

**Naghlu Hydropower Rehabilitation Project (NHRP)**

**Site Specific Environmental & Social Management Plan (ESMP)**

**For Component-1**

**Mechanical, Electrical and Electromechanical Works**

**Da Afghanistan Breshna Sherkat (DABS)**

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# List of Acronyms

AP Affected Person(s)

CCMP Contractor Camp Management Plan

COO Chief Operating Officer

CV Curriculum Vitae

DABS Da Afghanistan Breshna Sherkat

EHS Environmental Health and Safety

ESMF Environmental and Social Management Framework

ESMP Environmental Management Plan

ESIA Environmental and Social Impact Assessment

ESS Environmental and Social Safeguards

GOA Government of (the Islamic Republic of) Afghanistan

IFC International Finance Corporation

IR Involuntary Resettlement

LV Low Voltage

MEW Ministry of Energy and Water

MV Medium Voltage

NDF National Development Framework

NEPA National Environmental Protection Authority (Afghanistan)

NGOs Non-Government Organizations

NHRP Naghlo Hydropower Rehabilitation Project

PAP Project Affected Persons

PCB Poly-chlorinated Biphenyls

QA Quality Assurance

SFO Safeguards Focal Point

STD Sexually Transmitted Disease

ROW Right Of Way

UNMACA United Nations Mine Action Center for Afghanistan

UXOs Unexploded Ordinances

WB World Bank

#

# NHRP project Background

## 1.1 Project Objective

The Project Development Objective is to improve dam safety and to increase the supply of electricity at the Naghlu Hydropower Plant.

##

## 1.2 Project Components

1. **Component 1: Mechanical, Electrical, and Electromechanical Work**. This component complements the rehabilitation of the electrical and electromechanical parts of the plant previously undertaken and ensures their sustainable operation. It consists of two subcomponents as follows:
* **Subcomponent 1(a): Rehabilitation of Unit 1 and Balance of Plant**. This includes the completion of electromechanical rehabilitation work focused on Unit 1, particularly (i) testing of the existing bent rotor shaft followed by repair if possible or replacement if not; and (ii) completion of rehabilitation of the existing plant.
* **Subcomponent 1(b): Enhancing Maintenance of the Powerhouse**. Other units of the power house are in need of regular maintenance. This subcomponent will particularly support provision of spare parts and consumables for three to five years to ensure the sustainable operation and normal maintenance of the existing plant.
1. **Component 2: Dam Safety and Power Generation Capacity Improvement** (US$33 million). This component aims to ensure the safe operation of the dam through the two subcomponents as follows:
* **Subcomponent 2(a): Dam Safety Audit and Safety Improvement Measures**. This component will finance technical assistance and studies including (i) audit of the dam’s structural and operational safety; (ii) preparation of plans and bidding documents for works to improve safety to acceptable standards, focused on reactivating the bottom outlet, adequacy of auxiliary power and other systems, improvements to the head gates closing system, installation of instrumentation, and clearance of the UXOS from the dam structure; (iii) studies on structural and operational safety considering updated hydrological and seismic data and following relevant international/national standards/guidelines; and (iv) flood routing through Naghlu Dam to Surobi Dam, including adequacy of its spilling arrangements.
* **Subcomponent 2(b): Optimization of Power Generation**. This component aims to examine the potential for increasing power generation at NHPP. This would identify options for sustainable sediment management and for increasing the amount of electricity produced by the dam. It consists of (a) **Feasibility study** to examine the feasibility of various options to increase power generation and (b), **Detailed design** which supports the preparation of detailed designs should the feasibility study return a positive result, and will be closely guided by the findings of Environmental and Social Impact Assessment (ESIA), resettlement and livelihoods restoration, environment and social management plans, health, and other related action plans.
1. **Component 3: Environmental and Social Sustainability, Project Management Support, and Future Project Preparation** (US$20.0 million). This component includes two subcomponents:
* **Subcomponent 3(a): Environmental and Social Sustainability.** This subcomponent aims to ensure the environmental and social sustainability of the dam through (a) ***Local Development Assistance*** which will promote benefit sharing with local communities and will support electrification in the project area and improved access to skills training for local communities: (b) ***Supporting environmental and social management*** to ensure the effective planning, implementation and monitoring of all safeguards instruments across all project components.
* **Subcomponent 3(b): Project Management Support and Future Project Preparation** aims to ensure that DABS receives advice on good international practices.

# Environmental and Social Management Plan

## 2.1 Introduction

The following site specific Environmental & Social Management Plan (ESMP) is prepared to outline the types of control measures that must be implemented to reduce environmental and social risks during implementation of rehabilitation of the electrical and electromechanical parts of the plant at the Naghlu hydropower plant (component 1). The potential environmental and social risks for component 1 were identified during preparation of the Environmental and Social Safeguards Guidelines for the Emergency Power Rehabilitation Project. The mitigation measures identified during that process are listed as specific commitments to direct performance criteria within the updated sited specific ESMP for component 1.

The updated ESMP complies with the principles and policies of the ESMF for NHRP.

