitoring program. Relevant inspection and monitoring reports shall be submitted to the relevant government authorities for review and approval in accordance with the environmental obligations and applicable standards upon the request.

9.2 *EVALUATION OF COMPLIANCE*

If the requirements of the LCHSSE&S MP are not fulfilled and appropriate corrective action is not taken, an evaluation of compliance can be raised by the representative of LSP's HSSE Team, as well government authorities. Examples of circumstances where this may arise include:

- Receipt of a complaint regarding health, safety and pollution or other environmental impacts caused by the Project;
- Departure from the approved or agreed procedures.

Non-conformance identified as a consequence of any self-assessment, or health, safety or environmental monitoring and inspection program.


9.3 *NON-COMPLIANCE, CORRECTIVE ACTION AND PREVENTION ACTION*

9.3.1 *Non-compliance and Corrective Action*

Non-compliance is where there is a failure to fulfil a health, safety or environmental related objective and target. Correction actions must be identified, implemented and monitored to ensure the reoccurrence of the non-compliance.

Corrective action may include changes to work instructions (frequency of testing, test method etc.), further staff training, replacing worn parts, updating mitigation measure, etc. The status of all identified non-compliances should be reviewed by LSP's HSE Manager and form part of construction meeting agendas.

It is the responsibility of the EPC Contractor to immediately initiate corrective actions and, once completed, provide details of the actions undertaken on the non-

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compliance/corrective action report, sign it and submit to LSP within an appropriate timeframe.

9.3.2 *Non-compliance procedure*

Non-compliance will be separated into three levels on the basis of importance, and communications requirements for the inspection will be commensurate with the severity of the non-compliance situation. The three levels of non-compliance are noted in the following sections.

Non-Compliance Level 1

The level 1 is a non-compliance situation that is not consistent with requirements, but not believed to represent an immediate or severe threat to human and environment. Repeated Level 1 concerns may become Level 2 concerns if left unattended and overdue.

Corrective action also may be suggested by coordination and discussion with the Contractor's site construction supervisor to be implemented no later than expected due date.


Non-Compliance Level 2

The level 2 is a non-compliance situation that has potential significance and requires expeditious corrective action and site-specific attention, as well as the raising of non-compliance level 1 that is unattended and overdue. Repeated Level 2 concerns may become Level 3 concerns if left unattended and overdue.

Non-compliance level 1 and 2 is to be issued by LSP's Project Director, and verified and approved by LSP's HSSE Manager with suggested corrective action to be implemented no later than expected due date. Special follow-up of corrective measures is required.

Non-Compliance Level 3

The level 3 is a critical non-compliance situation, including observed significant damage on the environment or a reasonable expectation of very severe impending damage, as well as raising of non-compliance level 2 that is unattended and overdue.


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Non-compliance level 3 is to be reported to the LSP Managing Level (i.e. LSP's HSSE Manager, LSP's Package Manager and LSP's Overall Project Director), and then General Director. When non-compliance level 3 is identified and EPC Contractor is acknowledged, implementation as per suggested corrective action shall be carried out as expeditious as practical for closure within the due date. In case of overdue, the financial penalty may be applied to EPC Contractor in accordance with contractual obligations and/or agreements between LSP and EPC Contractor.

The following Table illustrates some examples of non-compliance expected to be observed during the construction period.

Table 11 **Examples of Non-Compliance Level Identification**

Non- Compliance Level	Examples of Non-Compliance
LEVEL 1	<ul style="list-style-type: none"> • General cleanliness of sites not satisfactory • Inappropriate storage of non-hazardous waste • Inappropriate management of traffic volume and safety • Inappropriate management of waste and wastewater management that may cause impacts to natural water resources • Inappropriate storage of Hazardous Materials (oil, fuel), but without immediate danger for the environment • No training courses, emergency drills in appropriate time frame • Inappropriate management/cleaning of sedimentation pond or storm water drainage network • Lack of road signs or any required signboards such as hazardous material storage area, explosive magazine, etc. • Lack of road watering in inhabited areas • Dust and emitted air generated from inappropriate operations/ machines • Excessive speed or noise detected in sensitive areas • Inappropriate maintenance of vehicles/engines that possibly cause oil leakage on the ground • Minor leakages from fuel tanks • Any non-implementation following proposed mitigation measures without immediate danger or damage to human and environment
LEVEL 2	<ul style="list-style-type: none"> • Any Level 1 Non-Compliance left uncorrected after due date • Inappropriate storage of Hazardous Materials (oil, fuel), with potential threat for the environment or public health • Inappropriate storage or handling of hazardous materials • Accidental spill of petroleum products less than 100% volume, with no serious threat for the environment

