Environmental Assessment and Review Framework

December 2014

PAK: Pakistan Power Transmission Enhancement Program Tranche-IV

Prepared by Environment and Social Impact Cell (ESIC), NTDC for the Asian Development Bank.

TABLE OF CONTENTS

ANNEXES

ABBREVIATIONS

ADB	Asian Development Bank
BOD	Biochemical Oxygen Demand
DO	Dissolved Oxygen
DFO	Divisional Forest Officer
EPA	Environment Protection Agency
E&SIC	Environmental & Social Impact Cell
EA	Executing Agency
EARF	Environment Assessment & Review Framework
EC	Environmental Clearance
EIA	Environment Impact Assessment
EMP	Environmental Management Plan
GoP	Government of Pakistan
G/S	Grid Station
IA	Implementing Agency
LARP	Land Acquisition and Resettlement Plan
MPL	Maximum permissible level
MFF	Multi Tranche Financing Faculty
NEQS	National Environmental Quality Standards
NGO	Non Governmental Organization
NTDC	National Transmission & Dispatch Company
PC	public consultation
PEPA	Pakistan Environment Protection Act, 1997
PSC	Project Supervision Consultant
PMU	Project Management Unit
PMC	Project Management Consultants
PIU	Project Implementation Unit
IEE	Initial Environmental Examination
REA	Rapid Environmental Assessment
SIA	Social Impact Assessment
SIEE	Summary Initial Environmental Examination
SP	Subproject
SPM	Suspended Particulate Matter
SPS	Safeguard Policy Statement
SR	Sensitive Receiver
T/L	Transmission Line
ToR	Terms of Reference
TSS	Total Suspended Solids

A. INTRODUCTION

1. Government of Pakistan (GoP) had requested the Asian Development Bank (ADB) for a Multi-tranche Financing Facility (MFF) to provide financial assistance for power transmission enhancement program in the state of Pakistan. The power enhancement program will cover investments in transmission, energy efficiency, and related non-physical investments. The program will finance expansion and upgrade of transmission systems under tranche IV (project loans) to be executed under the MFF. National Transmission and Dispatch Company (NTDC) is the Executing Agency (EA) and Implementing Agency (IA) for Tranche IV of the MFF. The Project aims at achieving sustainable power transmission enhancement in Pakistan.

2. The investments to be supported by ADB will (i) Facilitate increased power transmission to accommodate increased demand and economic growth; peak demand and total energy demand (ii) Improve supply side energy efficiency by system and reducing technical losses; (iii) Reduce the intensity of Green House Gas (GHG) and other emissions via improved system efficiency; and (iv) Facilitate poverty reduction via improved transmission services and economic growth. The proposed program will sustain the reform agenda established with earlier ADB support, and is expected to help to attract other long-term financers to the power transmission sector in Pakistan.

3. This Environmental Assessment and Review Framework (EARF) is applicable for tranche-IV and all future subprojects funded by ADB. The EARF outlines the new policy, procedures, and institutional requirements for preparing present and future projects. Moreover, the new tranche will be processed under ADB's new Safeguards Policy Statement, 2009 (SPS, 2009), which is also incorporated in this document. NTDC would be responsible for preparing the required environmental assessments and obtaining ADB concurrence prior to the implementation.

4. The subprojects under Tranche IV will be prepared in a manner consistent with the government's strategy for development plan through investments for transmission networks enhancement program and substations under the supervision and coordination of the Executing Agency (EA), National Transmission and Dispatch Company (NTDC).

5. The proposed tranche-IV will include following subprojects including new transmission lines, new grid stations and extensions/augmentation in the existing facilities of National Grid System of NTDC.

Sr. No.	Name of New Substation	Transformer Capacity (MVA)	Associated Transmission Line	Expected completion year
1	Dispersal of Power from 747 MW Power Plant at Guddu		i. 500 kV T/Lines on quad bundled Drake conductor for In/Out of the existing Guddu–Multan (R.Y. Khan) 500 kV circuit at 500 kV Guddu New substation (2+2 km). ii. 500 kV Guddu New – MuzaffargarhT/Line on 4 bundled Drake conductor (256 km).	2016

			iii.500 kV T/Lines on quad bundled Drake conductor for looping In/Out of the D.G. Khan – Multan 500 kV T/Line at 500 kV Muzaffargarh substation (10 + 10 km). iv. Three 500 kV line bays at Muzaffargarh substation	
2	Installation of SVS at 220kV Quetta Industrial grid station	SVC of -50/+300 MVAR & MSC of 300 MVAR		2016
3	Extension of 2 Line Bays at 500kV Gujranwala Grid Station	Shunt Reactors 2 x (3x37) MVAR		2016
4	New 220kV D.I.Khan with transmission line	2x250	In/Out of 220 kV Chashma Nuclear-Ludewala S/C at D.I Khan (100km)	2016
5	New 220kV Nowshehra with transmission line	3x250	In/Out of 220 kV Ghazi Barotha – ShahiBagh D/C T/L at Nowshera (5+5 km)	2016
6	New 220kV Lalian with transmission line	3x250	In/Out of 220 kV Gatti – Ludewala D/C T/L at Lalian New (4+4 km)	2016
7	Augmentation of 500/220kV Auto transformer at 500kV Rewat grid station	750		2016
8	Extension of 500/220kV, 450 MVA auto transformer at 500kV Jamshoro Substaion	450		2016
9	New 220kV Chakdara with transmission line	2x250	220 kV Double Circuit T/Line for In/Out of existing 220 kV Shahibagh - Mardan S/C at Chakdara (85 km).	2016

6. Land for construction of new substations is to be acquired whereas no permanent land acquisition is involved for transmission lines and compensation is paid for the loss of assets (trees, crops, structures) falling in the corridor. However, negative impacts on biodiversity are expected since the subprojects are located throughout Pakistan in the vegetated areas or forest land. But not a single project or project component is located in environmentally sensitive site. Other potential impacts

associated with the construction of new substations and transmission line subprojects include: (i) potential increase pollution of water, air, noise, soil etc. due to surface run-off from towers installation, movement of vehicles and construction machinery (ii) improper storage and disposal of excavation spoils, (iii) temporary traffic disruption and elevated noise and dust levels due to site works and transport of materials. Given the nature and magnitude of the proposed power transmission subproject along with existing environmental conditions, impacts are expected to be minor and could be readily mitigated. Augmentation / extension of transformers in existing Grid Station (G/S) are expected to cause only very minor impacts during site works which could be easily mitigated. Earth works, dust emission and dust generation will be minimal during tower installation since excavation will be covering a small area of few square meters per excavation. Dragging cables could physically damage crops along the installation routes and should be carefully managed. All the compensation and damages will be paid to APs as per LARP concerned.