## 2.1 Purpose

The  the primary purpose of an ESMP is to mitigate/reduce potential environmental and social impacts of planned activities and to ensure that all identified environmental and social risks expected to occur during rehabilitation works at Naghlu power plant are reduced to an acceptable level.

This will be achieved through engagement of all relevant parties in environmental and social management. In particular, this will include integrating environmental and social management planning with design, rehabilitation methods and operation planning.

The requirements of this plan are applicable to all on-site work carried out. All contractors and suppliers will be bound to comply with the requirements of this plan, in so far as they are applicable to the nature and scope of their work.

The scope of this plan embraces the risks created by the design of the Project, the short-term risks that will arise during the rehabilitation (the works the project is paying for) and any long-term risks that are influenced by the rehabilitation methods.

The ESMP:

* Draws together the measures proposed to mitigate negative, and to maximize positive, environmental and social impacts, and groups them logically into component-1 with common themes;
* Define a proposed institutional structure to govern the implementation of the ESMP;
* Defines the specific actions required, roles and responsibilities for these actions, timetables for implementation, and associated costs; and
* Describes capacity building and training requirements for the implementation of the ESMP.

## 2.2 Legislative and Policy Considerations

Legislation and policies that are relevant to rehabilitation of the electrical and electromechanical parts of the plant at the Naghlu hydropower plant are summarized in Table 1.1.

Table 1.1: Summary of relevant legislation and policies

|  |  |  |
| --- | --- | --- |
| **Jurisdiction** | **Legislation or Policy** | **Relevance** |
| World Bank | Operational Policy 4.01 | Environmental assessment |
| NHRP ESMF | Environmental and Social Management |
| Govt of Afghanistan | Environmental Law (2006)IFC EHS guideline | Environmental impact assessment and managementEnvironmental health and safety |
| NEPA Pollution Control and Management inAfghanistan | Policy discussion |
| Afghanistan Labor law |  |
| MEW- Energy sector | Environmental and Social Safeguards Guideline (ESS- guideline) | Hygienic & Safety measures |
|  |  |  |

## 2.3 Summary of Environmental and Social Impacts

#### 2.3.1 Potential Negative Environmental impacts

The environmental impacts associated with the electro-mechanical works include managing removal, storage, handling and disposal of used oil’s and lubricants, petroleum products and the removed parts. Other impacts are loud noises and dust. These impacts are low to medium level and thus readily reversed or effectively managed with mitigation measures outlined in the relevant table. DABS has conducted a brief workshop to undertake risk assessment impacts of project activities under component-1 including appropriate mitigation measures. For detailed of risk assessment process refer to Annex 1- Risk Assessment Identification and Mitigation Measures, which also includes the potential social risk assessments.

#### 2.3.2 Potential Negative Social impacts

No social safeguards impacts are predictable under component 1, because the electro-mechanical work will be implemented in the premise of Naghlu power plant. However, there might be workplace complaints arising during rehabilitation activities, for which the GRM procedures as outlined in the approved ESMF will be followed.

# Environmental and Social Management

DABS safeguards team during the process of risk assessment and updating of ESMP identified environmental and social risks arising from all phases of the activities under component 1. The team also recommended adoption of specific mitigation measures to either:

* Reduce risks assessed as high or medium to low, or
* Ensure that risks assessed as low do not increase.

The following sections provides guidance to relevant parties for implementation of the mitigation measures for each project phase:

The risk level associated to component-1 Social and Environmental impact are defined based on the assessment, during updated the Site Specific ESMP, and carried out by DABS team.

## 3.1 ESMP Cost

The ESMP matrix includes estimated cost various activities under component-1. The cost will be based on the assumption of DABS team which could be varied based on the specific mitigation activities and the contractor financial estimate, which will be submitted during bidding process.

## 3.1 Environmental and Social Management Plan

#### 3.1.1 Pre Rehabilitation Phase

Table 1.2a – Implementation of Tendering Phase Mitigation Measures

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Activities/****Concerns** | **Potential impacts** | **Assessed Risk level** | **Mitigation measures** | **Monitoring****Indicators** | **Institutional Responsibilities** | **Estimated Cost** |
| **Implementation** | **Supervision** |
| Pre-bidding | -Submission of tenders that fail to address environmental and social issues.- contractor failure to attend pre bidmeeting and-contractor failure to understandall social and environmentalissues relating to bidpreparation | medium | Introduce requirement for mandatoryattendance at pre-bid meetings as arequirement for submission of a conformingtender- Include site inspection on pre-bid meetingagenda- Provide details of environmental and socialrequirements to Contractors in the biddingdocuments | Potential bidders advised in writing of mandatory attendance at pre-bidding meetings as a requirement of tender. Site inspection included as part of pre-bid meetingESMP included in bidding documents | DABS NHRP project Manager and DABSProcurement Manager | DABS SFO |  |
| Bid evaluation | -Selection of Contractor with little or no understanding ofenvironmental and socialrequirements,- Selection of Contractor that has made no allowance forenvironmental and socialrequirements in determining bidprice- Limited implementation ofenvironmental and socialrequirements- failure to take environmentaland social requirements intoaccount during bid evaluation | medium | -Include environmental and socialrequirements in BOQ- Provide recognition of contractor costing ofenvironmental and social items in bidevaluation- Include environmental / social expertise onthe bid evaluation committee. | Modified BOQs include environmental and social mitigation measuresBid evaluations include assessment of contractors’ costs for implementing environmental and social mitigation measures.DABS safeguards focal point sits on the bid evaluation panel | DABS NHRP project managers, DABS procurement manager | DABS  |  |