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Non- Compliance Level	Examples of Non-Compliance
	<ul style="list-style-type: none"> Significant leakages from fuel tanks or from garages areas Inappropriate soil management and spoil dumping beyond specific areas Inappropriate erosion control measures Inappropriate restoration or rehabilitation of areas after construction activities completion (borrow areas, temporary camps, stockyards, etc.) Lack of environmental quality monitoring (air, water, noise) in regular time frame Hunting, cooking, fishing, collecting of fauna and flora by employee personally is observed Any non-implementation following proposed mitigation measures that may cause danger or damage to human and environment if no resolution in a timely manner Any Level 2 Non- Compliance left uncorrected after due date Any accidental spill over 100 litres, of petroleum products or any other liquid product registered as Hazardous Material Accidental spill less than 100 litres but in a sensitive area (within 30 m of a water body) Deliberate discharge of used oil or other hazardous waste in river stream Concrete waste (liquid) discharged directly to natural water bodies Trapping or killing of protected or endangered animal species during clearing activities or by EPC Contractor's employee personally Damaging or destroying of archaeological and cultural heritages during clearing activities Dangerous behaviour on public roads (excessive speed, dangerous load, alcohol) that cause extreme damage to property and life Effluent (not compliance to applicable standard) discharged directly to natural water bodies Test results of environmental quality monitoring (potable water, drinking water, effluent from camps, ambient air and noise) are not compliance to applicable standard, without appropriate corrective actions Caused serious danger to human and environment

9.4

INTERNAL AUDIT

Regular audits shall be carried out internally by LSP auditors who are qualified and have expertise in the following:

- Environmental science and technology;
- Technical and health social and environmental aspects of construction phase of the project;

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- Health social and environmental law and regulation;
- Environmental management systems; and
- Auditing process.

The auditor will initiate scheduled audits of the construction activities of the entire construction sites and EPC Contractor's organization against the requirement established in the Contract Documents, this LCHSSE&S MP and the contractors own HSE MPs.


Internal Audit will be carried out on a quarterly basis. Non-conformances or observations identified during audits will be subject to the provisions of corrective action and will be implemented for closure.

9.5 **EXTERNAL AUDIT**

Government's representative i.e. Independent Monitoring Agency (IMA) and Lenders will regularly audit the LSP management system and effectiveness of mitigation measures implemented during construction to ensure compliance with the contractual obligations. It is responsibility of LSP to provide available documentation, information and data requested by the Independent Monitoring Agency.

The Independent Monitoring Agency's audit report will be submitted to the LSP for implementation and action. Non-conformances or observations identified during audit will be subject to the provisions of corrective action.

There will be periodic audits by the Project Lender's Independent Environmental Consultant to audit the project performance against the International Standards and any developed Action Plan items

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MANAGEMENT REVIEW

This LCHSSE&S MP will be updated, revised and reviewed internally on a regular basis to ensure that it continues to be suitable, adequate and effective during the Projects construction phase, and meets the commitment to continual improvement. The Management Review shall be led by Overall Project Director and facilitated by LSP's HSSE Manager.

The review should be undertaken every 12 months, at least, or whenever there is a major incident of non-compliance to which the LCHSSE&S relates.


The following will be reviewed and assessed and a view taken to whether the LCHSSE&S MP needs to be update to reflect the findings and ensure continued compliance with the objectives and goals of the MP:

- Current objectives, targets, and management plans as detailed in the LCHSS&SE MP;
- Internal and external audit reports;
- Non-compliances to the LCHSSE&S MP by the EPC contractors and subcontractors and the status and effectiveness of corrective actions;
- Status of performance regarding objectives and targets;
- Improvement proposals or suggestions; and
- Review of the effectiveness of mitigation measures and whether they continue to reflect best practice.

A Management Review Meeting will be conducted to identify opportunities for improvement in the components as listed above. It also is necessary to identify the performance and essential resources for implementing and achieving such performance.

As a result, the expected outputs of the Management Review will be, but not be limited to:

- Minutes of the Management Review;
- Revision of policy, objectives, targets and plans where improvements are deemed necessary;

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- Identification of requirements for improvement of management system, planning and implementation;
- Definition of planning for following years;
- Suggestions and proposed actions, if any;
- A revised LSP Construction HSSE&S Management Plan; and
- Revised budget for the implementation of the environmental and social aspects of the Project.