7. Environmental and social issues of sub-projects that will be undertaken will involve construction activities (e.g. construction of grid stations and transmission lines etc.), the size type and scope of which will be different. The pre-construction and construction related removal of vegetation/trees, dust from construction activity, air emissions from construction equipment and vehicles, noise from construction vehicles and heavy equipment, sediment run-off from construction sites and disposal of spoils and waste materials are considered as possible impacts but will be minimal and temporary in nature. These impacts will be mitigated through proper site selection, best management (e.g., replanting trees that have been removed, regular spraying of exposed area during construction, maintenance and monitoring of emissions from construction equipment/vehicles, scheduling construction during day time and notification to the concerned officials beyond day time operations, use of noise abatement accessories in vehicles and heavy equipment to the extent possible, and proper management of construction activities to minimize surface water quality and ground water quality impacts). Spoils and other unsuitable materials will be disposed of in designated spoil areas in an environmentally safe manner in accordance with national, laws and local regulations of GOP.

8. The impacts associated with potential future activities, i.e. improper site selection causing overcrowding and potential higher noise levels and impairment of surface and ground water quality. These impacts can be mitigated through proper site selection and procedures in accordance with technical guidelines and by following best engineering practices.

B. ASSESSMENT OF LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

9. GoP's prevailing regulations and ADB's latest environment policy SPS-2009 and procedures will apply to all new subprojects (i.e. G/S & T/L construction) under tranche-IV to be funded under MFF by ADB.

10. Power transmission projects will be processed under ADB's Safeguard Policy Statement, 2009. For each major investment component an Initial Environmental Examination (IEE) will be prepared following ADB's SPS, 2009, guidelines which may come into effect after the MFF is approved by ADB's Board of Directors and national environmental assessment regulations and guidelines. Depending upon requirements of

ADB's SPS-2009, and Pakistan Environmental Protection Act, 1997 (PEPA,1997), IEE or EIA reports with environmental management plan (EMP) and environmental monitoring plan will be prepared for each subproject (under different tranches).

C. ANTICIPATED ENVIRONMENTAL IMPACTS

11. The adverse environmental impacts associated with the construction of grid stations and transmission mostly occur during the construction phase. However, since most of the land for grid stations is already under the possession of NTDC and barren land. Therefore, no significant impact is anticipated on biodiversity or physical cultural resources. The other important environmental problems which need to be carefully handled are the disposal of waste materials from earth works and restoration of sites to their original condition after completion of the construction works. It is important that the contractor should prepare a plan for disposing waste materials, which should not allow disposal in the forest areas, nearby water bodies and agriculture land without adequate protection. It is also expected that the contractor will adopt safe construction practices and ensure use of requisite personnel protective equipment to protect occupational health of labor and nearby community. Although the environmental impacts related with the project are manageable, monitoring the implementation of the mitigation measures and monitoring of the environmental conditions should be done systematically. Therefore, any unexpected environmental impacts could be properly mitigated at the right time.

D. ENVIRONMENTAL ASSESSMENT FOR SUB PROJECTS AND/OR COMPONENTS

12. All future subprojects proposed under MFF must comply with Government of Pakistan legislation and ADB's SPS 2009 as summarized below. In practice, the Project Management Unit (PMU) will liaise with the EPAs, NTDC and the ADB's Pakistan Resident Mission (PRM) at Islamabad to determine the specific requirements for environmental assessment of each subproject. The environmental criteria shown in SPS 2009 will be followed in the selection and development of new subprojects.

1. ADB Safeguards Policy Statement, 2009 (Environment)

a. Environmental Classification

13. Please refer to (Environmental Requirements) and (Outline of Environmental Assessment) of the ADB's SPS 2009 where it is stated that the environmental classification of subprojects is determined by the Environment and Social Safeguards Division of ADB (Rapid Environmental Assessment Checklist). Projects are assigned to one of the following categories, Category A, Category B, Category C and Category FI, as follows:

i. **Category A.** Subproject components that are projected to have potentially significant adverse environmental impacts. An environmental impact assessment (EIA) is required;
ii. **Category B.** Subproject components that are projected to have some adverse environmental impacts, but they are expected to be less significant than those associated with category A projects. An IEE is required to determine whether an

EIA is warranted. If an EIA is not needed, the IEE is regarded as the final environmental assessment report; and

iii. **Category C.** Subproject components that are unlikely to have adverse environmental impacts. No EIA or IEE is required, although environmental implications are still reviewed.

2. Screening of Projects

14. Subprojects will be screened, classified, and assessed based on Safeguard Policy Statement 2009 and GoP Laws on Environment. Subprojects will be categorized environmentally depending on their potential impacts. ADB's Rapid Environmental Assessment checklist (attached as Annex 1) for power transmission project will be used for screening and categorization of each subproject. The IEE/EIAs shall be prepared in accordance with ADB's SPS 2009. For category C subprojects, i.e., those that are unlikely to have adverse environmental impacts, no environmental assessment (EIA or IEE) is required, although environmental implications will still be reviewed.

15. The classification of a project is reviewed on completion of the studies and may be revised if appropriate by ADB's Chief Compliance Officer.

3. Preparation of IEEs and/or EIAs

16. After categorization, IEE for Category B or full EIA for category A projects including an EMP with implementation budget will be prepared. At least one public consultation will be conducted with local community and potentially affected persons during IEE preparation, and 2 public consultations will be conducted during EIA preparation. IEEs and EIAs will be reviewed and approved by ADB while IEE/EIA results will be communicated to the local community before commencement of construction. For Category A projects the EIA shall be made available to general public and the ADB Board of Directors at least 120 days before the subproject approval by ADB.

