



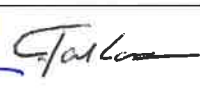
**Nam Ngiep 1 Hydropower Project**

**Environmental and Social Management  
and Monitoring Plan**

**Operational Phase**

**Volume III**

**Procedures**

A	09 January 2020				Final version approved by MONRE
A1	05 August 2019				Revised based on ADB, LTA and MONRE comments
A0	21 May 2019	Peter G JENSEN	Khamlar PHONSAVAT	Toshihiro TAKANO	Draft to MONRE and ADB for review
REV	DATE	AUTHOR	CHECKED	APPROVED	MODIFICATION DETAILS
<u>Accessibility</u>		<b>Document No.</b>  <b>NNP1-C-J0206-RP-003-A</b>			
<input checked="" type="checkbox"/>	Public				
<input type="checkbox"/>	Internal				
<input type="checkbox"/>	Confidential				

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## Abbreviations and Acronyms

ADB	Asian Development Bank
EIA	Environmental Impact Assessment
EMO	Environmental Management Office
EMU	Environmental Monitoring Unit
EMS	Environmental Management System
ESMMP-OP	Environmental and Social Management and Monitoring Plan – Operational Phase
GOL	Government of Lao PDR
IMA	Independent Monitoring Agency
ISO	International Organization for Standardization
LTA	Lender’s Technical Advisor
MONRE	Ministry of Natural Resource and Environment, Lao PDR
NCR	Non-Compliance Report
NNP1PC	Nam Ngiep 1 Power Company Limited
PAP	Project Affected People
PRLRC	Provincial Resettlement and Livelihood Restoration Committee
SIR	Site Inspection Report
SOP	Standard Operating Procedure

# 1 INTRODUCTION

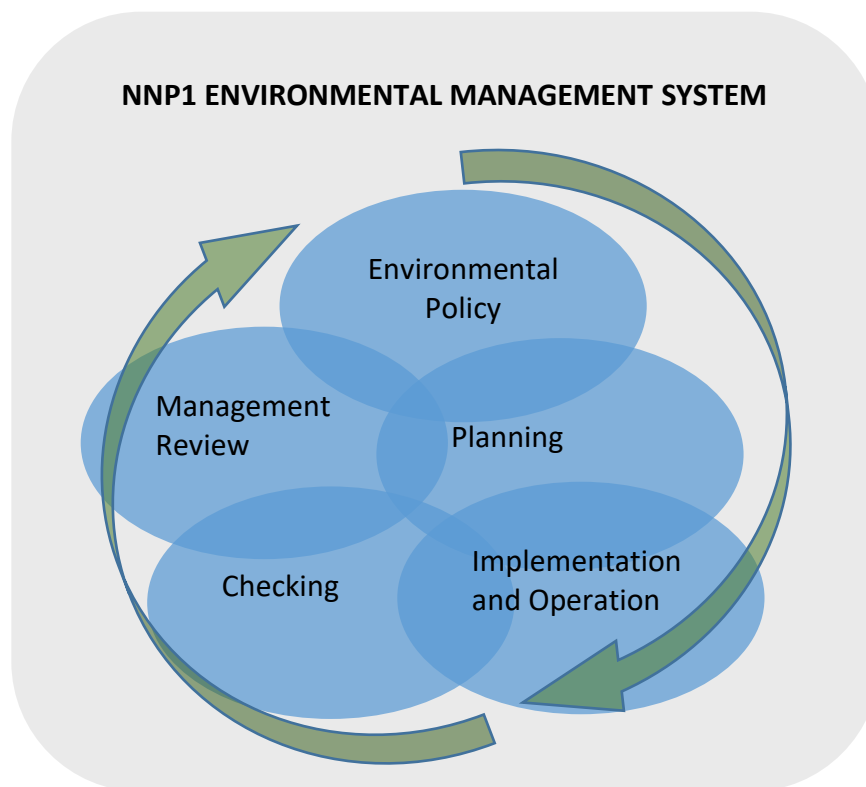
This Volume III of the ESMMP-OP describes the systems and key procedures of Nam Ngiep 1 Power Company (NNP1PC) to control, monitor and evaluate environmental performance, including procedures to prevent events of non-compliance with environmental or social obligations, and procedures to ensure that corrective actions are duly and timely implemented.

# 2 ENVIRONMENTAL MANAGEMENT SYSTEM

NNP1PC is committed and obligated to design and implement an Environmental Management System (EMS) in compliance with the requirements of the ISO 14001:2015 Environmental Management Systems Standard. This is an obligation under Annex C of the Concession Agreement (Clause 55 and 56).

The EMS is part of a larger corporate Quality Management System (QMS) developed in accordance with ISO 9001:2008 "Quality Management Systems – Requirements". A number of management procedures of the QMS also cover EMS requirements e.g. in terms of document control, communication, and competence and awareness building.

FIGURE 2-1 EMS CONCEPT OF PLAN, DO, CHECK, ACT



The ISO 14001: 2015 EMS Standard is conceptualized in **Figure 2-1** depicting the main components of the EMS and how they interact in a process of continual improvement. The EMS is being developed in accordance with this standard. The principle is that the Company’s environmental and social policies form the basis for the development of a series of plans and programmes with objectives and measures directed towards mitigating all significant environmental and social impacts and delivering a continually improved environmental and social performance of the Company while meeting all legal, contractual and other requirements.

A system of procedures and tools have been put in place to ensure consistency and integration from policy formulation to implementation. The implementation of the plans and programmes and the results will be documented, checked and measured against the environmental policy, objectives, targets, and legal and other requirements, and where necessary, corrective actions will be carried out. The system itself will be reviewed and audited to continually improve its performance.

As summarised in **Table 2-1**, the ESMMP-OP is designed and structured as an integral component of the Environmental Management System fulfilling key management functions required by the ISO 14001 EMS Standard.

**TABLE 2-1 REQUIREMENTS OF THE ISO 14001 EMS STANDARD AND THEIR RELATIONS WITH THE ESMMP-OP AND OTHER CORPORATE PROCEDURES**

ISO 14001 REQUIREMENTS	REFERENCES TO NNP1PC SYSTEMS, PLANS AND PROCEDURES
<p><b>Environmental Policy</b></p> <ul style="list-style-type: none"> <li>- <b>Shall cover all significant impacts</b></li> <li>- <b>Shall include commitment to compliance and continual improvements</b></li> <li>- <b>Must be made public</b></li> </ul>	<p>ESMMP-OP Vol I</p> <p>The Environmental Policy of NNP1PC:</p> <ul style="list-style-type: none"> <li>- Is incorporated into the ESMMP-OP.</li> <li>- Contains commitment to protect the environment and continually improve the environmental performance of the Company</li> <li>- Contains commitment to comply with all Compliance Obligations</li> </ul> <p>The plans and programmes of the ESMMP-OP are derived from the Policy and both the Policy ESMMP-OP will be made public and clearly communicated to staff and contractors.</p>
<p><b>Environmental Aspects</b></p> <ul style="list-style-type: none"> <li>- <b>Procedure to identify environmental aspects</b></li> <li>- <b>Procedure to identify and assess the significant impacts of the aspects</b></li> </ul>	<p>ESMMP-OP Vol I</p> <p>The procedure for identifying environmental aspects and impacts is included in the ESMMP-OP.</p> <p>Environmental aspects and significant environmental impacts have been identified and assessed as part of the preparation of the ESMMP-OP, and all significant environmental impacts are addressed in the ESMMP-OP</p>
<p><b>Legal and Other Requirements (Environmental and Social Obligations)</b></p> <ul style="list-style-type: none"> <li>- <b>Procedure to identify, maintain and provide access to obligations</b></li> <li>- <b>Identify the implications for the Company’s operations</b></li> <li>- <b>Ensure that the requirements are taken into account</b></li> </ul>	<p>ESMMP-OP Vol I</p> <p>Legal and other requirements have been updated and are summarized in the ESMMP-OP.</p> <p>NNP1PC has an internal procedure to ensure that legal and other requirements are identified and properly dealt with. Such procedures include weekly progress meetings at management level, and monthly management meetings to review compliance with obligations. In addition, all</p>