Table 1.2b – Implementation of Pre- rehabilitation Phase Mitigation Measures

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Activities** | **Potential impacts** | **Assessed Risk level** | **Mitigation measures** | **Monitoring Indicators** | **Institutional Responsibilities** | **Estimated costs** |
| Implementation | Supervision |
| Preparation ofContractorCampManagementPlan (CCMP) | -Land dispute;- Increased risk of workforceinjury;- Increased risk of damage tobuilt environment;-failure of contractor to preparean acceptable CCM | medium | -Include requirement for CCMP inspecifications- Apply QA principles to CCMP acceptance-Discuss contractor proposals with DABS  | Acceptable CCMP drawing included in specificationsWritten confirmation of CCMP acceptance by SFO+ consultant prior to works on site | Contractor- | DABS SFO |  |
| Erection ofcontractorconstructioncamp | Location in unsuitable site | low | -Identify suitable camp site in consultation with power plant and Sarobi district official- Obtain relevant approvals for camp location | Suitable camp site identified Relevant approvals obtained for camp site. | contractor  | DABS Naghlu plant manager? |  |
| Contractorprovideevidence of keystaffqualifications | Low quality \ unacceptablework;- failure of Contractor to provideevidence of key staffqualifications | medium | -Include requirements for key staffqualifications in bidding documents;- Non-acceptance of Contractor work plan untilevidence is provided | Bidding documents include requirement for contractors to provide documentary evidence of key staff qualifications  | \DABS TEAM | DABS SFO |  |

#### Rehabilitation Phase

Table 1.2c – Implementation of Rehabilitation Phase Mitigation Measures

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Activities** | **Potential impacts** | **Assessed Risk level** | **Mitigation measures** | **Monitoring Indicators** | **Institutional****Responsibilities** | **Estimated costs** |
| **Implementation** | **Supervision** |
| Operation ofcontractorconstructioncamp | Increased levels of PM10 in thePower plant site especiallyduring summer- Community inconvenience;From;- uncontrolled dust generatedfrom operation of Contractorcamp | medium | Undertake watering of camp site-Implement approved work plan-Submit regular monitoring reports | Existing of proper ventilationRegular measurement of PM10 | -Include requirement for regular watering ofcamp site and construction sites duringsummer in bidding documents- During summer Contractor to undertakewater spraying each day before start of workand regularly throughout the day thereafterand as otherwise directed by the sitesupervisor- Implement approved work plan- Monitor and submit monthly reports oncontractor implementation of approved workplan and mitigation measures | DABSContractorContractorConsultant firm |  |
| Operation ofcontractorconstructioncamp | -Contamination of soil, surfaceand groundwater;From:- pollution and nuisance to thecommunity from lack of latrines,bathrooms, potable water and medical equipment. | medium | Include requirement for implementation ofmitigation measures in the biddingdocuments;- Provide workers with appropriate facilities;-Undertake regular monitoring;- Implement QA requirements | Check of data collection and log book for leakageNumber of sanitation facilities in the siteQuality and quantity of water point in the site | Bidding documents to include requirementsfor workers to be provided with the followingfacilities:− Adequate numbers of functionalbathrooms and latrines (latrines maybe portable)− Covered rubbish bins for scraps− Adequately stocked first aid medical kit− Trained person to provide first aidassistance if required- Bidding documents to include requirement forprovision of facilities for collection andregular disposal of solid and liquid wastes- Undertake regular disposal of solid & liquidwastes- Undertake regular monitoring to ensurecompliance with requirements- Issue NCR and CAR for non-compliances- CAR not to be released until non-complianceis addressed | DABSContractorContractorContractorDABSContractorDABS- consultant firm |  |
| Management ofspills andconstructiondebris | - Contamination of soil, surfacewater and groundwater;- Increased risk of injury;From:- failure to promptly attend to spills;- failure to appropriately disposeof construction debris/ spare parts | medium | Include requirements relating to spillmanagement and debris- old spare parts removal in biddingdocuments;- Include spill and debris/waste removal in Contractorwork plan;- Promptly attend to oil spill- Collect and dispose of construction debris in designated locations- Monitor performance in accordance with QAprovisions | Existing of the primary and secondary collection pointAvailability of First Aid kitAvailability of trained First Aid provider in the work force | -Ensure that requirements relating to spill management and debris are included in bidding documents;- Ensure that the Contractor addresses spillmanagement and debris removal asinclusions in acceptable Contractor workplan;- Include requirement for Contractor topromptly attend to oil spills in biddingdocuments-Ensure any oil spills are attended to promptly- Ensure Contractor collects and disposes ofconstruction debris in designated locations- Monitor Contractor performance inaccordance with QA requirements | DABSConsultant firm with SFO from DABSDABSContractorConsultant firm with SFO from DABS |  |
| Replacement and installation of new shop for unit one | Risk of injury -the newly hired workers face a higher injury rate | medium | Contractor to comply with health, safety requirements of GoA and the IFC/WB.-Contractor to ensure to ensure that All employees practice and demonstrate a high standard of personal safety and hygiene.-DABS’s SFO with consultant firm to monitor Contractorperformance and implement- QA provisions as required | Signage and rout definitionEHS guideline are provided and staff are trained | Ensure that requirements of relating to safety and hygienic included in bidding documents. Ensure that all project staff follow safety measures.-ensure all newly hired staff received training on safety and health issue.Monitor contractor performance related to safety and health issue.  | DABSContractor contractorConsultant firm and SFO |  |