1. Scoping is done to identify key issues & concern of the PAPs and major stakeholders.
2. For impacts assessment a community based approach & public participation is applied, base line data is collected & analysis of biophysical, chemical socio-economic and cultural environmental is made and impact are identified. Public consultations are conducted on certain issues.
3. The EIA / IEE studies are submitted to respective EPAs for review which is generally of 2 types:

    a. Procedural review to check documents are clear, legible as per requirements.

    b. Substantive review: field visit or side visit to decide a public hearing for PAPs and concerned stakeholders (public participation).

17. The second stage is the "substantive review". During the substantive review, the EPA may conduct field visits or site inspections and may decide to conduct a public hearing. They may request for additional information up to a maximum of two requests. Total of 120 working days to grant or deny the ECC application. The ECC application is deemed automatically approved if EPA cannot come up with a decision within a total of 120 working days. Stakeholder can participate in the review through public hearing if one is conducted during the EPA review. The review of the IEE by EPA shall be guided

by three general criteria i.e. (a) environmental considerations are integrated into the overall project planning, (b) the assessment is technically sound and proposed environmental mitigation measures are effective, and (c) social acceptability is based on informed public participation.

Specifications for three categories are as follows:

Category	Specifications
A	Potential for significant adverse environmental impacts.
B	Projects judged to have some adverse environmental impacts, but of lesser degree and/or significance than those for category A projects. An initial environmental examination (IEE) is required to determine whether or not significant environmental impacts warranting an EIA are likely. If an EIA is not warranted, the IEE is regarded as the final environmental assessment report.
C	Projects unlikely to have adverse environmental impacts. No EIA or IEE is required, although environmental implications are still reviewed.

18. An IEE is conducted if the subproject is likely to have minimal impacts, which can be easily predicted and evaluated, and for which mitigation measures can be prescribed easily. IEE study is also used to confirm whether the sub project requires an Environmental Impact Assessment (EIA) to evaluate and/or mitigate negative environmental impacts. IEEs generally rely on secondary sources of data and information. Each Category B subproject requires an IEE and the content and format of the IEE is attached as **Annex-2**.

19. Given the subproject selection guidelines prescribed it is most unlikely that subprojects prepared for funding are classified as Category A, requiring an EIA. An EIA fulfils the same purpose as an IEE, but requires an in-depth analysis because of the potential significance of environmental impacts from the project. An EIA requires: comprehensive analysis of the potential impacts; works to be carried out to formulate practical mitigation measures; in-depth economic evaluation of impact to screen and evaluate the best alternative; and an in-depth analysis to prepare an environmental management plan.

20. EPAs review process is based by three general categories viz. Category "A" Projects requiring full EIA, Category "B" Projects which should undergo only Initial Environmental Examination (IEE) and Category "C" Projects where issuance of Certificate of Environmental clearance on submission of Project Description (feasibility summary) would be the rule.

21. On completion of review the decision of EPA shall be communicated to proponent with conditions of approval. If the IEE/EIA fulfills the standards set forth by EPA, an NOC is issued. However, prior to it the report is liable to be referred back to proponent by EPA with comments for the purpose of modification, if any. A public hearing is pre-requisite in the evaluation of EIA report and as a final requirement all the grievances and/or concerns voiced by stakeholders and public representatives are to be addressed.

4. Review of Environmental Assessment

22. ADB will review draft final reports of all Category A and Category B sub projects. The final EIA or IEE documents will be submitted to ADB by PMU for consideration by ADB. In line with ADB's SPS 2009, the EA shall ensure that the relevant information (whether positive or negative) about environmental and social safeguard issues are made available in a timely and accurate manner, in an accessible place, and in a form and language(s) understandable to affected people and to other stakeholders, including the general public, so they can provide meaningful inputs into project design and implementation. ADB will post the following safeguard documents on its website: (i) for environment Category A projects, EIA reports at least 120 days before Board consideration; (ii) final EARF (iii) final or updated EIA and/or IEE upon receipt; and (iv) environmental monitoring reports submitted by the executing agency during project implementation upon receipt.

ADB will have the following responsibilities:

i. Review and approve the IEE/EIA as a basis for the subproject approval.
ii. Disclose the findings of IEE/EIA in accordance with ADB's SPS 2009.
iii. Monitor the implementation of environmental mitigation measures through project review mission and conduct environmental performance monitoring as necessary.
iv. ADB will be responsible for regular review and timely approval of checklists, IEEs and EIAs. Technical guidance will be provided by ADB to NTDC as and when required. ADB will also be responsible for reviewing regular monitoring, other reports and officially disclosing of documents on its website, if and when required.

a. Preparation of detailed design

23. Detailed design work for subproject will follow the recommendations of the IEE. NTDC will review detailed designs before contracts are finalized and modifications will be incorporated if considered necessary. Certification to ADB that the detailed designs comply with IEE (including EMP) recommendations will be required before contracts can be made effective.

b. Preparation of construction contracts

24. Early in the implementation period, model construction contract language will be prepared incorporating general environmental safeguards and practices. Specific, individual contracts will include the model contract language, and will be vetted by NTDC to ensure that EMP requirements are covered within the contract.

d. Monitoring during the construction period

25. Monitoring during construction will be the responsibility of NTDC. Monitoring will be sufficient to confirm that construction activities meet contractual requirements, determine the state and health of affected environmental resources, and determine the effectiveness of mitigation measures. Bi-annual Environmental Monitoring Reports will be submitted to ADB on prescribed template (attached as **Annex 4**). A section on environmental monitoring will also be included in periodic project reports submitted to ADB. Reporting will be done to the relevant environmental agencies (EPAs) as per their requirement.

c. Environmental Monitoring and EMP

26. The EMPs should be used as instrument to minimize recurrent responsibilities to take mitigation measures and costs. EIA includes a comprehensive program for monitoring the effectiveness of mitigation measures. This should specify measurement methodologies, frequency, locations, data analysis, reporting schedules, emergency procedures, detailed budget and procurement schedules. An Environmental Management Plan (EMP) is also required, identifying mitigation measures and specifying administrative arrangements to ensure that mitigation measures are implemented timely and properly and their effectiveness is monitored regularly. The EMP will also be attached with the tender documents to ensure that the contractor includes EMP implementation costs in the bid.