ISO 14001 REQUIREMENTS	REFERENCES TO NNP1PC SYSTEMS, PLANS AND PROCEDURES
	<p>compliance obligations are reviewed in preparation of annual implementation plans.</p> <p>The procedures will be further developed to include a full legal register for environment, social and occupational health and safety</p>
<p><b>Objectives, Targets and Programmes</b></p> <ul style="list-style-type: none"> <li>- <b>Determination of time bound measurable environmental objectives and targets</b></li> <li>- <b>Designation of responsibility for achieving objectives and targets</b></li> <li>- <b>The means and time-frames by which they are to be achieved</b></li> </ul>	<p>The ESMMP-OP Vol II</p> <p>Includes programmes tailored to:</p> <ul style="list-style-type: none"> <li>- Achieve specific environmental/social objectives and targets</li> <li>- mitigate specific significant environmental and social impacts</li> <li>- Meet applicable and relevant legal, contractual and other requirements (Compliance Obligations)</li> </ul>
<p><b>Resources, Roles, Responsibilities and Authorities</b></p> <ul style="list-style-type: none"> <li>- <b>Ensure sufficient qualified staff</b></li> <li>- <b>Determine the roles, responsibilities and authorities</b></li> <li>- <b>Procedures to document and communicate roles and responsibilities</b></li> <li>- <b>Appointment of EMS Manager</b></li> </ul>	<p>ESMMP-OP Vol I</p> <p>The ESMMP-OP describes the roles and responsibilities of NNP1PC and any contracted companies. More detailed roles and responsibilities related to environmental compliance implementation and monitoring are described in the Standard Operating Procedures (SOPs).</p>
<p><b>Evaluation of Compliance, Corrective and Preventive Actions</b></p> <ul style="list-style-type: none"> <li>- <b>procedure(s) for periodically evaluating compliance with applicable legal requirements</b></li> <li>- <b>procedure for dealing with actual and potential nonconformities and for taking corrective action and preventive action</b></li> </ul>	<p>ESMMP-OP Section 8 sets out the compliance assurance procedures.</p> <p>The EMO of ESD is responsible for environment compliance monitoring and implementation of corrective actions.</p> <p>In addition, the compliance if the Project is monitored by external bodies including the Lender’s Technical Adviser (LTA), the Independent Advisory Panel (IAP), the Independent Monitoring Agency (IMA) and the Environmental Management Unit (EMU) of the Ministry of Natural Resources and Environment (MONRE).</p>
<p><b>Communication</b></p> <ul style="list-style-type: none"> <li>- <b>Procedures on internal communication among the</b></li> </ul>	<p>ESMMP-OP Vol III Section 4</p>

ISO 14001 REQUIREMENTS	REFERENCES TO NNP1PC SYSTEMS, PLANS AND PROCEDURES
<p><b>various levels and functions of the organization</b></p> <ul style="list-style-type: none"> <li>- <b>Procedures on external communication</b></li> </ul>	<p>The company communication procedures (external and internal) are set out in the ESMMP-OP.</p> <p>Progress of implementation and compliance are reported in the monthly and quarterly progress reports.</p>
<p><b>Competence, Training and Awareness</b></p>	<p>ESMMP-OP Vol III Section 3</p> <p>As part of the QMS, the Company has developed a Human Resources Policy.</p> <p>The environmental, health and safety training programmes are outlined in the ESMMP-OP</p>
<p><b>Documentation</b></p>	<p>ESMMP-OP Vol III Section 5</p> <p>As part of the QMS, the Company has developed a procedure on Development and Maintenance of the QMS Documentation</p>
<p><b>Control of Documents and Records</b></p>	<p>ESMMP-OP Vol III Section 5</p> <p>As part of the QMS, the Company has developed a procedure on Development and Maintenance of the QMS Documentation</p>
<p><b>Operational Control</b></p>	<p>ESMMP-OP Vol III Section 6</p>
<p><b>Emergency Preparedness and Response</b></p>	<p>ESMMP-OP Vol III Section 7</p> <p>NNP1PC has prepared standalone emergency preparedness and response procedures</p>
<p><b>Monitoring and Measurement</b></p>	<p>ESMMP-OP Vol III Section 8.2, 8.3, and 8.4</p> <p>The technical monitoring programmes are described in ESMMP-OP Subplans in Vol II</p>
<p><b>Internal Audit</b></p>	<p>ESMMP-OP Vol. III Section 8.5</p>
<p><b>External Audit</b></p>	<p>ESMMP-OP Vol. III Section 8.6</p>
<p><b>Management Review</b></p>	<p>ESMMP-OP Vol. III Section 9</p>

### 3 COMPETENCE BUILDING AND AWARENESS RAISING

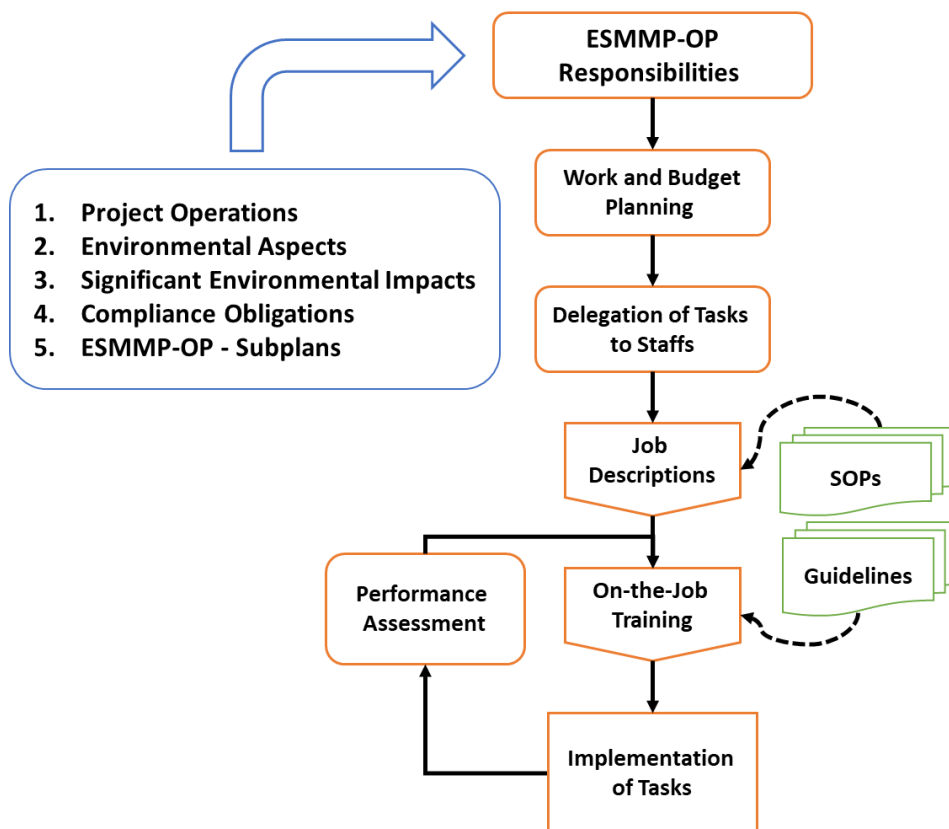
NNP1PC will ensure that its employees are aware of the environmental and social requirements stipulated in the ESMMP-OP, and that the work is carried out in compliance with the relevant subplans, procedures and work instructions.



Awareness raising and building competencies are important parts of NNP1PC’s efforts to ensure compliance with applicable legal requirements and enhance the environmental performance.

The concept behind NNP1PC’s competence building is illustrated in **Figure 3-1**. The purpose of competence building is to ensure that the employees are capable of operating the project with diligence and care in accordance with prudent utility practices addressing the environmental aspects of the project and the associated impacts in compliance with the compliance obligations. Thus, as depicted in **Figure 3-1**, competence building requirements are derived from the project operations and their environmental aspects and impacts. The ESMMP-OP describes the specific objectives and work plans which then form the basis for identifying work flows and tasks. The tasks are then assigned to staff positions and written into job descriptions. Certain tasks are elaborated as Standard Operating Procedures or work instructions and other tasks may be supported by guidelines. The training of staff focuses on making the staff capable of performing the tasks described in the job descriptions and any relevant SOPs and guidelines. Performance assessments are carried out to identify any additional training needs.

**FIGURE 3-1 COMPETENCE BUILDING CONCEPT**



In terms of environmental and social matters, the training and awareness is divided into three levels:

- EMS training and awareness
- General environment, health and safety awareness programme;
- Specific environment, health and safety training programmes.

### 3.1 EMS Training and Awareness

Successful implementation of the EMS will require training of relevant employees at all levels in the Company. The ESD-EMO together with the ADM-HRD are responsible for developing and implementing tailored EMS training and awareness programmes for directors, managers, deputy managers and officers.

The EMS training and awareness programmes will be tailored to match the roles and responsibilities of the employees and will be carried out as a combination of on-the-job training and workshops. The key topics for the training are:

- the environmental and social policies of the Company;
- the significant environmental aspects and related actual or potential environmental impacts associated with the work that the employee(s) are involved with;
- the contribution of the employee(s) to the effectiveness of the environmental management system, including the benefits of enhanced environmental performance;
- the implications of not conforming with the environmental management system requirements, including not fulfilling the organization's compliance obligations.

