Environmental Assessment and Review Framework

December 2013

Viet Nam: Ha Noi and Ho Chi Minh City Power Grid Development Sector Project

Prepared by Ha Noi Power Corporation and Ho Chi Minh City Power Corporation for the Asian Development Bank.

CURRENCY EQUIVALENTS
(as of 11 December 2013)

Currency Unit	–	Dong D
D1.00	=	$0.000047
$1.00	=	D20,948

ABBREVIATIONS

ADB:	Asian Development Bank
AIF:	Association of Southeast Asian Nations Infrastructure Fund
CTF:	Clean Technology Fund
DARD:	Department of Agriculture and Rural Development
DoNRE:	Department of Natural Resources and Environment
EA:	Environmental Assessment
EA:	Executing Agency
EARF:	Environmental Assessment and Review Framework
EIA:	Environment Impact Assessment
EMP:	Environment Management Plan
EO:	Environmental Officer of Contractor
EPC:	Environmental Protection Commitment
ES:	Environment Specialist
ESU:	Environmental and Social Unit
EVN:	Electricity of Viet Nam
EVN HANOI:	Ha Noi Power Corporation
EVNHCMC	Ho Chi Minh City Power Corporation
GHG:	Greenhouse gas
GoV:	Government of Viet Nam
GRM:	Grievance Redress Mechanism
HN:	Ha Noi
HCMC:	Ho Chi Minh City
IA:	Implementation Agency
IEE:	Initial Environment Examination
MoNRE:	Ministry of Natural Resources and Environment
MoLISA:	Ministry of Labour Invalids and Social Assistance
MPI:	Ministry of Planning and Investment
NP:	National Protected Area
OHL:	Overhead lines
PCB:	Polychlorinated biphenyls
PDP:	Power Development Plan
PPMB:	Power Project Management Board
PIC:	Project Implementation Consultant
PPC:	Provincial Peoples Committee
REA:	Rapid Environment Assessment
ROW:	Right-of-way
SERD:	Southeast Asian Regional Department of ADB
UGC:	Underground lines
UXO:	Unexploded ordnance

WEIGHTS AND MEASURES

GW:	gigawatts
km:	kilometre
kg:	kilogram
kV:	kilovolt
ha:	hectare
mm:	millimetre
MV:	medium voltage
TWh:	terawatt hours

NOTE

In this report, "$" refers to US dollars.

CONTENTS

I. INTRODUCTION

A. Background to Sector Project

1. The Project, financed through Asian Development Bank's (ADB) sector loan modality, will strengthen the capacity and reliability of the power infrastructure in Ha Noi and Ho Chi Minh City through rehabilitation and development of the 220 kilovolt (kV) and 110 kV transmission system and associated substations to supply their medium voltage (MV) distribution system. The Project will also strengthen the institutional capacities of Ha Noi Power Corporation (EVN HANOI) and Ho Chi Minh City Power Corporation (EVNHCMC), which are responsible for the power in their respective areas. Additionally, the project includes a smart grid component financed by the Clean Technology Fund (CTF).

2. The Government of Viet Nam (GoV) has requested for a sector loan from the ADB's ordinary capital resources (OCR) to assist with the financing of the sector project with joint co-financing from the Association of Southeast Asian Nations Infrastructure Fund (AIF). Viet Nam's economy has grown at an average rate of 7% in recent years which has raised gross domestic product per capita from $843 in 2007 to $1,409 in 2011 while reducing the incidence of poverty from 58.1% in 1993 to 12.6% in 2011. Parallel with the growth in the economy was average annual increase in electricity demand of 14% during 2004–2010 while per capita consumption increased from 156 kilowatt-hours (kWh) in 1995 to 985 kWh in 2010.

3. The National Power Development Master Plan from 2010 and 2020 (PDMP VII) forecasts demand to continue to grow rapidly from 86 terawatt hours (TWh) in 2010 to 330 TWh 1 in 2020. To meet the growing demand generation capacity needs to be strengthened from 22 gigawatts (GW) in 2011 to 75 GW in 2020. Needed total investment for the power sector to 2020 is estimated to be $48.8 billion of which $11 billion is needed for grid augmentation.