27. An environmental management plan should be prepared that will apply to all safeguard components of subprojects. The matrix is developed on the basis of environmental analysis and lesson learned from previous experiences tranche-I&II facilities and review of environmental impacts of similar power transmission subprojects. The mitigation measures for subsequent under different tranches will be developed in the spirit of the principles agreed upon in this EMP matrix. Any unanticipated consequence of the project will be documented. Environmental monitoring will consist of routine systematic checking that the above environmental management measures have been implemented effectively during each stage of the project. Table 1 presents the summary for environmental monitoring plan for projects to be funded under the MFF. Table 2 presents the indicative responsibility for EMP implementation of the tranche-IV subproject.

Table 1: ADB and the GoP's Environmental Procedures during Subproject Processing

Project Stage	ADB	Government of Pakistan
Subproject Identification / Categorization	Subproject selection in line with the EARF subproject selection criteria REA Checklist completed and Project Categorization (A/B/C) carried out at the earliest stage of project preparation when sufficient information is available for this purpose.	Categorization (A or B) according to Schedule and General/Specific Conditions in the Government's Environmental Protection Act 1997 (Review of IEE/EIA Regulation 2000)
Environmental Assessment /Project Design	IEE/EIA (EMP for Category A and B), in line with the EARF. The borrower/client will use qualified and experienced experts to prepare the environmental assessment and the EMP. For highly complex and sensitive projects, independent advisory panels of experts required (ADB to approve panel first). EMP will be responsive to changes in project design, such as a major change in project location or route, or in technology, unforeseen events,	Screening (for Category A and B). Regulation (4) as per GoP (review of IEE & EIA) regulation 2000 schedule-II (Energy) will be followed. Section 12 of PEPA 1997 will apply project in case of tranche-IV

Project Stage	ADB	Government of Pakistan
	and monitoring results. Update EMP and made site-specific for each contract during the detailed engineering design IEE or EIA as applicable, including an EMP, shall be submitted to ADB for review and clearance prior to issuance of tender/bidding documents In case of changes in specific locations or alignments of any subproject facilities the EMP will be updated and that environmental assessment will be carried out if changes in location and alignment are located outside the project area of influence.	subproject.
Consultation & participation	ADB require project proponents to engage with communities, groups, or people affected by proposed projects, and with civil society. Public Consultation—For Category A at least twice: once during the early stages of EIA field work and once when the draft EIA report is available, and prior to loan appraisal by ADB. For Category B Projects it is recommended that public consultation be carried out during the early stages of the environmental assessment process and throughout the project implementation to address any environmental issues that affect the local communities, NGOs, governments, and other interested parties. ADB requires meaningful consultation, which is defined as a process that (i) begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle; (ii) provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people; (iii) is undertaken in an atmosphere free of intimidation or coercion; (iv) is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues. This is required of all projects.	As per Government policy, the public consultation for Category A and B projects has two components comprising of: (a) a public hearing at the site or in its close proximity of project location. (b) obtain responses in writing from other concerned persons. Public consultation, particularly public hearing, is required only in Category A and B projects. And their concerns suggestions are included to address negative impacts of subproject.
Disclosure of information	The borrower/client will submit to ADB the following documents for disclosure on ADB's	Draft EIA publicized widely before hearing.

Project Stage	ADB	Government of Pakistan
	website: (i) a draft full EIA (including the draft EMP) at least 120 days prior to ADB Board consideration, and/or environmental assessment and review framework before project appraisal, where applicable; (ii) the final EIA/IEE; (iii) a new or updated EIA/IEE and corrective action plan prepared during project implementation, if any; and (iv) the environmental monitoring reports. The executing agency will provide relevant environmental information in a timely manner, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders. For illiterate people, other suitable communication methods will be used.	Notice of public hearing. 30 days for public responses. Incorporate concerns expressed into the EIA and EMP and review is done by EPA.
Approval/Clearance	The executing agency after review of EIA/IEE will forward to ADB to review and clear EIA/IEE, prior to approval and issuance of tender documents.	Decision of EPA is communicated to client with conditions of approvals.
Procurement/ Contract Award	Obtain necessary environmental clearances, consents, prior to contract award.	
	Contractors submit Environmental Implementation Plans (EIP) based on EIA/IEE findings to be incorporated into bidding documents and civil award contracts. To ensure that contractors appropriately implement the agreed measures, the borrower/client will include/verify the safeguard requirements in bidding documents and civil works contracts.	
Implementation	EMP implementation reflected in PAM. Annual monitoring reports prepared in line with the EMP provisions and submitted to ADB for review. ADB supervision missions shall review effective EMP implementation. PMU monitoring reporting to ADB. The PMU submits the following monitoring reports to ADB for review: (i) semiannual reports during project construction, and annual reports during project operation for environment category A projects; and annual monitoring reports for environment category B projects as deemed.	Executing agency/PMU to submit yearly compliance monitoring reports. All compliance reports are public documents and displayed on website of concerned regulatory authority.
Completion	Prepare a project completion report that	PMU NTDC will

Project Stage	ADB	Government of Pakistan
	assesses whether the objective and desired outcomes of the safeguard plans have been achieved, taking into account the baseline conditions and the results of monitoring.	prepare these completion reports for NTDC.

E. CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM

a. Public Consultation

28. The borrower/Client will carry out meaningful consultation with affected people and other concerned stakeholders, including civil society, and facilitate their informed participation. According to ADB's SPS 2009, public consultation is mandatory as part of environmental assessment of Category A and Category B projects, and best practice approaches should be followed. Public consultation for Category A projects need to be carried out during the early stage of environmental assessment preparation and throughout the project implementation to address any environmental issues that affect the local communities, Non-Governmental Organizations (NGOs), governments, and other interested parties. For all Category A projects, the SPS, 2009 requires public consultation to be carried out at least twice: once during the early stages of EIA field work and secondly when the draft EIA report is available, and prior to loan appraisal by ADB. For Category B projects, it is recommended that public consultation should be carried out during the early stages of the environmental assessment process and throughout the project implementation to address any environmental issues that affect the local communities, NGOs, governments, and other interested parties. It is important that consultation with stakeholders occurs at an early stage of environmental assessment preparation, and throughout project implementation.