### 3.2 General Environment, Health and Safety Awareness Programme

The environment, health and safety awareness programme aims to provide NNP1PC staff and its contractors with overall understanding of the Company's environmental and social policies, compliance obligations and the importance of a maintaining a safe and healthy environment. The awareness will promote how the employees together with the Company can support each other to protect the environment, prevent pollution, conserve biodiversity and minimise the risks of accidents and diseases.

All employees will receive the following training:

- An induction presentation for all employees, visitors, contractors and subcontractors upon entry to the site on environment, health and safety awareness, to be conducted in the language relevant to them (such as Lao or English):
  - The environmental and social policies of the Company
  - Basic components of the EMS and its functions
  - Summary of environmental aspects and impacts
  - Emergency procedures
  - Basic health and safety obligations and procedures
  - Importance of effective and continual improvements of environmental performance
  - Risks of non-compliance
- A workshop for new employees presenting their obligations regarding basic environmental and social protection measures including:
  - General safety precautions and use of personal protective equipment;
  - General measures such as prohibitions on hunting and poaching of wildlife, purchasing wildlife meat, fishing, gathering and harvesting medicinal or

- valued plants and trees, and possessing firearms, snares, traps and other hunting equipment;
- Housekeeping and waste management in worker camps, in construction sites, along roads and nearby villages;
- Pollution control during construction activities;
- Prohibition on use of alcohol or narcotics
- Measures for preserving health and the dissemination of vectors and transmissible diseases, including basics on hygiene; and
- Disciplinary consequences for violation of the measures presented as part of the Environmental Awareness Programme;
- Grievance procedures.

The awareness programme will be planned and carried out by designated qualified staff of EMO and SMO.

At the end of each session, the trainers are responsible for filling a training attendance record with the date, name of trainer, name of the attendees and their signatures.

Employees will be provided with supporting documents containing the environmental and social policies of the Company, summarizing the environmental aspects and impacts, and highlighting the importance and benefits of enhanced environmental performance as well as the risks of non-compliance.

Posters will be placed at relevant places with guidance to the employees on how to avoid accidents and unsafe behavior, and how best to help ensuring that the environmental management plans are successfully implemented.

### **3.3 Specific Environmental, Health and Safety Training Programmes**

For site supervisors and foremen, as well as employees and contracted workers who could be affected by critical activities, additional specific environmental, social and safety training will be organized and the involved employees and workers will attend. The Specific Environmental, Health and Safety Training Programmes will include the following:

- Waste management;
- Hazardous materials management training;
- Fire prevention;
- Driving;
- Electrical safety;
- Working in confined spaces;
- Wet, slippery and unstable surfaces
- Working at height;
- Safe boating
- Safe tree trimming
- Safety and First Aid;
- Emergency preparedness and response.

Training activities will to the extent practicable be organized on location focusing on demonstrating and practicing specific safety procedures. The training will be supported by posting posters depicting various steps of the procedures (refuelling, spill response etc.) in appropriate areas.

At the site level, the responsible officers will also organise regular refresher tool-box training for specific health and safety precautions.

## 4 COMMUNICATION AND REPORTING

### 4.1 Internal communication

This refers to communication internally in the Company and with contracted contractors where applicable with regards to environmental and social issues. The internal communication procedures are summarized in **Table 4-1**.

**TABLE 4-1 INTERNAL COMMUNICATION PROCEDURES**

What to communicate	Who to communicate	When to communicate	With whom to communicate	How to communicate
Serious or Significant Environmental or health and safety incident <sup>1</sup>	EMO Manager/Deputy Manager	Immediately	Division-DMD, ESD-DMD, relevant Manager / Deputy Manager	Phone, email and face to face if practicable, Incident Report, NCR
Environmental or health and safety incident (non-critical) <sup>2</sup>	EMO Deputy Manager	As soon as practicable or weekly	Relevant Managers / Deputy Managers	Email, NCR and at coordination meetings, site inspections
Environmental performance	EMO Manager/Deputy Manager	Weekly, monthly and quarterly	MD, DMDs	At weekly DMD meeting, monthly ESD meeting and in progress reports
Health and Safety performance	TD Manager Operations/Health and Safety Officer	Weekly, monthly and quarterly	MD, DMDs	At weekly DMD meeting, monthly meetings and in progress reports
Environmental data	Data Responsible	Depends on type of data and specific thresholds	Specified in data management SOPs	Specified in data management SOPs
Health and Safety Data	Health and Safety Officer	Daily, weekly, monthly and quarterly	TD Manager Operations	Specific forms

<sup>1</sup> This refers to a 'serious breach' of environmental obligations as defined in the CA, Annex C meaning a breach that results in or threatens to result in significant environmental or social impact, damage or harm. In terms of ADB requirements, this refers to a Significant Safeguards and Social Reporting Event as defined in the ADB Facility Agreement. This corresponds to an (internal) level 2 non-compliance as described in Section 8.3

<sup>2</sup> In the CA Annex C this means a non-compliance with an environmental obligation which does not results in or threatens to result in significant environmental or social impact, damage or harm. In terms of ADB requirements, this means a Safeguards and Social Non-compliance which is not a Significant Safeguards and Social Reporting Event as defined in the ADB Facility Agreement. This corresponds to an (internal) level 1 non-compliance as described in Section 8.3

The communication procedures in **Table 4-1** are generalized and only deals with main issues. Each team involved in environmental management will have their specific communication procedures which will have to be approved and incorporated into the EMS.

As indicated in **Table 4-1**, routine internal communication of environmental matters is mainly done through regular management meetings, site inspections and reporting. The schedule of regular meetings and the associated reporting are summarized in **Table 4-2**.

**TABLE 4-2 REGULAR SCHEDULE OF MEETINGS AND INSPECTIONS AND ASSOCIATED REPORTING**

Meeting/Site Inspection	Chair and Participants	Environment Reports Prepared by EMO
Weekly DMD Meeting	MD, DMDs	Presentation of weekly EMO report Minutes of Meeting
Monthly ESD meeting	MD, ESD-DMD, EM, SM, DMs	Progress reports of each team
Monthly coordination meeting	TD-DMD, TD, EMO, SMO, O&M Contractor and other contractors as relevant	ONCs, NCRs, Incident Reports, Site Inspection Reports – as relevant Minutes of Meeting
Monthly (or more frequent if required) joint EHS inspections	TD, EMO, relevant contractors	Site Inspection Report
Monthly Joint Hazardous Materials and Waste Inventory	EMO, TD	Inventory to be reported in monthly and quarterly progress reports
Environment, health and safety Site Inspection (details in the relevant Subplans)	EMO, TD	Site Inspection Report

The Monthly EHS Inspections with participants from TD, EMO and relevant contractors are essential to ensure compliance and continual improvements of environmental performance. During these inspections, occupational health and safety, and environmental and social observations are noted and discussed, and to the extent practicable solved immediately. In any case, all identified issues will be brought-up at the subsequent Monthly Coordination Meeting for confirmation and final resolution. Non-compliances found during inspections will be dealt with in accordance with the Non-Compliance Reporting procedures described in **Section 8.4**.

## 4.2 External communication

The external communication protocol is based on the Project interested parties and their relationships with the Company (see ESMMP-OP Volume I, section 7.1), and includes communication between NNP1PC and parties such as GOL, ADB, Lenders, IMA, IAP, LTA, local communities, Non-Governmental Organisations (NGOs) and the public. See also **Section 8.1** with additional information about reporting by external monitoring agencies.

The external communication procedures are summarized in **Table 4-3**.

TABLE 4-3 MAIN EXTERNAL COMMUNICATION ITEMS

What to communicate	Who to communicate	When to communicate	With whom to communicate	How to communicate
Serious or significant environmental or health and safety incident	ESD-DMD (environment) TD-DMD (health and safety)	Immediately and within 24 hours	MONRE-EMU, ADB Local Authorities (RMU)	Notification by email followed by a report
Environmental or health and safety incident (Non-critical)	EMO Manager (environment) TD Manager Operations (health and safety)	To MONRE within 7 days To ADB within 5 business days and report within 15 business days	MONRE-EMU ADB	Notification by email followed by a report
Corrective Action Plan	EMO Manager (environment) TD Manager Operations (health and safety)	As soon as practicable/as required in each case	MONRE ADB	Written report
Environmental data	EMO Manager	Depends on type of data and specific thresholds	Specified in data management SOPs	Specified in data management SOPs
Environmental, health and safety performance monthly progress	EMO-Manager TD Manager Operations (health and safety)	Monthly	MONRE, MEM, Lenders, the Public	Written report
Environmental performance quarterly progress	EMO-Manager	Quarterly	MONRE, MEM, Lenders, the Public	Written report
Flood warning or dam failure emergency warning <sup>3</sup>	TD Manager on duty	Immediately	Provincial Authorities, RMU	Phone call and written warning by email/phone message

The procedures governing the preparation of the standard environmental progress reports are summarized in **Table 4-4**.