B. Rationale for Environmental Assessment and Review Framework

4. All projects of the sector loan that will rehabilitate and develop the 110 kV and 220 kV power systems were identified by EVN in consultation with the ADB. The set of projects identified to date by EVN are divided into core projects and non-core projects. The eight core projects are considered by EVN to be highest priority and thus will be implemented ahead of the non-core projects. The non-core projects will be subsequently implemented over time during the loan period. The required ADB environmental safeguards for the core projects have been completed as part of TA 8205 with the completion of the Initial Environmental Examination (IEE) for four consolidated core projects[1] (see below).

5. However, to ensure that required environmental and social safeguards are eventually prepared and implemented for the non-core projects, a safeguard framework is needed to guide EVN HANOI and EVNHCMC with the preparation of required safeguards. The ADB SPS (2009) prescribes safeguard frameworks for Environment, Resettlement, and Indigenous Peoples. The Environmental Assessment and Review Framework (EARF) for Environment is described herein.

[1] IEEs completed for 2 consolidated EVNHCM projects and 2 consolidated EVNHN projects

Application of EARF

6. The EARF can be looked upon as the sector-specific application of the SPS (2009). The EARF will be used by the two Power Corporations and the ADB to guide the development of environmental safeguards for the future described projects of the sector. The EARF has been developed following the requirements of the SPS (2009) [2].

7. The EARF combines generic potential environmental impacts of development of substations and overhead (OHL) and underground (UGC) transmission lines projects with actual potential impacts determined from the completed IEEs of the core projects. The EARF provides guidance for the implementation of key safeguard development steps defined by screening and project categorization, impact assessments, environmental management plans, public consultation and disclosure, reporting, and institutional arrangements and responsibilities[3].

C. Overview of Core Projects

8. The eight core projects in HCMC and Ha Noi are summarized in Table 1. The core projects consist of new or rehabilitated 110 kV or 220 kV substations, and new or upgraded 110 kV or 220 kV transmission lines.

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Table 1. Core Projects Forming the Project in Ho Chi Minh and Ha Noi[4]

Ho Chi Minh City
EVNHCMC
• New 220 kV District 8 Substation
• Upgrade existing 110kV to 220 kV transmission line from Nam Sai Gon (Binh Chanh) substation to the new District 8 Substation
• New 110 kV Tham Luong Substation
• New 110 kV underground cable connecting to Tham Luong Substation
Ha Noi
EVN HANOI
• New Noi Bai Airport 110 kV Substation and associated 110 kV transmission line from existing Van Tri 220/110 kV Substation
• Upgrading Phuong Liet 110 kV Substation
• Renovation Son Tay 110 kV Substation
• Improving and upgrading 110 kV Tran Hung Dao Substation

[2] Footnote 3, Annex 1 of Appendix 4
[3] ADB, 2010. Operations Manual F1 Safeguard Review Procedures, issued January 2010
[4] Adapted from Project Inception Report 10/13

II. ASSESSMENT OF LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

9. Viet Nam has promulgated a legal and policy framework for environmental protection of development activities, and is party to many international agreements and conventions such as the Stockholm Convention on Protection of Human Health and the Environment from Persistent Organic Chemicals [including PCBs], Convention on Biological Diversity, Convention on Wetlands of International Importance (RAMSAR), the Montreal Protocol for Deletion of Substances that Deplete the Ozone Layer; the United Nations Framework Convention on Climate Change, and the Paris Declaration on Aid Effectiveness. The GoV environmental assessment process is conducted in compliance with Vietnamese law, decrees, circulars, national technical standards (QCVN), and remaining technical standards (TCVN).

A. Overview of GoV Environmental Impact Assessment (EIA)

10. The GoV EIA system is governed by the following primary legal and policy regulations:

- Law on Environmental Protection (LEP) No. 52/2005/QH11;
- Decree 80/2006/ND-CP, On Detailed Guideline for Implementation of Some Articles of Law on Environmental Protection;
- Decree No. 29/2011/ND-CP of the Government providing strategic environmental assessment (SEA), environmental impact assessment (EIA) and environmental protection commitment (EPC); and
- Circular No. 26/2011/TT-BTNMT of the Ministry of Natural Resources and Environment detailing a number of articles of the Government's Decree No. 29/2011/ND-CP on strategic environmental assessment, environmental impact assessment and environmental protection commitment.

11. The GoV environmental assessment (EA) system articulates two levels of environmental assessment for development projects as defined below:

(i) Environmental Protection Commitment (EPC); and

(ii) Environmental Impact Assessment (EIA).