#### Operational and Maintenance Phase

Table 1.2d Implementation of operational Phase Mitigation Measures

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Activities** | **Potential impacts** | **Assessed Risk level** | **Mitigation measures** | **Implementation**  | **Institutional****Responsibilities** | **Estimated Cost** |
| **Implementation** | **Supervision** |
| Overhauling of unit number one |  risk of injury and health issue | medium | Contractor to comply with health and safety duty under IFC EHS guideline.-contractor to comply with health and safety law of Afghanistan | -Ensure all newly hired staff received training on safety and health issue.Monitor contractor performance related to safety and health issue | ContractorConsultant firm | Contractor and DABS SFO |  |
| Storage and stock-pilling | Leakages of chemical.Risk of injury.Health and hygienic issue | medium | Contractor to comply with health and safety requirement under IFC EHS guideline.Failure to comply with GoA law | Ensure reference is made to relevant guideline in the bidding documents.Ensure all employees received training on handling and storage of equipment and spare partsMonitor contractor performance related to safety and health issue | DABSContractorConsultant firm + SFO | Contractor and DABS SFO |  |
| Maintenance of the Powerhouse | Contamination of soil, surfacewater & groundwater-Increased risk of injury | medium | Employee (power plant who will be responsible for maintain ace) to promptly attend tospillsPower plant to appropriately disposeof construction debris Repair or replacement of spare part | Ensure all staff working in the power plant received training in safety and hygienic issues. Ensure to follow safety and health requirements outlined in the IFC ESH guideline and Afghanistan safety law. Monitor contractor performance related to safety and health issue | ContractorNaghlu power plantDABS  | DABS SFO |  |

# Implementation of the ESMP

DABS- NHRP team will be responsible for ensuring implementation of the ESMP. Other key parties in the ESMP implementation will be Naghlu power plant Manager and the Contractor.

The DABS- safeguards focal officer will be responsible for ensuring appropriate corrective action is taken by the Contractor for any failure to implement required mitigation measures during rehabilitation of the electrical and electromechanical parts of the plant at the Naghlu hydropower plant. Where contractual agreements are entered into for work associated with rehabilitation work under component 1, NHRP will:

* include the ESMP in contract documents for all work to be undertaken by the contractors
* ensure that the contractor comply with the requirements of the ESMP

# 4. Grievance Handling Procedure

All complaints about rehabilitation works under component 1 will be directed to and recorded by the DABS safeguard focal officer and consultant firm. The safeguards focal officer will maintain a complaints register that records details of all complaints received, the action taken in response, where necessary, and any corrective actions or procedural changes implemented to prevent recurrence. The initiator of the complaint will be advised of the results of all investigations and actions taken. The register will be regularly audited by the NHRP Project Manager (PM) to ensure timely response to complaints.

The safeguards focal officer will review the register daily and advise NHRP PM of any relevant complaints. The Project Manager will then investigate the complaint and instigate any corrective action required.

NHRP grievance redress mechanism described in the ESMF will be strengthened by inclusion representatives from the Naghlu power plant officials.

In case of an appeal, the appellant will have the option to approach the DABS CEO.

## 5.1 NHRP Grievance Redress Mechanism GRM)

The approved ESMF for NHRP outlined GRM process, as following

The GRM covers grievances related to both environmental and social concerns, including workplace complaints. The elements of the project’s GRM conducted or accessed at three different levels are:

* Efforts made to resolve issues at community level
* A Grievance Redress Committee at district/project level
* Appeal mechanism to DABS management

Where an individual has a grievance she or he, should, in the first instance, be encouraged to make use of existing local-level structures ( e.g. CDCs/shura and village leaders) to try to resolve quickly any concerns or grievances related to project development and implementation. The GRM structure that outlines the grievance handling process is shown below. It is worth mentioning the activities under component one will be happing within the premise of the Naghlu power plant, where the power plant official will act to address grievances at level 1 (power plant official will be acting in place of community or CDC).