TABLE 4-4 PROCEDURES FOR PREPARATION OF REGULAR EXTERNAL ENVIRONMENTAL REPORTS

Report	Review	Approval	Disclosure	Source of Obligation
Monthly Progress Report (Environment section)	Internal quality check	MD	MEM, Lenders	Lenders' Financing Agreement
Monthly Environmental Monitoring Report	Internal quality check	ESD-DMD	MONRE, EMUs (BLX and XSB)	CA

<sup>3</sup> Notification procedures are specified in the Emergency Preparedness and Response Plan and Emergency Action Plan for the main dam for different types and levels of emergencies

Report	Review	Approval	Disclosure	Source of Obligation
			PONRE and DONRE) Public on NNP1PC Website	
Quarterly Environment Monitoring Report with Q4 serving as annual report	Internal quality check followed by LTA and ADB review	ADB ESD-DMD	Public on NNP1PC Website	CA ADB Facility Agreement <sup>4</sup>
ESMMP-OP	EMO and TD prepare updates every 5-year	MONRE ADB	Public on NNP1PC Website	CA

#### 4.2.1 Communication with the Public

In compliance with the CA Annex C Clause 17 'Confidentiality and the Public's Right to Information', NNP1PC's communication with the public is based on the principle that the public shall be given access to information about the project, its environmental obligations, environmental and social policies, the potential or actual impacts associated with the operations of the project, and the mitigation measures and their effectiveness - to the extent that such information is not confidential (as determined in the CA).

NNP1PC has established a Communication and Government Relations Department which is responsible for managing the company website <https://namngiep1.com/> and Facebook page, and for making the project's environmental and social documents including the Environmental and Social Impact Assessment, environment monitoring reports and external monitoring reports available for downloading from the website.

The department will from time to time issue press releases of key events which will be published in local newspapers.

The Communication and Government Relations Department is also responsible for communicating relevant environmental information to the concerned local authorities (the RMU, district offices, village headmen) who will then communicate such information to the relevant communities. This involves the following information:

- changes in discharges from the re-regulation dam,
- results of water quality analyses for water supply systems,
- safety precautions and no-go-zones near the dams (both upstream and downstream)

Communication of warnings in case of emergencies follow specific procedures stipulated in the Emergency Preparedness and Response Plan and the Dam Safety Emergency Action Plan for different types and levels of emergencies.

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<sup>4</sup> ADB may change the reporting frequency from quarterly to annually

### 4.3 Contents of Reports

The reports to external parties as specified in **Table 4-4** above shall be in accordance with the Concession Agreement, Annex C and Financing Agreement with the following content:

(1) Monthly Progress Reports

- Compliance management: Summary of any non-compliances and the status of mitigation
- Environmental monitoring including discharges and landfill leachate, surface water quality, groundwater, water supply
- River health, environmental flow requirements and fish monitoring
- Hazardous materials inventory
- Project waste management
- Community waste management
- Health and safety incidents
- Watershed management
- Biodiversity offset management
- Annexes with all monitoring data

(2) Quarterly Environment Monitoring Reports, in addition to the content of the monthly reports, the quarterly reports will include:

- Executive Summary
- Analyses of trends and variations in environmental monitoring data and impacts and assessment if additional mitigation measures are required
- Analysis of environmental performance against compliance obligations
- Summary of findings by external monitoring agencies

#### 4.3.1 Communication Language

The formal communication language is English and Lao. This will be applied to all written communication.

#### 4.3.2 Grievance Redress Mechanism

The Project has established a Grievance Redress Mechanism in collaboration with GOL, which allows people to raise their concerns and grievances with the project in a transparent manner over several steps. If mediation and reaction of the Company do not lead to success, claimants can file a grievance with the Village Grievance Redress Committee to find a solution; if there is no success, the case will be forwarded to the District Grievance Redress Committee and in case of no success to the Provincial Grievance Redress Committee. In all committees the different Project stakeholders are present to support the finding of a mutual solution. In case that all these steps cannot solve the case, the claimant may raise a petition with the Provincial People's Court.

The Grievance Redress Mechanism and organization is described in detail in the updated Social Development Plan 2016.

## 5 DOCUMENTATION

NNP1PC has set up a Document Control Centre or DCC which is responsible for managing document flow and storage.



NNP1PC will implement processes to handle documents in such a way that information can be created, shared, organized and stored efficiently and appropriately.

The technology environment is comprised of shared servers centrally controlled with Microsoft SharePoint as the Document Management System.

Classification of paper copy documents will be done by DCC using a filing structure described in the Filing Plan.

All documents regarding environmental and social management of NNP1PC will be listed and stored in appropriate files and registered. The type of documents to be filed includes (but not limited to) the following:

- Environmental and Social Policies;
- Other Company policies;
- Procedures and work instructions;
- The ESMMP-OP;
- Approvals, permits and other clearances relevant to environmental management
- Technical studies, maps, drawing, photos, etc. relating to operations, environmental monitoring and impacts;
- Environmental monitoring data;
- Registries of applicable laws, regulations, and standards;
- All documentation of communication including minutes of meetings;
- Monthly, quarterly and annual reports;
- Site inspection reports (SIRs);
- Non-Compliance reports and audit reports;
- Incident and accident reports;
- Records of training; and
- Grievance records.

## 5.1 Control of Documents

Documented procedures have been established to control documents required for the QMS (and the EMS). They define the controls needed to:

- Approve documents for adequacy prior to issue,
- Review and update as necessary and re-approve documents,
- Ensure that changes and the current revision status of documents are identified,
- Ensure that relevant versions of applicable documents are available at points of use,
- Ensure that documents remain legible and readily identifiable,
- Ensure that documents of external origin are identified, and their distribution controlled,
- Prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose.

Paper copies of project documents are maintained in the DCC. Access to these files is monitored by the Document Control Officer.

The control of documents is implemented by a designated Document Control Centre in accordance with document control procedures for all project operations. A satellite document control centre

is set-up in the Environment and Social Division to deal with documents related to environmental and social matters.

The document control centre has the following key tasks:

- Provide document registration number;
- Version number;
- Date of issue, review and approval;
- Name of the author, reviewer and approver; and
- Location of files saved in digital and hard copies.

When documents are reviewed and revised, any changes will be tracked electronically to enable reviewers to follow and check changes made to the document.

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

Information to be entered into the Obsolete Environmental and Social Documents Register is:

- Obsolete Environment Documents File Number;
- Document Title and Registration Number;
- Issuance Date;
- Withdrawal Date.

Both on-site and off-site backup files shall be kept for all documents. Documented procedures to control the identification, storage, retrieval, protection, retention and disposition of Records<sup>5</sup> are established. Project Records are stored in a suitable environment to prevent damage or deterioration and to prevent loss.

Records are filed in accordance with NNP1 File Structure. An Index of Project Records is part of the File. Responsibility for the accuracy and completeness of the Records is assigned to the Document Control Officer.

NNP1PC records, which provide evidence of conformity to requirements and of the effective operation of the NNP1 Quality Management System and the EMS shall be identified, stored, protected, and retained. Retrieval will be controlled. The QA Manager is responsible for identifying the records to be retained, retention time, disposal method, and for arranging for their protection and controlled retrieval.

## 5.2 Data Management and Control

ESD has designed and is managing a comprehensive database and Geographic Information System (GIS). These databases and the GIS play a key role in ensuring and documenting compliance with the Compliance Obligations. The main databases, their roles and associated management plans are listed in **Table 5-1**. Some of the databases deal with social and resettlement issues outside the scope of the ESMMP-OP but are included in **Table 5-1** for the sake of completeness.

These databases contain data that are sensitive or personal and critically important for the proper documentation of compliance and for operational control. Access to the databases is therefore restricted to designated staff and the data entry and the subsequent use of the data are subject to quality controls.