12. The two levels of assessment are determined from a prescriptive screening protocol[5] that generally distinguishes projects by size. For large projects that meet quantitative criteria, for example, size, resource consumption, or process production, an EIA report is required. Criteria for the location of a project near, or potentially affecting protected natural resources, critical habitat, or social assets and livelihoods also determine whether an EIA is required for a project. For “smaller” projects that fall under and do not meet the same quantitative criteria, an Environmental Protection Commitment (EPC) report is required.

13. The EPC represents the “lighter” EA of the GoV system which focuses primarily on liquid and gaseous wastes produced by a project, and which are overseen by DoNRE District staff or industrial park/zone management if applicable. Conversely, the EIA is a more comprehensive assessment of potential impacts, and is overseen by DoNRE.

[5] GoV Decree 29/2011/ND-CP, Annex 1

B. Overview of ADB EIA Requirements

14. The EIA requirements of the ADB for development projects are described by the Safeguard Policy Statement [6]. The SPS in turn is supported by good practice sourcebooks safeguard modules, operational manuals, and review procedures[7]. The ADB protocol defines four levels of impact assessment for development projects as summarized below:

(i) **Category A:**
For a project that is expected to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. An EIA report including an Environmental Management Plan (EMP) is required.

(ii) **Category B:**
For a project which potential adverse environmental impacts are less adverse, site-specific, mostly reversible, and in most cases can be mitigated. An IEE including an EMP is required.

(iii) **Category C.**
For a project expected to have minimal to no adverse environmental impacts. An EIA or IEE is not required beyond screening.

For completeness, the fourth **Category FI** is assigned to projects that involve investment of ADB funds to, or through, a financial intermediary.

15. The scope of content and appraisal of the EPC[8] is less comprehensive than an ADB Category B IEE. Thus, if a GoV EPC was prescribed then an ADB IEE would need to be prepared in order to satisfy the safeguard requirements of the ADB. The ADB and GoV EIA requirements currently differ in key areas as summarized below:

1. Timing of EA

16. Decree No. 29/2011/ND-CP stipulates that EIA reports for construction-related projects are to be submitted for appraisal and approval just before applying for construction permits. This late date for EIA approval means that the project design can be well developed, if not completely developed before the EIA is completed. The delayed GoV EIA process conflicts with the ADB requirement for EA to begin as soon as possible - with prefeasibility stage at latest.

2. Screening

17. The screening protocol of GoV Decree 29 uses quantitative criteria such as project size (e.g., ha, #s, m^3), resource consumption, or production to identify the "big" projects that require an EIA from "small" projects requiring an EPC. The GoV protocol is too prescriptive because all projects of a particular sector (e.g., electrical power generation and transmission) that share the same range of quantitative criteria are assigned the same required level of assessment, i.e., EPC or EIA. Thus, the critical subjective screening of individual project contexts is lost. The implication for the GoV screening protocol is that two projects that share the same quantitative characteristics would be assessed with same level of effort even if they differed significantly with respect to potential environmental or social impacts.

[6] ADB, 2009. Safeguard Policy Statement.
[7] ADB, 2012, Environmental Safeguards, A Good Practice Sourcebook, Draft and footnotes 4 and 7.
[8] Circular No. 26/2011/TT-BTNMT.

3. Public Consultation

18. Formal public consultation is not required for a GoV EPC. Public consultation is required for an EIA, however, due to the timing of a GoV EA, public consultation is initiated too late in the EIA process. Thus, public consultation of GoV EIA system is not as effective – meaningful - as that required by the ADB SPS (2009).

4. Adopting ADB SPS

19. The differences between the GoV and ADB EA protocols points to the need to adopt the ADB EA procedures to develop the environmental safeguards for the non-core projects of Power Grid Development Sector.

III. ANTICIPATED ENVIRONMENTAL IMPACTS

20. The construction and operation of the substations and transmission lines can cause potential environmental impacts which are summarized below.

A. Physical Environment.

21. The construction of the project will likely the affect area topography due to cut and fill activities, and development of burrow pits and quarries. Other physical impacts include cutting of trees, transportation of construction material, and generation of soil erosion and construction wastes. Construction activities have the potential to contaminate the local surface waters from soil erosion and sedimentation, create localized air and dust pollution, noise, oil spills, pollution from temporary worker camps, and worker and community accidents. Significant dust can be created during dry weather periods and during intense activity. Noise levels may exceed Vietnamese standards and disturb residents and other noise-sensitive receptors such as hospitals and schools. For core projects that require renovation or upgrading of facilities, decommissioned equipment and other related wastes will be generated. Impacts during this stage are expected to be short to medium-term, localized and manageable through appropriate mitigations.