Please refer to annex-2 GRM form, to be used by complainants.

GRM process outlined in Figure 1.1 below

**If NO**

**If NO**

**If NO**

GRM

Local

Resolution Measures

Grievance Redress Committee

(Project Level)

DABS Management /COO

If still unresolved, APs may choose to exercise their right under Afghanistan law to refer the matter to a court of law.

# Monitoring and Auditing

## 6.1 Introduction

Monitoring and auditing will be undertaken to determine the impact as a consequence of the rehabilitation, and maintenance of the electro-electromechanically work. General monitoring and auditing will be conducted weekly throughout the rehabilitation stage and annually during the operation and maintenance phase.

Routine monitoring and reporting will be undertaken by the Contractor and consultation firm. DABS will develop an auditing schedule and undertake audits in accordance with the schedule.

DABS staff will be responsible for undertaking environmental audits. DABS will maintain all audit records and will be responsible for scheduling follow up inspections to ensure that corrective actions are implemented for any identified non-compliances.

DABS will be responsible for determining severity of non-compliance and may instruct works to cease until the non-compliance is rectified. A non-compliance register will be established and maintained by

DABS and all non-compliances recorded there-in.

## 6.2 Reporting Procedure

The Contractor will be required to report any environmental or social incidents to the consultant firm (DABS is in the process to bring consultant firm on board soon).

The consultant firm will report to the DABS Safeguards Focal Officer (SFO) and the NHRP Manager. The DABS Manager will advise the consultant about appropriate mitigation measures and the consultant will direct the Contractor to undertake these mitigation measures.

If there are complaints from the public during the construction phase, the DABS Manager is to be notified immediately. The following information should be recorded by the Consultant.

* Time, date and nature of the incident / report;
* Type of communication (e.g. telephone, personal meeting);
* Contact details with telephone number of person making the complaint. If this person
* wishes to remain anonymous then “not identified” is to be recorded;
* Details of response and investigation undertaken as a result of the incident / complaint;
* Name of person undertaking investigation of the incident / complaint;
* Corrective action taken as a result of the incident / complaint.

The consultant will prepare and submit weekly monitoring reports to the DABS Manager.

# Capacity Building

Capacity building measures will be required to ensure that institutions involved in implementing the various ESMP components have the technical, management and other skills to fulfil their roles. The key focus areas for capacity building will be:

* The DABS Local Safeguards team
* NHRP technical and engineering staff
* Naghlu power plant staff

Other institutions will require more specific and targeted training and awareness raising, e.g. the contractor and workforce,.

# Disclosure

This Environmental and Social Management Plan (ESMP) for component one has been updated by the DABS on the basis of the ESS guideline. The ESS guideline was prepared by SMEC international during 2010 for implementation of EPRP. The site specific ESMP is also in line with the approved ESMF for NHRP project. Prior to approval of the project by the World Bank, the ESMF was disclosed on 19.Feb.2014 by DABS in Afghanistan in both Dari and Pashto in relevant places in the country and the English version of the ESMF at the World Bank’s InfoShop on 4 July, 2013. The Site specific ESMP for component will be disclosed in country in relevant sites.

# Training

The Table 1.3 outlines the proposed training for DABS staff as well as employees of the Contractor. The training is aimed at the practical aspects of environmental monitoring and management.

**Table 1.3- training plan**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Training Recipients**  | **Mode of Training** | **Environmental Aspect to be covered** | **Training Conducting Agency** |
| 1 | NHRP Environmental Safeguards Team | Lecture, workshopGroup Discussion Site Visit | * Environmental Overview
* Laws and Regulation/standards and Acts
* EMP and ESMF overview
* EHS guidelines and pros and cons
 | Env. and social expertsConsultants |
| 2 | NHRP Operation/Maintenance Staff | Seminar WorkshopLecture | * Environmental Overview
* Laws and Regulation/standards and Acts
* EMP and ESMF overview
* EHS guidelines and pros and cons
 | Env. and social expertsConsultantsNHRP Safeguards Team |
| 3 | Contractor staff | Seminar WorkshopLecture | * Environmental Overview
* Laws and Regulation/standards and Acts
* EMP and ESMF overview
* EHS guidelines and pros and cons
* STD and other transmitted disease issue.
 | Env. and social expertsConsultantsNHRP Safeguards Team |

# Annex 1- Risk assessment identification and mitigation measures

**Introduction**

Risk assessment for rehabilitation of power plant at Naghlu were conducted during 2010 by SMEC international, the consultant firm for EPRP, while preparing ESS guideline.

This risk assessment identification of project impacts and mitigation measures have been updated by DABS, who is now the responsible agency for implementation of component 1.

DABS followed the process outlined in Figure 1.2 below:

**Establish the Context**

**Treat Risks**

**Monitor and Review**

**Communicate and Consult**

**Analyse Risks**

**Evaluate Risks**

**Identify Risks**

**Establish the context**

This component consisted of the following:

* Review environmental and social risk management of activities under the component 1.
* Review findings of ESS guidelines developed during 2010, and
* Review details of Mechanical, Electrical and electro-mechanical works

**3 x 3 Risk assessment matrix and hazard identification word diagram**

The 3 x 3 Risk Assessment Matrix has been used as the tool to evaluate risk level for activates under component 1. The matrix is shown in Table 1.4.