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<sup>5</sup> A record is a special type of document that provides written evidence of results achieved or activity performed

TABLE 5-1 THE MAIN DATABASES

Data	Purpose	Software	Associated Management Plan
Water quality	Compliance with NSWQS	Water Information System a cloud-based application specifically designed for NNP1 (MapServer, SQL Server)	<ul style="list-style-type: none"> <li>ESMMP-OP</li> </ul>
Dam discharges	Compliance with Environmental Flow Requirements	MS Excel HEC-RAS for modelling	<ul style="list-style-type: none"> <li>ESMMP-OP</li> </ul>
Downstream Fisheries	Compliance with ecological and livelihood objectives	MS Access	<ul style="list-style-type: none"> <li>ESMMP-OP</li> </ul>
Biodiversity, illegal hunting and snaring	Compliance with no-net-loss of biodiversity	Spatial Monitoring and Reporting Tool, SMART, an open source freeware	<ul style="list-style-type: none"> <li>NNP1 Watershed Management Plan</li> <li>NNP1 Biodiversity Offset Management Plan</li> </ul>
Socio-economy	Compliance with income targets for PAPs	Kobotoolbox, an open source freeware, MS Excel and Stata	<ul style="list-style-type: none"> <li>Resettlement and Ethnic Development Plan</li> </ul>
Assets and Compensation	Compliance with provision of entitlement for PAPs	MS Access	<ul style="list-style-type: none"> <li>Resettlement and Ethnic Development Plan</li> </ul>

Manual collection of data in the field is carried out by designated Company staff or in some cases by contracted consultants – in either case, the staff will be trained in the data collection work and the collection will be supervised.

Entry of data into the databases is whenever practicable done by the same staff that did the data collection and in some cases for example for socio-economic surveys, data entry is done in the field directly into the database.

The databases are designed with built-in data validation rules that flag entries that are not possible, inconsistent with other data or that are extreme outliers. After data entry but before use, the data are checked by senior Company staff. A final check of the data is done by the relevant managers and specialists in connection with assessments and reporting on progress and compliance, and all draft outgoing reports are quality checked by specialists.

The Database and GIS Unit in ESD is responsible for the daily management and maintenance of the databases – except for dam discharge data which is managed by TD. The technical infrastructure and hardware are managed and maintained by the IT Department in the Admin Division.

## 6 OPERATIONAL CONTROLS

The main functions of the operational controls are to ensure that the environmental and social mitigation measures specified in the relevant subplans are properly implemented and functioning, and that they are effective and efficient.

Operational control consists of three levels

I. Operator level

The operator of an installation or activity is responsible for controlling that the operation is implemented in accordance with design specifications and operational criteria, and that the operation is carried out within certain limits or thresholds and that adequate maintenance and repair programmes are in place and implemented. These control measures are specified in operational control procedures.

II. Site inspection level

NNP1PC compliance and monitoring team is responsible for implementation of the operational control programmes specified in the subplans (ESMMP-OP Volume II), and for performing certain operational control procedures. The compliance and monitoring team reports its findings to Company management;

III. Management level

Company management is responsible for the overall design and implementation of operational control measures, developing operational control procedures and for making decisions on corrective actions and reporting to Company shareholders, lenders and relevant authorities.

Operational controls are designed to deal with the environmental and social impacts and risks originally identified through the environmental and social impact assessment and thereafter regularly reviewed and updated in subplans of the ESMMP-OP.

Operational controls can be divided into the following main forms:

- (a) Structural, with controls forming part of an installation e.g. secondary containment around a fuel tank;
- (b) Preventive maintenance e.g. regular maintenance of wastewater treatment ponds;
- (c) Control measurements of performance against criteria (automatic built into installations, or manually performed by the operator or NNP1PC compliance and monitoring team;
- (d) Calibration, e.g. of measuring devices

In order to develop and ensure proper implementation of the operational controls, a number of tools are used including the following:

- a) Design standards and guidelines
- b) Manufacturer's manuals
- c) Standard Operating Procedures or Work Instructions
- d) Safety Data Sheets
- e) Checklists
- f) Signage
- g) Training

Operational controls form a very important component in the Company's Environmental Management System. The controls help to ensure that installations and equipment are properly maintained thereby minimizing risks of malfunctions or breakdowns which could otherwise lead to pollution incidents and non-compliance with environmental requirements. The controls also provide early indications of increasing environmental risks, which enables the operator and Company management to step-in and perform countermeasures before a risk materialises.

The operational controls are reviewed regularly as part of the monthly and quarterly reporting on the environmental performance of the Project.

In addition, previously unforeseen impacts or risks may be identified by the routine inspection and monitoring; and such impacts or risks will then be assessed and if found significant the Company will revise existing operational controls or develop new controls.

## **7 EMERGENCY PREPAREDNESS AND RESPONSE**

### **7.1 Obligations**

**Concession Agreement, Annex C Clause 55 vii** the Company shall ensure that emergency response plans and procedures are timely developed and implemented.

**Concession Agreement, Annex C Clause 57 ix.** obligation to prepare and implement an emergency plan for potential Project impacts on PAPs and other members of the public with respect to any foreseeable emergency condition arising from or related to the Project, its construction or operation.

**IFC Performance Standard 1 Assessment and Management of Environmental and Social Risks and Impacts, Para 20** requires development of an emergency preparedness and response system to enable the project in collaboration with government agencies to respond to accidental and emergency situations associated with the project to prevent and mitigate any harm to people and/or the environment. This preparation will include the identification of areas where accidents and emergency situations may occur, communities and individuals that may be impacted, response procedures, provision of equipment and resources, designation of responsibilities, communication, including that with potentially Affected Communities and periodic training to ensure effective response.

**IFC Performance Standard 4 Community Health, Safety and Security, Para 11** requires the project to assist and collaborate with the affected communities, local government agencies, and other relevant parties, in their preparations to respond effectively to emergency situations. If local government agencies have little or no capacity to respond effectively, the project will play an active role in preparing for and responding to emergencies associated with the project. The client will document its emergency preparedness and response activities, resources, and responsibilities, and will disclose appropriate information to affected communities, relevant government agencies, or other relevant parties.

### **7.2 Emergency Preparedness and Response Plan**

The Company has developed an Emergency Preparedness and Response Plan (EPRP) which establishes controlled and coordinated response procedures to emergencies. The EPRP is prepared as a separate document and is submitted separately to the relevant authorities and ADB. The main content of the EPRP is summarized here below.

An emergency is defined as an event, actual or imminent, which endangers or threatens to endanger life, property or the environment.

The purpose of the EPRP is:

- To protect the health, safety and welfare of NNP1 employees, contractors and visitors;
- To protect the surrounding community and the environment surrounding the Project Site; and

- To act as a guidance for the Principal Project Contractors to develop and implement their own Emergency Preparedness and Response Plans.

The EPRP has the following main functions and content:

- establishes the processes and procedures for personnel to follow in the event of an emergency, including site, and/or office emergencies
- identifies types of emergencies that may require assistance
- describes roles and responsibilities of key personnel in the event of an emergency
- establishes emergency communication protocols and phone numbers
- describes evacuation processes
- outlines training and evacuation response exercises
- provides communication flowcharts detailing actions to be taken for various emergency situations

This Emergency Preparedness and Response Plan covers all project sites, NNP1 Head Office in Vientiane, and Project travels and transports between the Project Sites. It does not cover emergencies situations while working outside areas mentioned above, for instance business trips outside Lao PDR.

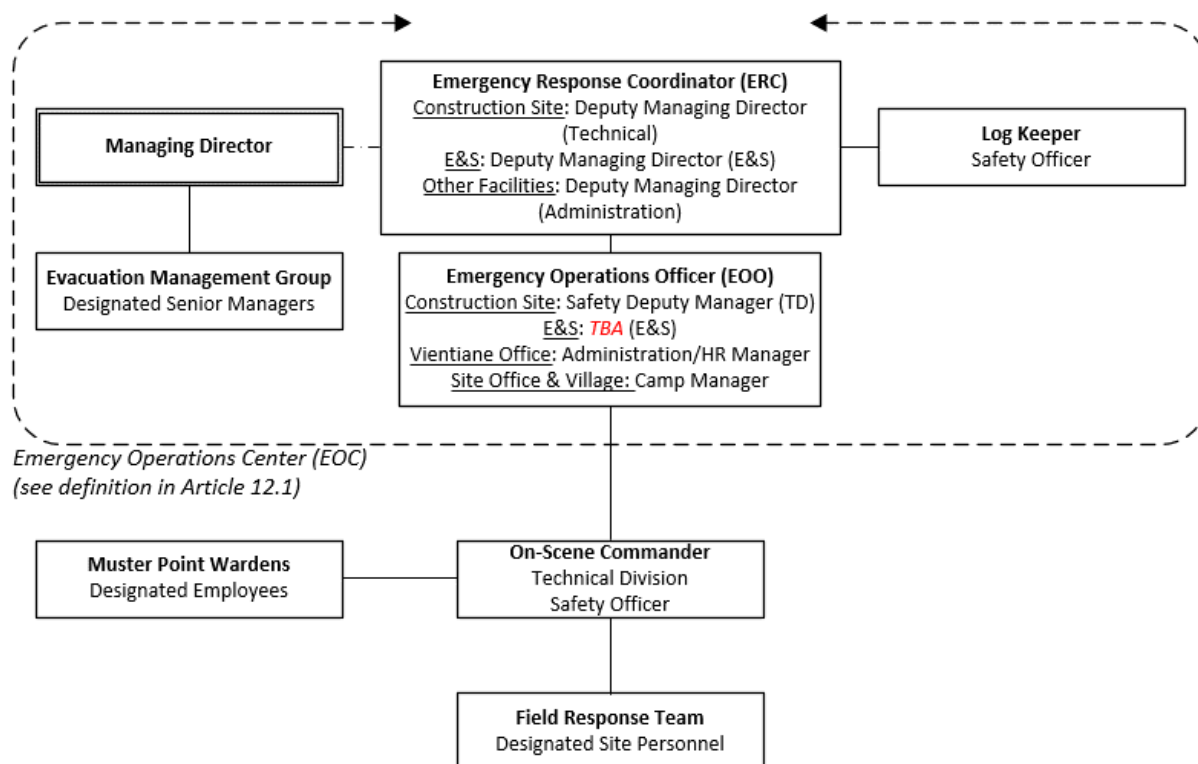
The types of emergencies identified in the Emergency Preparedness and Response Plan include:

- Dam Break
- Flood Alert
- Injured Person
- Fatality
- Evacuation
- Fire and Explosion
- Bomb Threat
- Bushfire
- Criminal Act
- Vehicle Accident
- Severe Weather
- Urgent Medical Transfer
- Major Spill of Hazardous Substance
- Contact with High Voltage Equipment
- Rescue from Height
- Rescue from Confined Space
- Pandemic

This Emergency Preparedness and Response Plan will be updated annually to address any identified changes. Copies of the Plan will be formally issued to all relevant NNP1 and contractor personnel as required. NNP1PC and the O&M Contractor will periodically test such procedures or organize emergency drills where practicable.

The overall roles and responsibilities of the Company's emergency response team are presented in **Figure 7-1**.

FIGURE 7-1 OVERALL ROLES AND RESPONSIBILITIES OF THE EMERGENCY RESPONSE TEAM



### 7.3 Dam Safety Emergency Action Plan for the Main Dam, the Re-regulation Dam and the Dyke

The EPRP is a mother-plan for specific emergency procedures and action plans, and in alignment with the EPRP, NNPPC has prepared a Dam Safety Emergency Action Plan for the main dam, the re-regulation dam and the dyke during operations.

This Dam Safety Emergency Action Plan (DSEAP) has been prepared in accordance with the Concession Agreement and the contents of the DSEAP is in accordance with the USA Federal Guidelines for Dam Safety (Emergency Action Planning for Dams FEMA 64 / July 2013, FEMA).

The main purpose of the DSEAP is to identify potential emergency conditions at the Main Dam, the re-regulation dam and the dyke to specify actions to be followed including to convey information on the dam operation to the relevant villages and government authorities urgently and exactly to minimize impacts on the residents along the downstream river, the loss of life and property damage.

This DSEAP includes the following and covers dam operation and will be updated annually or more often as needed:

- a) Actions NNP1PC will take to moderate or alleviate a problem at the dam by identifying unusual or unlikely conditions which may endanger the Main Dam;
- b) Actions NNP1PC will take, and in coordination with emergency management authorities, respond to incidents or emergencies related to the dam;
- c) Initiation of remedial actions to prevent or minimize the impact on the downstream area due to failure of the Main Dam;

- d) Procedures NNP1PC will follow to issue early warning and notification messages to the responsible emergency management authorities;
- e) Initiation of emergency actions to warn downstream residents of impending failure of the Main Dam;
- f) Provision of inundation maps to help NNP1PC and the emergency management authorities identify critical infrastructure and population-at-risk sites that may require protective measures, warning, and evacuation planning;
- g) Delineation of the responsibilities of all those involved in managing an incident or emergency and how the responsibilities should be coordinated.

The DSEAP is prepared as a separate document and it has been approved by the Dam Safety Review Panel and submitted to the Ministry of Energy and Mines.

The annually updated DSEAP will be submitted to the relevant authorities and ADB.

## 8 CHECKING

### 8.1 Project Oversight and Compliance Assurance

The scope and composition for oversight and compliance assurance of the Project's compliance obligations is summarized in **Table 8-1**.

As indicated in the table, self-monitoring and reporting by the Company to GOL/MONRE and the Lenders is the chief (but not exclusive) means of ensuring compliance by the Company with its compliance obligations. The Company's self-monitoring programmes are specified in the Subplans (Volume II of this ESMMP-OP).

The Company reports progress and compliance issues to the Lenders with respect to the environmental and social provisions in the loan agreements. The Lenders assisted by the LTA monitor and check compliance with the agreements including compliance with the ADB Safeguard Policy Statement.

**TABLE 8-1 SUMMARY OF THE SCOPE OF OVERSIGHT AND COMPLIANCE MONITORING**

Monitoring Agency	Scope of Work	Frequency	Reporting
NNP1PC-EMO	- Self-monitoring of ambient environmental quality, effluents, emissions, management of waste and hazardous substances, biodiversity, fisheries	- Varying as per monitoring programmes in the Subplans	- Monthly and quarterly to GOL and Lenders - Published on NNP1PC's website
NNP1PC-SMO	- Self-monitoring of progress with resettlement, social issues, livelihood and income restoration	- Monthly - Socio-economy every 2 years	- Monthly - Quarterly with analysis - Published on NNP1PC's website
NNP1PC-TD	- Self-monitoring of structural integrity of dams and	- Varying	- Monthly to GOL and Lenders



Monitoring Agency	Scope of Work	Frequency	Reporting
	powerhouses, hydrology, discharges		
EMU on behalf of MONRE	<ul style="list-style-type: none"> <li>- Field inspection of compliance with environmental regulations and Annex C</li> <li>- Issue warnings in case of non-compliance</li> </ul>	<ul style="list-style-type: none"> <li>- 6-monthly missions until 2 years after COD then reduced to annual missions or less frequent</li> </ul>	<ul style="list-style-type: none"> <li>- Findings informed to NNP1PC</li> </ul>
IMA	<ul style="list-style-type: none"> <li>- Field inspections and assessment of compliance with environmental regulations and Annex C</li> <li>- Provide comments and recommendations for improvements</li> </ul>	<ul style="list-style-type: none"> <li>- 6-monthly until 2 years after COD then reduced to annual missions until 2024</li> </ul>	<ul style="list-style-type: none"> <li>- Findings reported to MONRE and NNP1PC</li> <li>- Published on NNP1PC's website</li> </ul>
LTA	<ul style="list-style-type: none"> <li>- Technical, financial, social and environmental matters</li> <li>- Field inspections</li> <li>- Review of NNP1PC progress reports</li> </ul>	<ul style="list-style-type: none"> <li>6-monthly missions until 2 years after COD then reduced to annual missions</li> </ul>	<ul style="list-style-type: none"> <li>- Findings reported to Lenders and NNP1PC</li> <li>- Published on NNP1PC's website</li> </ul>
IAP	<ul style="list-style-type: none"> <li>- Environment, biodiversity and watershed management</li> <li>- Resettlement, indigenous people, and livelihood restoration</li> <li>- Assess compliance with ADB Safeguard Policy</li> <li>- Provide comments and recommendations to the Company</li> </ul>	<ul style="list-style-type: none"> <li>6-monthly missions until 2 years after COD</li> </ul>	<ul style="list-style-type: none"> <li>- Findings reported to ADB and NNP1PC</li> <li>- Published on NNP1PC's website</li> </ul>
ADB	<ul style="list-style-type: none"> <li>- Inspections to assess compliance with the ADB Safeguard Policy</li> </ul>	Varying	<ul style="list-style-type: none"> <li>- Findings reported to NNP1PC</li> </ul>

The compliance assurance mechanisms available to the Lenders consist of reviewing and approving management plans, and the right to give notice to the Company of a non-compliance (an event of default), which if not remedied within a certain period may trigger certain financial sanctions.

With respect to the Concession Agreement and the environmental and social obligations therein, the Company reports progress and compliance issues to MONRE and MEM. MONRE undertakes its own regular inspection through the Environmental Management Units at district and provincial level, and MONRE is further assisted by regular monitoring missions of the Independent Monitoring Agency (IMA). GOL's compliance assurance system includes requiring management plans to be

reviewed and approved before they are implemented, and to issue warnings and impose sanctions including fines or suspension/revocation of permits in case of non-compliance.

In accordance with the ADB Facility Agreement, NNP1PC has contracted an Independent Advisory Panel (IAP) to monitor and report on the progress of implementing the environmental and social measures, and to provide recommendations to strengthen the implementation and reduce the risks of non-compliances. The IAP will continue to monitor the Project until 2 years following COD.