29. Consultation will be carried out in a manner commensurate with the impacts on affected communities. The consultation process and its results are to be documented and reflected in the environmental assessment report.

b. Information Disclosure

30. Information shall be disclosed through public consultation and more formally by making documents and other materials available in a form and at a location in which they can be easily accessed by stakeholders. This normally involves making draft reports available at public locations in the subproject locations and providing a mechanism for the receipt of comments, and making documents available more widely by lodging them on the ADB and the executing agency's website. The borrower/client will submit to ADB the following documents for disclosure on ADB's website. A draft full EIA (including the draft EMP) at least 120 days prior to ADB Board consideration, and/or environmental assessment and review frameworks before project appraisal, where applicable;

i. The final EIA / IEE;

ii. A new or updated EIA / IEE and corrective action plan prepared during project implementation, if any; and

iii. The environmental monitoring reports.

31. The borrower/client will provide relevant environmental information, including information from the documents above in a timely manner, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders.

c. Grievance Redress Mechanism

32. The Executing Agency will establish a mechanism to receive and facilitate the resolution of affected peoples' concerns, complaints, and grievances about the project's environmental performance. Project Implementation Units (PIUs) will formulate Grievance Redress Committees (GRC) at the project level consisting of members of local government, NGOs, project staff, and representatives of the affected people. Decisions on the grievance are to be made within 30 days of complaint submission. If the grievance cannot be solved, the PMU is notified to further advise on the situation with higher offices and legal bodies. The GRC to be gender sensitive and is to ensure rights of vulnerable and poor are included. The grievance mechanism will be scaled to the risks and adverse impacts of the project. It will address affected people's concerns and complaints promptly, using an understandable and transparent process that is gender responsive, culturally appropriate, and readily accessible to all segments of the affected people at no costs and without retribution. The mechanism developed will be in a manner that it shall not impede access to the existing judicial or administrative remedies. The affected people will be appropriately informed about the mechanism is a very easy and approachable manners.

33. In NTDC a Project Management Unit (PMU) has been established, under which E&SIC is also working. Each concern Project Director (PD) will be responsible for overall environmental management and ensuring environmental compliances by contractors in their subproject.

F. INSTITUTIONAL ARRANGEMENT AND RESPONSIBILITIES

34. The Project Management Consultants, appointed by the NTDC, shall review and modify (if any) the already prepared EMPs/ update EARF, the EIA/IEE as per the ADB SPS 2009. A time frame of 40 days may be sufficient to prepare an IEE report and about 80 days may be required for preparation of an EIA report. The public consultation and information disclosure shall be conducted by the consultants, PIU and PMU NTDC jointly.

35. The existing Project Management Unit (PMU) will assume primary responsibility for the environmental assessment as well as implementation of EMPs for their respective components by PIUs. An environmental and social impact cell (E&SIC) NTDC will take care of environment, resettlement, and any other social development obligations and issues established at the PMU. The Project Management Consultants (PMC) will assist the PMU in monitoring and management of environmental safeguards.

36. The duties of the E&SIC will include at minimum: (i) oversight of construction contractors for monitoring and implementing mitigation measures; (ii) preparing and implementing environment policy guidelines and environmental good practices; (iii)

liaising with the PIUs and seeking their help to solve the environment related issues of project implementation; (iv) providing awareness training workshop on environmental and social issues related to power transmission to PIU staff; (v) preparation of bi-environmental environmental monitoring reports (as per SPS, 2009), (vi) Conduct seminars / local training workshop on environment safeguard matters of tranche-IV with the joint help of NGOs / PMC / PIU / PMC, and (vii) Seek environmental approvals of Category A and Category B from respective EPAs and share with ADB.

The roles and responsibilities of various agencies responsible for project implementation are tabulated below:

PIU / PMU	ADB
Detailed Design and Pre-construction stage	
• PIU, PMU and environmental consultants to conduct all activities in compliance with ADB's Safeguards Policy Statement, 2009. • Conduct Rapid Environmental Assessment (REA) for each sub-components using checklists. • Based on the REA, categorize the project based on ADB's Guidelines. • To fulfill ADB requirements, PMC will assist the NTDC in conducting EIAs for Category A and IEEs for Category B subprojects. An REA may also trigger an EIA. For Category C subprojects no EIA or IEE is required, the PIU to provide generic mitigation measures, if any, to be implemented. • PMC will review the EIA/IEE Reports and will submit to PMU. PMU with the help from PMC to review and revise then send to ADB for review and clearance. • IEE or EIA as applicable, including an EMP, shall be submitted to ADB for review and clearance prior to issuance of tender/bidding documents • The legal agreement to include clauses on obligation of the borrower/client to incorporate safeguards requirements in bidding documents and civil work contracts. • PMC to update EMP and made site-specific for each contract during the detailed engineering design and it should be the part of Contractors' Contract Document. • PIU and PMU to fulfill the Government of Pakistan environmental requirements including: Environmental Clearance (EC) conducted for A and B category projects. • For the subprojects that require EC, the ToR determined by concerned agency shall be included in the IEE/EIA study so as to fulfill the Government and ADB's requirements with single document. • PIU and PMU (through PMC) to conduct public	ADB to ensure compliance with its Safeguards Policy Statement 2009. ADB (and PMU) to review the REA checklists and reconfirm the categorization. ADB will review and approve IEE/EIA reports. In addition, the updated and finalized IEE/EIA reports of tranche-IV subproject will be reviewed and approved by ADB during detailed design stage.