Table 1.4: 3 x 3 Risk assessment matrix

|  |  |
| --- | --- |
| **Likelihood** | **Severity** |
|  | **Low**No adverse social or environmental impacts.  | **Medium**Measureable adverse environmental or social impact. Will result inannoyance or nuisance tothe public | **High**Significant damage or impact on environmental systems & public. Widespreadimpact on the publicresulting injury or illness |
| **Low**Event could occuroccasionally | low | low | medium |
| **Medium**Event will occur about 50%of the time | low | Medium | High |
| **High**Event will almost certainlyMedium High Critical | Medium | high | critical |

The 3 x 3 matrix was used in conjunction with a hazard identification diagram word to identify potential impacts and risk levels and mitigation measures for each activity under component 1. The mitigation measures were adopted to achieve the following:

* In the cases where risk level was assessed as medium or high – reduce risk to low
* In the cases where risk level was assessed as low – ensure risk level does not increase
* In the cases where risk level was assessed as critical – modify the project to avoid critical risk activities

The hazard identification word diagram template is shown in Table 1.4 below.

Table 1.5: Hazard identification word diagram template

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Project****phase** | **Activity** | **What could go****wrong** | **Possible****consequences** | **Likelihood** | **Severity** | **Risk****Level** | **Mitigation measures** |
|  |  |  |  |  |  |  |  |

**Identification, analysis and evaluation of risks**

These tasks were undertaken in the compilation of the hazard identification word diagram template.

* All activities for each project phase under component 1
* Assessment of what could go wrong
* Determination of possible consequences if something does go wrong
* Assessment of likelihood that something will go wrong
* Determination of severity of impacts if something does go wrong
* Determination of risk level based on 3 x 3 matrix
* Recommendations for mitigation measures to:
* reduce risk levels for medium and high to low level
* prevent low risks from rising

The completed hazard identification word diagram template for activities under component 1 is shown in Table 1.5a

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Project****phase** | **Activity** | **What could go****wrong** | **Possible****consequences** | **Likelihood** | **Severity** | **Risk****Level** | **Mitigation measures** |
| Design | Preparation of spare parts list with BoQ for power plant (Consultant firm will prepare this list | Nil | Nil |  |  |  | In consultation with Safeguards expert |
| Tendering | Bidevaluation | Failure to take environmental and social requirements into accountwhen evaluating bids | -Selection of Contractor withlittle or no understanding ofenvironmental and socialrequirements- Selection of Contractor thathas made no allowance forenvironmental and socialrequirements indetermining bid price- Limited implementation ofenvironmental & socialrequirements | Medium | Medium | Medium | DABS to:-include environmental &social requirements in BOQ-provide recognition ofcontractor costing ofenvironmental and socialitems in bid evaluation- include environmental /social specialist on bidevaluation panel-include environmental andsocial criteria in weighting forbid evaluation |
| Pre-rehabilitation  | Re-assessment of old shop by consultant firm | Nil | Nil |  |  |  |  |
| Rehabilitation | Operation ofcontractorconstructioncamp | Dust from camp site | Increased levels of PM10 inthe power plant siteespecially during summer-public inconvenience | Low | Low | Low | Assure procurement and availability of PPE  |
| Noise and vibration from campsite | public inconvenience | Low | Low | Low | Use of PPE  |
| Pollution and nuisance to thepublic from lack of latrines,bathrooms, potable water andmedical equipment | public inconvenience-Contamination of soil,surface and groundwater | Medium | Medium | Medium | Contractor to provideworkers with:− adequate numbers offunctional bathroomsand latrines– latrinesmay be of portabletype− covered rubbish binsfor scraps− adequately stockedfirst aid medical kit− trained person toprovide first aidassistance if required-Contractor to provide facilities for collection and regular disposal of solid & liquid wastes.DABS’s Safeguards focal officer to undertake regularmonitoring to ensureContractor compliance with requirements. If Contractor is found not to comply DABS-Safeguards team issue nonconformance report & corrective action request (CAR). CAR not to be released until implemented by Contractor to satisfaction of DABS Safeguards focal officer. |
| Rehabilitation | Replacement and installation of new shop for unit one | -failure to comply with a health and safety duty under IMF EHS guideline-failure to comply with workplace health and safety requirements of WB and GoA law.Failure to provide training for newly hired worker | -Risk of injury -the newly hired workers face a higher injury rate. | medium | medium | medium | -Contractor to comply with health, safety requirements of GoA and the IFC/WB.-Contractor to ensure to ensure that All employees practise and demonstrate a high standard of personal safety and hygiene.-DABS’s SFO with consultant firm to monitor Contractorperformance and implementQA provisions as required |
| Managementof spills andwaste from power plant | -Failure to promptly attendto spills- Failure to appropriatelydispose of waste from power plant | -Contamination of soil,surface water andgroundwater- Risk of injury | Medium | medium | medium | -DABS to ensure thatrequirements relating to spillmanagement & debrisremoval are included inbidding documents-Safeguards Focal Officer (SFO) to ensure that theseissues are addressed as partof requirement foracceptable Contractor work plan- Contractor to promptlyattend to oil spill inaccordance with DABSdirections- Contractor to collect anddisposed of constructiondebris in designatedlocations |
|  | Overhauling of unit number 1 | -Failure to comply with health and safety duty under IFC EHS guideline.-Failure to comply with health and safety law of Afghanistan  | - risk of injury-  | Medium | Medium | Medium | -contractor to comply with IFC EHS guideline and GoA law.-DABS and consultant firm to monitor contractor performance.-Contractor to provide report. |
|  | Storage and stock-pilling | Failure to comply with health and safety requirement under IFC EHS guideline.Failure to comply with GoA law | Leakages of chemical.Risk of injury.Health and hygienic issue | Medium | Medium | Medium | Contractor to comply with IFC EHS guideline and GoA law.-DABS and consultant firm to monitor contractor performance.-Contractor to provide report |
| Maintenance of the Powerhouse | Fixing of moving heavy machinery  | Fixing moving parts may have serious body impairment issue | health & Safety hazards  | Medium | Medium | Medium | EHS Sensitization to overall workforce a |