## 8.2 Self-Monitoring and Inspection by NNP1PC

Monitoring and inspection is an integral part of the Environmental Management System as it establishes how the Project performs against compliance obligations and objectives.

Monitoring and inspection programmes will be implemented for the duration of the operational phase of the Project but will be revised regularly in connection with the required revisions of the ESMMP-OP with 5-year intervals.

The monitoring and inspection programmes are described in the respective Subplans (Volume II of the ESMMP-OP).

The objectives of environmental inspections are to:

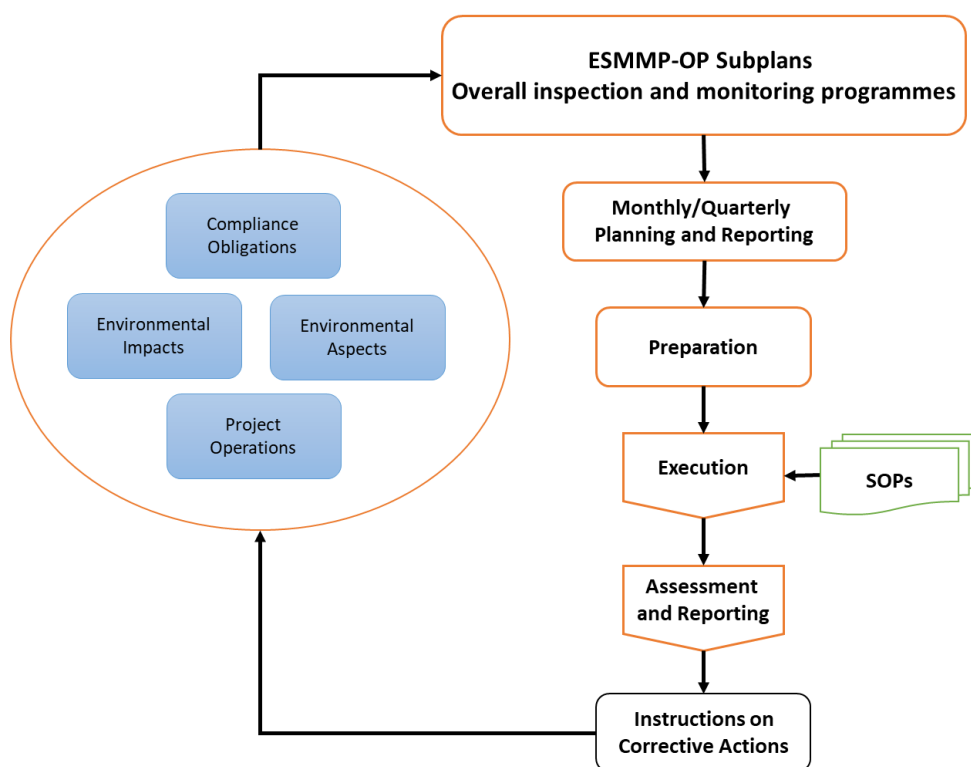
- Identify risks and hazards associated with project operations
- Assess the effectiveness of operational control measures
- Demonstrate compliance with compliance obligations
- Identify if further controls/corrective actions are required
- Issue relevant orders or instructions to the responsible managers to implement corrective actions

As illustrated in **Figure 8-1**, the procedures for environmental inspections involve the following steps:

1. **Overall planning:** This is part of the development of the subplans in the ESMMP-OP and results in monitoring and inspection programmes. These programmes are designed to check compliance with applicable obligations and to identify new adverse impacts and risks. **Responsible:** EMO Manager
2. **Monthly and quarterly planning and reporting:** The planning involves scheduling activities, staff assignments based on the Subplans and the findings of previous monitoring and inspections. The reporting focus on presenting the status of compliance, any unexpected impacts, and implementation of corrective actions. **Responsible:** EMO Manager with inputs from the DMs
3. **Preparation:** Practical arrangements including (i) familiarizing with the inspection targets, issues and compliance obligations; (ii) making sure that instruments and equipment are functioning properly; (iii) making appointments as necessary. **Responsible:** EMO Compliance and Monitoring DM
4. **Execution:** Conducting the inspection and monitoring. The scope of the inspection will vary depending on the site and the activities and installations on the site. As a general rule all inspections will include a walk-through, making and noting observations, interviewing operating personnel, checking operational control devices and procedures, taking pictures. In some cases, the scope will include taking samples and doing various technical measurements. The inspector will insure that all findings are well documented

- and that any immediate risks or impacts are reported immediately to the responsible manager for immediate action. **Responsible:** EMO Compliance and Monitoring DM
5. **Assessment and Reporting:** As soon as practicable after completion of an inspection, the inspector will review the findings, assess compliance and the need for corrective actions. The inspector together with the Compliance Monitoring DM as necessary will then prepare a Site Inspection Report or Non-Compliance Report based on standard formats and with instructions for corrective actions as may be deemed required. After quality check and approval, the reports will be submitted to the responsible managers for action. **Responsible:** EMO Manager or Compliance and Monitoring DM depending on the level of non-compliance
  6. **Feedback to planning and reporting:** A summary of key findings in the monitoring and inspection reports and corrective actions are included in the Monthly and Quarterly Environmental Monitoring Reports which are made public and submitted to MONRE, ADB and the external monitoring agencies. **Responsible:** EMO Compliance and Monitoring DM

FIGURE 8-1 GENERIC PROCEDURES FOR ENVIRONMENTAL INSPECTIONS



### 8.3 Monitoring and Inspection by MONRE

The Environment Management Unit (EMU) of MONRE will carry out site inspection and monitoring of project operations. The frequency is expected to be 6-monthly until 2 years after COD and then reduced to annual missions or less frequent.

After each mission, the EMU will issue a draft mission report with its findings for NNP1PC’s comments followed by a final report taking NNP1PC’s comments into account.

If MONRE finds that the Project’s activities are non-compliant with applicable environmental obligations, MONRE will promptly inform this to the Company at the mission wrap-up meeting and discuss the necessary corrective actions. MONRE will stipulate the required corrective actions and deadline for completion in the mission report. MONRE may at its own discretion issue a warning

that if the corrective actions are not completed within the deadline further enforcement actions will be taken. This may include fines or instructions to suspend certain activities.

## 8.4 Non-compliance, Corrective Action and Prevention Action

### 8.4.1 Non-compliances, Opportunities for Improvements and Corrective Actions

The Company has established internal procedures for issuance of non-compliance reports and instructions to undertake corrective actions. These procedures are implemented through the monitoring and inspection process described in **Section 8.3**.

Non-compliances are categorized in two levels:

- Level 1: Non-compliance with a compliance obligation
- Level 2: Significant non-compliance with a compliance obligation

The principle is that a level 1 non-compliance is any non-compliance that is not a significant non-compliance, and a significant non-compliance is a non-compliance that:

- result in or is likely to result in significant damage, impact or harm to the life, health, or livelihood of people, or to property, biodiversity or the environment.
- is a result of intentional or reckless action or disregard for ensuring compliance with a compliance obligation.

The determination of which level a non-compliance belongs to is at EMOs discretion. In its determination, EMO may also take aggravating factors into account such as the history of non-compliance and the status of implementing previously issued instructions to undertake corrective actions.

Findings by EMO that do not constitute a non-compliance, but which may nevertheless require improvements to prevent a subsequent non-compliance from occurring, or which represent opportunities for generally enhancing the Companies environmental performance; such findings are categorized as Opportunities for Improvements and will be noted in the Site Inspection Reports.

Opportunities for Improvements will as necessary be accompanied with instructions for corrective actions.

Some hypothetical examples of different findings and their categorization are listed in **Table 8-2** to give a sense of the differences in levels and how they are categorized.

**TABLE 8-2** EXAMPLES OF FINDINGS AND THEIR CATEGORIZATION

Category of Finding	Finding
Opportunity for Improvement	<ul style="list-style-type: none"> <li>- Poor segregation of non-hazardous waste</li> <li>- Increasing the reliability or frequency of operational control measures</li> <li>- Substituting the use of hazardous substance with a non-hazardous substance or method</li> </ul>
Level 1: Non-compliance with a compliance obligation	<ul style="list-style-type: none"> <li>- leakage or spill of oil not at risk of entering natural waterways</li> <li>- Exceedance of an effluent standard that is not likely to cause fish kill or any significant impact on aquatic life</li> <li>- Lack of maintenance of pollution control devises causing or likely to cause temporary but not significant exceedances of applicable standards</li> </ul>

Category of Finding	Finding
Level 2: Significant non-compliance with a compliance obligation	<ul style="list-style-type: none"> <li>- Major oil spill<sup>6</sup> on natural waterway threatening aquatic life</li> <li>- Major fish kill<sup>7</sup> caused by discharge of oxygen depleted water despite warning signs</li> <li>- Dam operations causing major sudden changes in dam discharge exceeding the limits with the potential to bring life at risk for people on or near the river</li> </ul>

### 8.4.2 Non-compliance procedures

The EMO is responsible for managing the non-compliance procedures as summarized in **Table 8-3**.