consultation and disclosure during IEE/EIA process and comments shall be reflected in the IEE/EIA report. • PMU to monitor the disclosure and public consultation. • After confirmation of clearance of IEE/EIAs from ADB, PMU with the assistance of Project Management Consultants to disclose final EARF, IEEs/EIAs with EMPs to the public as required by ADB Guidelines. Category A projects to be disclosed 120 days before ADB Board consideration. All IEEs/EIAs should be available to the public upon request.	
• Project Consultants, on behalf of PIU, to incorporate mitigation measures in project design, specified in IEE/EIA study.	
• PIU with the assistance of Project Consultants (PSC) to identify and incorporate environmental mitigation and monitoring measures into contract documents. • In case of changes in specific locations or alignments of any subproject facilities that EMP will be updated and that environmental assessment will be carried out if changes in location and alignment are located outside the project area of influence.	PMC
Construction stage	
• PIU and project consultant to monitor the implementation of mitigation measures by Contractor. • Project supervision consultant to prepare quarterly progress reports including a section on implementation of the mitigation measures and submit to PMU (through the PIU) for review. • PMU to review the progress reports to ensure that the all mitigation measures are properly implemented. • PMU to consolidate reports and submit Bi-annual Environmental Monitoring reports on prescribed template to ADB for review. • Project supervision consultant will conduct environmental quality monitoring during construction stage (ambient air and noise, soil and water quality, etc.).	ADB (and PMU) to review the reports and provide necessary advice as needed to the PIU.
Project Completion	
PMC to prepare a project completion report (PCR) that assesses whether the objective and desired outcomes of the environmental plans have been achieved, taking into account the baseline conditions and the results of monitoring.	ADB to review government's project completion report and include its assessment into the final ADB PCR.
Operation Stage	
Executing agency to conduct monitoring, as specified in the environmental monitoring plan.	

G. MONITORING AND REPORTING

37. Implementation of the EMP during construction will be done by the contractors and supervised by supervisory consultant and E&SIC along with Project Management Consultants (PMC). The parameters to be monitored, frequency and duration of monitoring as well as the locations to be monitored will be as per the monitoring plan prepared as part of the EMP. The PIU and contractors will report the results and conclusions of EMP implementation and environmental monitoring to the PMU quarterly. The PMU will consolidate such reports and submit Bi-annual Environmental Monitoring reports to ADB on prescribed template (attached as Annex 4). A section on environment will also be included in the quarterly monitoring reports submitted to ADB. The budget for environmental monitoring shall be included as part of civil works contracts.

38. Environmental assessment will include environmental monitoring plans identifying environmental monitoring activities to ensure that negative environmental impacts are addressed properly. It will identify environmental parameters to be monitored, frequency of monitoring, applicable standards, agencies and institutions responsible for monitoring; and provide indicative monitoring costs. The Project Management Consultants will assist the PMU in this regard. During construction, monitoring will be undertaken by contractors. PIUs will monitor contractor's environmental performance. During the operation stage, monitoring will be the responsibility of the EA or the respective IAs.

39. ADB will require the EA through its PMU to:

- Maintain procedures to monitor the progress of implementation of environmental plans;
- Verify the compliance with environmental measures and their progress toward intended outcomes;
- Document and disclose monitoring results and identify necessary corrective and preventive actions in the periodic monitoring reports;
- Follow up on these actions to ensure progress toward the desired outcomes,
- Use independent consultant (external monitor) to monitor project implementation for highly complex and sensitive projects (Category A); and
- Submit Bi-annual Environmental Monitoring reports.

40. During review missions, ADB will assess environmental compliance with environmental requirements. ADB will monitor projects on an ongoing basis until a project completion report is issued. ADB will carry out the following monitoring actions to supervise project implementation:

i. Conduct periodic site visits for projects with adverse environmental or social impacts;

ii. Conduct supervision missions with detailed review by ADB's safeguard specialists/officers or consultants for projects with significant adverse social or environmental impacts;

iii. Review the periodic monitoring reports submitted by borrowers/clients to ensure that adverse impacts and risks are mitigated as planned and as agreed with ADB;

iv. Work with borrowers/clients to rectify to the extent possible failures to comply with their safeguard commitments, as covenanted in the legal agreements;

v. Exercise remedies to re-establish compliance as appropriate; and

vi. Prepare a project completion report that assesses whether the objective and desired outcomes of the safeguard plans have been achieved, taking into account the baseline conditions and the results of monitoring.

41. The mitigation measures identified through IEE/EIA are incorporated into the project cycle. Mitigation measures, which are implemented by the Contractor, shall form part of the Contract Documents. The other mitigation measures are undertaken by the PMU (itself or in assistance with Project Consultants) as specified in the IEE/EIA.

Table 2: Minimum Provisions for Environmental Monitoring

Project Stage	Mitigation Measure	Parameters to be Monitored	Location	Measurements	Frequency	Responsibility	Cost
Pre-Construction	Route survey to define alternative alignments	Possible encroachment on reserved forests	All transmission and Substation and transmission line sites	Field mapping with Global Positioning System (GPS) Equipment preferable	1-time survey to finalize design	NTDC / PIU through route survey contractor	n/a
construction	Dust, equipment emissions, erosion, and noise control Waste management	Incorporation of appropriate clauses in construction contracts	All construction contracts for all substation and transmission line sites	Field inspections to ensure that appropriate measures are implemented and facilities are installed	Quarterly	NTDC and PMU to include in bidding documents. ADB to verify through review of bidding documents.	Included in construction contract (estimated at < 0.5% of total contract value)
	Noise, Dust, equipment emissions, and erosion control Waste Management	Suspended particulate matter (SPM) Noise Water: pH, dissolved oxygen (DO), biochemical oxygen demand (BOD), total suspended solids (TSS), hydrocarbon and PCBs Solid waste generation and disposal	All substation sites and selected transmission lines	"Grab" samples for air and water Spot check for noise using portable monitoring device Spot check for solid waste generation and disposal	Every 6 months, beginning with initial activity, for total of 24 Months Monitoring will be extended if Necessary Spot checks for solid waste activities	Contractors to implement, PMU staff to provide oversight via regular field inspections; ADB to audit during project review missions NTDC has responsibility for s solid waste management	Cost to be included in contract documents
Operations and Maintenance	Dust, equipment emissions, and erosion control Waste management	Same parameters as during construction period	All substations And transmission lines	Spot checks based on visual inspections and any complaints	As necessary based on inspections and complaints	NTDC through PMU ADB to audit during project review missions	Cost to be included in contract documents

ANNEX-1

RAPID ENVIRONMENTAL ASSESSMENT (REA) CHECKLIST FOR POWER TRANSMISSION AND SUBSTATION SUBPROJECT

Instructions:

(i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to Environment and Safeguards Division (RSES) for endorsement by Director, RSES and for approval by the Chief Compliance Officer.

(ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.

(iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title:

Sector Division:

SCREENING QUESTIONS	Yes	No	REMARKS
A. Project Siting Is the Project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site	☐	☐	
▪ Protected Area	☐	☐	
▪ Wetland	☐	☐	
▪ Mangrove	☐	☐	
▪ Estuarine	☐	☐	
▪ Buffer zone of protected area	☐	☐	
▪ Special area for protecting biodiversity	☐	☐	
B. Potential Environmental Impacts Will the Project cause…			
▪ encroachment on historical/cultural areas, disfiguration of landscape and increased waste generation?	☐	☐	

SCREENING QUESTIONS	Yes	No	REMARKS
▪ encroachment on precious ecosystem (e.g. sensitive or protected areas)?	☐	☐	
▪ alteration of surface water hydrology of waterways crossed by roads and resulting in increased sediment in streams affected by increased soil erosion at the construction site?	☐	☐	
▪ damage to sensitive coastal/marine habitats by construction of submarine cables?	☐	☐	
▪ deterioration of surface water quality due to silt runoff, sanitary wastes from worker-based camps and chemicals used in construction?	☐	☐	
▪ increased local air pollution due to rock crushing, cutting and filling?	☐	☐	
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?	☐	☐	
▪ chemical pollution resulting from chemical clearing of vegetation for construction site?	☐	☐	
▪ noise and vibration due to blasting and other civil works?	☐	☐	
▪ dislocation or involuntary resettlement of people?	☐	☐	
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?	☐	☐	
▪ social conflicts relating to inconveniences in living conditions where construction interferes with pre-existing roads?	☐	☐	
▪ hazardous driving conditions where construction interferes with pre-existing roads?	☐	☐	
▪ creation of temporary breeding habitats for vectors of disease such as mosquitoes and rodents?	☐	☐	
▪ dislocation and compulsory resettlement of people living in right-of-way of the power transmission lines?	☐	☐	
▪ environmental disturbances associated with the maintenance of lines (e.g. routine control of vegetative height under the lines)?	☐	☐	
▪ facilitation of access to protected areas in case corridors traverse protected areas?	☐	☐	
▪ disturbances (e.g. noise and chemical pollutants) if herbicides are used to control vegetative height?	☐	☐	

SCREENING QUESTIONS	Yes	No	REMARKS
▪ large population influx during project construction and operation that cause increased burden on social infrastructure and services (such as water supply and sanitation systems)?	☐	☐	
▪ social conflicts if workers from other regions or countries are hired?	☐	☐	
▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases from workers to local populations?	☐	☐	
▪ risks to community safety associated with maintenance of lines and related facilities?	☐	☐	
▪ community health hazards due to electromagnetic fields, land subsidence, lowered groundwater table, and salinization?	☐	☐	
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?	☐	☐	
▪ community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project (e.g., high voltage wires, and transmission towers and lines) are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?	☐	☐	

ANNEX-2

OUTLINE OF AN ENVIRONMENTAL IMPACT ASSESSMENT REPORT

This outline is part of the Safeguard Requirements 1. An environmental assessment report is required for all environment category A and B projects. Its level of detail and comprehensiveness is commensurate with the significance of potential environmental impacts and risks. A typical EIA report contains the following major elements, and an IEE may have a narrower scope depending on the nature of the project. The substantive aspects of this outline will guide the preparation of environmental impact assessment reports, although not necessarily in the order shown.

A. Executive Summary

This section describes concisely the critical facts, significant findings, and recommended actions.

B. Policy, Legal, and Administrative Framework

This section discusses the national and local legal and institutional framework within which the environmental assessment is carried out. It also identifies project-relevant international environmental agreements to which the country is a party.

C. Description of the Project

This section describes the proposed project; its major components; and its geographic, ecological, social, and temporal context, including any associated facility required by and for the project (for example, access roads, power plants, water supply, quarries and borrow pits, and spoil disposal). It normally includes drawings and maps showing the project's layout and components, the project site, and the project's area of influence.

D. Description of the Environment (Baseline Data)

This section describes relevant physical, biological, and socioeconomic conditions within the study area. It also looks at current and proposed development activities within the project's area of influence, including those not directly connected to the project. It indicates the accuracy, reliability, and sources of the data.

E. Anticipated Environmental Impacts and Mitigation Measures

This section predicts and assesses the project's likely positive and negative direct and indirect impacts to physical, biological, socioeconomic (including occupational health and safety, community health and safety, vulnerable groups and gender issues, and impacts on livelihoods through environmental media [Appendix 2, para. 6]), and physical cultural resources in the project's area of influence, in quantitative terms to the extent possible; identifies mitigation measures and any residual negative impacts that cannot be mitigated; explores opportunities for enhancement; identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated

with predictions and specifies topics that do not require further attention; and examines global, transboundary, and cumulative impacts as appropriate.

F. Analysis of Alternatives

This section examines alternatives to the proposed project site, technology, design, and operation—including the no project alternative—in terms of their potential environmental impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements. It also states the basis for selecting the particular project design proposed and, justifies recommended emission levels and approaches to pollution prevention and abatement.

G. Information Disclosure, Consultation, and Participation

This section:

(i) describes the process undertaken during project design and preparation for engaging stakeholders, including information disclosure and consultation with affected people and other stakeholders;

(ii) summarizes comments and concerns received from affected people and other stakeholders and how these comments have been addressed in project design and mitigation measures, with special attention paid to the needs and concerns of vulnerable groups, including women, the poor, and Indigenous Peoples; and

(iii) describes the planned information disclosure measures (including the type of information to be disseminated and the method of dissemination) and the process for carrying out consultation with affected people and facilitating their participation during project implementation.