**Summary of recommended mitigation measures**

The mitigation measures developed through the risk assessment process are summarized in Table 1.5b:

Table 1.5b: Summary of mitigation measures

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Project****Phase** | **Activity** | **Possible Problem** | **Potential Impacts** | **Risk****Level** | **Recommended Mitigation Measures** |
| Design | Preparation of spare parts list with BoQ for power plant (Consultant firm will prepare this list | **Nil** | **Nil** | **Low** |  |
| Tendering | BidEvaluation | - Contractor failure to attend meeting-Contractor failure tounderstand all issues relatingto bid preparation | -Tenders submitted that fail to address environmental and social issues related to component 1.- Cost increases | Medium | -DABS to advise potential bidders that attendance at pre-bid meeting is mandatory and failure to attend will result in tender being rated as nonconforming.DABS to include environmental and socialrequirements in writing in the agenda and notes forpre-bid meeting- Pre-bid meeting to include site inspection component to ensure understanding of requirements. |
| Pre-rehabilitation  | Re-assessment of old shop by consultant firm | **Nil** | **Nil** | **Low** |  |
| Rehabilitation | PrepareContractorCampMangt Plan(CCMP) | -Contractor failure to prepare anacceptable CCMP | -Increased risk of workforceinjury-Increased risk of damage tobuilt environment-Delays & cost increases | **Medium** | -DABS to include a requirement in specifications forContractor to provide an acceptable CCMPtogether with drawings- DABS to provide for Hold Point for campconstruction until acceptance of CCMP-Consultant firm+ SFO to provide acceptance of CCMP in writing following consultation with manager of Naghlu power plant.-Consultant firm + SFO to provide written release of Hold Pointfollowing acceptance of CCMP |
| Erection ofcontractorconstructioncamp | Location in unsuitable site | Noise generated from campsite | **low** | -Contractor to identify suitable site in consultation with Naghlu power plant and consultant firm+ SFO.- Contractor to obtain site approval from Power plant+ Sarobi district manager or Wolaswal. |
| Contractorprovideevidence ofkey staffqualification | Failure of Contractor to provideevidence | Low quality / unacceptablework, | **low** | -DABS to ensure that bidding documents containrequirements in relation to providing evidence ofkey staff qualifications- Contractor to provide CVs of key staff to DABS-Consultant firm+ SFO not to accept work plan until evidence isProvided. |
| Operation ofcontractorconstructioncamp | Dust from camp site | Increased levels of PM10 in thePower plant site, especiallyduring summer | **medium** | -Contractor to undertake water spraying each daybefore start of work and regularly throughout theday thereafter- Contractor to implement approved work planConsultant firm + SFO to monitor and submit monthly reports onContractor implementation of approved work planand implementation measures |
| Pollution and nuisance to thepublic from lack oflatrines, bathrooms, potablewater and medical equipment | Contamination of soil, surfaceand groundwater | **medium** | DABS to ensure that bidding documents to include thefollowing requirements:- Contractor to provide workers with:-- adequate numbers of functional bathroomsand latrines – latrines may be of portable type--covered rubbish bins for scraps-- adequately stocked first aid medical kit-- trained person to provide first aid assistanceif required |
| Erection ofcontractorconstructioncamp | Location in unsuitable site or private land-land dispute issue /community conflict | **low** | Contractor comp shall be located on land to be free of dispute.  |
| Pollution and nuisance to thepublic from lack of latrines, bathrooms, potable water and medical equipment | Contamination of soil, surfaceand groundwater | **medium** | -Contractor to provide facilities for collection andregular disposal of solid & liquid wastes- consultant firm + SFO to undertake regular monitoring to ensureContractor compliance with requirements.- If Contractor is found not to comply consultant firm + SFO issue nonconformance report & corrective action request.Correction Action Request (CAR) not to be released until implemented byContractor to satisfaction of consultant firm + SFO/DABS |
| Managementof spills &waste/debris | -Failure to promptly attend tospills-Failure to appropriately disposeof construction debris | Contamination of soil, surfacewater & groundwater-Increased risk of injury | **medium** | DABS to ensure that requirements relating to spillmanagement & debris removal are included inbidding documents-Consultant firm + SFO/DABS to ensure that these issues are addressed aspart of requirement for acceptable Contractor workplan- Contractor to promptly attend to oil spill inaccordance with consultant firm + SFO directions- Contractor to collect and disposed of waste/ debris in designated locations-Consultant firm and SFO of DABS to monitor Contractor performance andimplement QA provisions as required |
| Replacement and installation of new shop for unit one | -failure to comply with a health and safety duty under IMF EHS guideline-failure to comply with workplace health and safety requirements of WB and GoA law.Failure to provide training for newly hired worker | -Risk of injury -the newly hired workers face a higher injury rate. | **medium** | -Contractor to comply with health, safety requirements of GoA and the IFC/WB.-Contractor to ensure to ensure that All employees practise and demonstrate a high standard of personal safety and hygiene.-DABS’s SFO with consultant firm to monitor Contractorperformance and implementQA provisions as required |
| Overhauling of unit number one | -Failure to comply with health and safety duty under IFC EHS guideline.-Failure to comply with health and safety law of Afghanistan  | - risk of injury-  | medium | -contractor to comply with IFC EHS guideline and GoA law.-DABS and consultant firm to monitor contractor performance.-Contractor to provide report. |
| Storage and stock-pilling | Failure to comply with health and safety requirement under IFC EHS guideline.Failure to comply with GoA law | Leakages of chemical.Risk of injury.Health and hygienic issue | medium | -Contractor to comply with IFC EHS guideline and GoA law.-DABS and consultant firm to monitor contractor performance.-Contractor to provide report |
| Site clearance |  |  |  |  |
| Maintenance of the Powerhouse | Repair or replacement of spare part  | -Failure to promptly attend tospills-Failure to appropriately disposeof construction debris | Contamination of soil, surfacewater & groundwater􀂃 Increased risk of injury | medium | DABS to ensure that requirements relating to spillmanagement & debris removal are included inbidding documents-Consultant firm + SFO/DABS to ensure that these issues are addressed aspart of requirement for acceptable Contractor workplan- Contractor to promptly attend to oil spill inaccordance with consultant firm + SFO directions- Contractor to collect and disposed of waste/ debris in designated locations-Consultant firm and SFO of DABS to monitor Contractor performance andimplement QA provisions as required |