**TABLE 8-3 DIVISION OF RESPONSIBILITIES FOR MANAGING NON-COMPLIANCE PROCEDURES**

Responsibility	Opportunity for Improvement	Level 1 Non-compliance	Level 2 Significant Non-compliance
Take immediate action to contain the incident and alert EMO		The persons handling or operating the installation or material involved in the incident	Same as for Level 1
Prepare Site Inspection Report	EMO Compliance Monitoring Officer	EMO Compliance Monitoring Officer	EMO Compliance Monitoring DM
Approve Site Inspection Report	EMO Compliance Monitoring DM	EMO Compliance Monitoring DM	EMO Manager
Prepare NCR		EMO Compliance Monitoring DM	EMO Manager
Approve NCR		EMO Manager	ESD-DMD
Prepare Corrective Action Plan	EMO Compliance Monitoring Officer	EMO Compliance Monitoring DM	EMO Manager
Approve Corrective Action Plan	EMO Compliance Monitoring DM	EMO Manager	ESD-DMD
Implement Corrective Action Plan	Concerned TD Manager/ADM Manager	Concerned TD Manager/ADM Manager	Concerned TD Manager/ADM Manager
Report to ADB/MONRE	Not required	EMO Manager	ESD-DMD

Site Inspection Reports and Non-Compliance Reports are issued to the Division-DMD and Manager responsible for the activity that triggered the reports. If the activity was carried out by a contracted

<sup>6</sup> The determination of whether an oil spill is a major spill will depend on the type of oil, the amount of oil spilled, the recipient and the likelihood that the spill can be quickly contained and cleaned-up. As a rough guidance, a spill of 200 litre or more would normally be considered a major spill.

<sup>7</sup> A major fish kill is defined roughly as an incident with a recorded total fish kill equivalent to or more than the median recorded monthly fish catch for the fishing zone where the incident occurred. For Nam Ngiep downstream fishing zone this is about 1 ton according to NNP1PC's daily fish catch records. Note that the total **estimated** monthly fish catch for the downstream zone is about 12 tons. For comparison, NNP1PC recorded 8 tons of dead fish as a result of the Nam Ao dam break in September 2017.

external party (contractor, operator), then the report is issued to the Division-DMD and Manager responsible for supervising the external party. In either case, the Division-DMD and Manager are responsible for ensuring that the corrective action plan is duly and timely implemented.

EMO will maintain a record of all Site Inspection Reports and Non-Compliance Reports.

#### **8.4.3 Continual improvement**

NNP1PC facilitates continual improvement of the EMS by:

- Implementation of the results of Management Reviews
- Implementation of Audit recommendations
- Analysis of non-compliances
- Implementing corrective actions

The EMO Manager is responsible for assuring implementation of these efforts.

#### **8.4.4 Corrective Action Plan**

The EMO is responsible for preparing Corrective Action Plans. Corrective Action Plans will be prepared based on thorough investigations of the causes and impacts of the relevant incidents. The typical content of a Corrective Action Plan includes:

- a) A description of the non-compliance and the cause(s) that led to the non-compliance including:
  - a. The location, type and nature of the activities and any installations involved in the incident
  - b. Timing of the events and duration of the non-compliance
  - c. The nature, magnitude, and spatial extend of any damages, harm or impacts; and the risks of any further damages, harm or impacts
  - d. Supporting documentation such as photos, videos, measurements, remote sensing.
- b) the proposed actions to correct any damage or impact associated with the non-compliance; and the and time schedule for such actions
- c) Who will be responsible for implementing the corrective action plan;
- d) Estimated costs of the planned actions;
- e) the proposed actions (including any proposed updates to the relevant subplan or procedures) to prevent any similar non-compliance from occurring in the future.

### **8.5 Internal EMS Audits**

The Company will undertake internal audits of the EMS on a regular basis. The first audit will be arranged as a pre-audit to facilitate the detailed design and initial implementation of the EMS during the first 6 months after COD. Internal audits will be carried out annually thereafter during the lifetime (5 years) of this ESMMP-OP. The audit frequency for the following period will be specified in the next and updated version of the ESMMP-OP.

Internal environmental audits will be carried out by designated and duly qualified employees of the Company.

The audit team comprising 2-3 persons will be led by a designated lead auditor. Prior to the audit, the team will prepare an audit plan which will focus on:

- Checking and evaluating conformance with the requirements of the ISO 14001 EMS Standard

- Checking and evaluating the effectiveness of the EMS in delivering and ensuring compliance with compliance obligations and continual improvements
- Checking and evaluating the adequacy, consistency and necessity of the procedures

The audit will be conducted in the spirit of openness and objectivity. The audit methods will include review of documents, interview of employees, group discussions and in some cases may also involve drills. The point of the audits is to improve the system – not to assess the performance of employees – if a procedure is not being used, then there is something wrong with the procedure not with the users. The auditors will check for consistency, overlaps, gaps and in particular identify procedures that are cumbersome or resource demanding without generating any significant environmental benefits; such procedures will be revised or discarded.

The audit team will prepare an audit report with their findings and recommendations. The audit report will be submitted to the MD, DMDs and concerned Managers for their consideration and decision on which recommendations shall be implemented. The EMO Manager is responsible for ensuring implementation of the required revisions to the EMS.

## 8.6 External EMS Audits

The CA Annex C Clause 55 (b) requires that the Company obtains certification of its EMS under the ISO EMS Requirements no later than two (2) years after COD. In accordance with this Standard, an organization that wishes to demonstrate conformity with the Standard can do so by:

- making a self-determination and self-declaration, or
- seeking confirmation of its conformance by parties having an interest in the organization, such as customers, or
- seeking confirmation of its self-declaration by a party external to the organization, or
- seeking certification/registration of its environmental management system by an external organization.

It is interpreted that the CA requirement refers to the last bullet, and NNP1PC will engage a qualified company to undertake the EMS certification audit. The external audit has the same focus as the internal audit and will result in an audit report with identification of nonconformances that need to be corrected.

Although the CA does not require it, NNP1PC will consider contracting the services of an Accredited Certification Body. However, as there is no national accreditation body in Lao PDR, NNP1PC may consider companies listed as accredited certification bodies by the national accreditation bodies of Thailand or Vietnam (national accreditation bodies that are members of the International Accreditation Forum). The certification is expected to be valid for 3 years and will have to be followed-up by annual surveillance audits.

The EMS certification audit is expected to be carried out soon after the Management Review of the second internal EMS audit. At that point the EMS should be fully implemented and thus ready for certification.

It should be noted and understood that neither the internal nor the external EMS audits provide a full evaluation of the Company's compliance with its compliance obligations, nor do they assess the significance of impacts. Evaluation of compliance and assessment of impacts are carried out as part of the compliance monitoring and reporting processes.

## 9 MANAGEMENT REVIEW

The Managing Director, Division DMDs and concerned Managers will carry out annual Management Reviews of the EMS to ensure its suitability, adequacy, and effectiveness.

The EMO Manager and the internal auditors will be responsible for arranging the review and preparing and presenting relevant materials and results.

The scope of the review will be based on audit findings, implementation of corrective actions, external entities complaints, etc. and will include:

- a) the status of actions from previous management reviews;
- b) changes in:
  - i. external and internal issues that are relevant to the environmental management system;
  - ii. the needs and expectations of interested parties, including compliance obligations;
  - iii. its significant environmental aspects;
  - iv. risks and opportunities;
- c) the extent to which environmental objectives have been achieved;
- d) information on the organization's environmental performance, including trends in:
  - v. nonconformities and corrective actions;
  - vi. monitoring and measurement results;
  - vii. fulfilment of its compliance obligations;
  - viii. audit results;
- e) adequacy of resources;
- f) relevant communication(s) from interested parties, including complaints;
- g) opportunities for continual improvement.

The outputs of the management review will include:

1. conclusions on the continuing suitability, adequacy and effectiveness of the environmental management system;
2. decisions related to continual improvement opportunities;
3. decisions related to any need for changes to the environmental management system, including resources;
4. actions, if needed, when environmental objectives have not been achieved;
5. opportunities to improve integration of the environmental management system with other business processes, if needed;
6. any implications for the strategic direction of the Company.

Immediately following a Management Review, the EMO Manager will prepare a report with the results of the management review.