H. Grievance Redress Mechanism

This section describes the grievance redress framework (both informal and formal channels), setting out the time frame and mechanisms for resolving complaints about environmental performance.

I. Environmental Management Plan

This section deals with the set of mitigation and management measures to be taken during project implementation to avoid, reduce, mitigate, or compensate for adverse environmental impacts (in that order of priority). It may include multiple management plans and actions. It includes the following key components (with the level of detail commensurate with the project's impacts and risks):

(i) Mitigation:

(a) identifies and summarizes anticipated significant adverse environmental impacts and risks;

(b) describes each mitigation measure with technical details, including the type of impact to which it relates and the conditions under which it is required (for instance, continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate; and

(c) provides links to any other mitigation plans (for example, for involuntary resettlement, Indigenous Peoples, or emergency response) required for the project.

(ii) Monitoring:

(a) describes monitoring measures with technical details, including parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits and definition of thresholds that will signal the need for corrective actions; and

(b) describes monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and document the progress and results of mitigation.

(iii) Implementation arrangements:

(a) specifies the implementation schedule showing phasing and coordination with overall project implementation;

(b) describes institutional or organizational arrangements, namely, who is responsible for carrying out the mitigation and monitoring measures, which may include one or more of the following additional topics to strengthen environmental management capability: technical assistance programs, training programs, procurement of equipment and supplies related to environmental management and monitoring, and organizational changes; and

(c) estimates capital and recurrent costs and describes sources of funds for implementing the environmental management plan.

(iv) Performance indicators: describes the desired outcomes as measurable events to the extent possible, such as performance indicators, targets, or acceptance criteria that can be tracked over defined time periods.

J. Conclusion and Recommendation

This section provides the conclusions drawn from the assessment and provides recommendations.

ANNEX-3
ENVIRONMENTAL MONITORING PLAN

1	**Design Phase**		
1.1	Audit project bidding documents to ensure IEE/EIA and EMP is included	NTDC through project implementation unit	Prior to issue of bidding documents.
1.2	Monitor final site selection process and final alignment selection process and its environmental compliance with EMP	NTDC with the assistance of management consultants	Prior to NTDC approval of contractor's detailed alignment survey.
1.3	Review the implementation of the Land Acquisition Plan and expropriation, including considerations concerning vulnerable groups among land-owners, farmers, and farm workers	NTDC with the assistance of management consultants	Prior to NTDC approval of contractor's detailed alignment survey.
1.4	Monitor contractor's detailed project design to ensure relevant environmental mitigation measures in EMP have been included	NTDC with assistance of project implementation unit	Prior to NTDC approval of contractor's detailed alignment survey.
1.5	Monitor the thorough implementation of detailed Environmental Guidelines for Construction Works, including procurement, management, works, closing operations	NTDC with the assistance of management consultants	Prior to NTDC approval of contractor's detailed designs.
1.6	Review the management plan for mineral construction materials and waste management	NTDC with the assistance of management consultants	Prior to NTDC approval of contractor's detailed designs.
1.7	Audit detailed designs of facilities and installations to ensure standard environmental safeguards/ mitigation measures (as identified in EMP) have been included	NTDC with assistance of project implementation unit	Prior to NTDC approval of contractor's detailed designs.
1.8	Review landscape design plan, including compensatory planting	NTDC with the assistance of management consultants	Prior to NTDC approval of contractor's detailed designs.
1.9	Monitor the performance of environmental training and briefings and of the environmental awareness of project staff and NTDC	NTDC with the assistance of management consultants	Continuous throughout the entire project period.
2	**Construction Phase**		
2.1	Regular (monthly) monitoring and reporting (quarterly) of contractor's compliance with contractual environmental mitigation measures	NTDC with assistance of project implementation unit	Continuous throughout construction period.
2.2	Monitoring of the implementation of the Landscape Design Plan	NTDC with the assistance of management consultants	During the last phase of construction works
2.3	Commissioning phase monitoring of as built equipment versus environmental performance criteria	NTDC	At commissioning
3	**Operation and Maintenance Phase**		
3.1	Observations during routine maintenance inspections of facilities and transmission lines rows. Inspections will include monitoring implementation of operational mitigation measures versus environmental criteria specified in EMP, waste management and operational noise.	NTDC	As per NTDC inspection schedules
3.2	Monitoring of the implementation of the Landscape Design Plan	NTDC with the assistance of management consultants	Twice per year for three years of operation.
3.3	Monitoring decommissioning of other plant required for installation of MFF funded components and waste disposal	NTDC	During the life of the project

ANNEX 4

TEMPLATE FOR BI-ANNUAL ENVIRONMENTAL MONITORING REPORT

Bi-annual Environmental Monitoring Report

Project Number: {XXXXX}
{Month Year}

{Full Country Name}: {Project Title}
{(Financed by the <source of funding>)}

Prepared by {author(s)}

{Firm name}

{City, country}

For {Executing agency}
{Implementing agency}

TABLE OF CONTENTS

Part I Introduction

- Construction activities and Project Progress during previous 6 months
- Changes in project organization and Environmental management team
- Relationships with Contractors, owner, lender, etc.

Part II Environmental Monitoring

Environmental monitoring summary – summarize the previous six months monitoring data and provide explanations of any instances where environmental standards or guidelines are exceeded. Typically this will cover:

- Noise and Vibration
- Water Quality
- Air Quality
- Flora and fauna monitoring

Recommendations are required to show how any exceedences will be prevented in the future. Graphs can be used in this section to show trends, however large tables of data or multiple graphs should be attached as an appendix.

Part III Environmental Management

- EMS, SSEMP and work plans. Report on delivery of documents, required amendments etc.
- Site Inspections and audits – summarize the number and type of site visits
- Non-compliance notices – summarize the details on the number of notices given out and the issues covered. Summaries the ranking of issues.
- Corrective action plans - report on timeliness of preparation and completion
- Consultation and complaints – report on any consultation undertaken and list any complaints received.

Annexes

- Monitoring data
- Photographs
- Implementation report on EIA/IEE mitigation requirements

Reference	Requirement	Action to date	Action required/comment