# Annex 2: NHRP Sample Grievance Registration Form

**(Refer** to ESMF)

|  |
| --- |
| Grievance Number: \_\_\_\_\_\_\_\_\_\_\_\_LOCATION : District: \_\_\_\_\_\_\_\_\_ Village: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_CDC Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ NAME OF COMPLAINANT: \_­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Tazkira number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ ADDRESS:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Telephone #: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE RECEIVED: |
| Classification of the grievance (Check boxes)□ Water Use □ Dispute with contractors□CDC formation □ Inter-community dispute□Land acquisition and Compensation □ Technical/operational coordination□ Financial □ Process delays□ Water Quality □ Noise□ Sanitation □ Water Use□ Other (specify)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Brief description of the grievance: |
| What is the perceived cause? |
| Suggested action (by complainant) to address grievance: |

# Annex 3: Monitoring Plan

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Environmental Component** | **Parameter** | **Standard** | **Location** | **Frequency** | **Duration** | **Implementation**  | **Supervision** |
| **Pre-Construction** |
| Provision of the Safety (EHS) compliances and GRM mechanism | Ensure that all the required provisions are in place | Safety plan, Trainings and awareness raising | Electromechanical rehabilitation site/s  | Number of inspection | For how long | NHRP and Contractor | Relevant DABS and Safety Specialist  |
| **Construction/Rehabilitation Phase** |
| Noise level | Noise level dB (A) Scale | Environmental Law (NEPA) | Noise level meter kept at a distance of 15m from the source.  | As directed by Expert | Reading should be taken every 15m and then average of an hour | Contractor | Relevant DABS and Safety Specialist |
|  |  |  |  |  |  |  |
| Accidents | Safety Training  | EMP/Safety Plan | At the work area | Monthly | To be set | Contractor | NHRP |
| Health and safety | Singe, posters displayed, health awareness lectures, are being provided to each worker and health check.  | EMP | At Work Site | Monthly |  | Contractor |  NHRP |
| Rout of access | Ample rout signaling has been done? Indication of risks + voltage risk indication | Safety Guidelines and EMP | At work Sites | Monthly  | Daily  | Contractor | NHRP  |