B. Biological Resources.

22. Potential impacts related to biological resources include a risk of habitat fragmentation and loss, bird collisions on the transmission line, physical disturbance of wildlife and its habitat, removal of trees, and other accidents and disturbances involving wildlife resources. The right-of-way (ROW) of the transmission lines may traverse existing or proposed protected areas or nature reserve. Noise, vibration and other disturbance during the construction of the lines and other facilities can affect biodiversity in specially protected areas. In addition, vegetation, trees and other crops may be potentially removed to make way for the proposed infrastructures of the power transmission system.

C. Socio-Economic Environment.

23. The acquisition of land for the substations and transmission towers likely requires resettlement and compensation. The project may also affect existing historical and cultural

assets located within the ROW. Potential impacts on the social environment can include both adverse impacts such as resettlement, injury and accidents to workers and the community. The major positive impacts are on economic development and income, improvement of power reliability, and employment generation.

24. It will be mandatory for the construction contractors to adopt occupational as well as community health and safety practices to protect workers and the communities around the construction sites following regulations and guidelines of the GoV Ministry of Labor Invalids and Social Asssistance (MoLISA). Although the environmental impacts related with the project are manageable, monitoring of the implementation of the EMP needs to be done to ensure that the mitigation measures are adequately addressed, and to identify any unexpected impacts of the project.

IV. ENVIRONMENTAL ASSESSMENT FOR PROJECTS AND/OR COMPONENTS

25. This section outlines the steps to develop environmental safeguards for the non-core substation and transmission projects of the sector. Because the GoV's requirements for EIA do not completely meet the EIA requirements of the ADB, the guidance provided below will address the important steps of both jurisdictions while focusing on the safeguard requirements of the ADB.

26. At the outset of the implementation of a non-core project EVN HANOI or EVNHCMC are encouraged to consult with the Environmental Specialist of Energy Division of SERD of the ADB for any required information on the EIA requirements of the SPS (2009) in addition to the guidance provided below.

A. Approach to Safeguard Development for Non-core Projects

27. The guidance of the EARF assists with the identification and overall management of potential environmental impacts of the non-core projects of the Power Grid Development Sector. Noteworthy, is that the key results of the IEEs recently prepared for the core projects will be imbedded in the EARF. The core-project IEEs provide valuable insight into potential impacts and required environmental management of the non-core projects.

B. Screening and Classification

1. Initial Project Screening

28. The following criteria are to be used by EVN HANOI or EVNHCMC to initially determine whether a project can proceed with Power Grid Development Sector funding. Important environment-related ADB criteria are added for completeness.

a. Criteria of Power Grid Development Sector

(i) Technically feasible and financially viable;

(ii) Be part of the Power Development Plan (PDP) and/or part of the respective development plans of EVN HANOI or EVNHCMC;

(iii) Not include transmission lines emanating from power generation stations, unless approved by ADB on exceptional basis for the integration of renewable energy sources with due diligence on associated facilities; and

(iv) Subprojects are prepared in groups and contract packages are consolidated to the maximum extent possible.

b. Key Initial ADB Selection Criteria

(i) The project shall only involve activities that follow all the government regulations; and

(ii) Project types in ADB's Prohibited Investment Activities List[9] of SPS (2009) do not qualify for ADB's financing (Table 2).

Table 2. Prohibited Project Types from Appendix 5 of SPS (2009)

1) Activities involving harmful or exploitative forms of forced labour or child labor;

2) Any activity deemed illegal under host country laws or regulations or international conventions and agreements or subject to international phase-outs or bans, such as
   a. pharmaceuticals, pesticides, and herbicides,
   b. ozone-depleting substances,
   c. polychlorinated biphenyls and other hazardous chemicals,
   d. wildlife or wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora, and
   e. transboundary trade in waste or waste products;

3) Activities of gambling, casinos, and equivalent enterprises;

4) Production of, trade in, or use of un-bonded asbestos fibers;

5) Commercial logging operations or the purchase of logging equipment for use in-primary tropical moist forests or old-growth forests; and

6) Marine and coastal fishing practices, such as large-scale pelagic drift net fishing and fine mesh net fishing, harmful to vulnerable and protected species in large numbers and damaging to marine biodiversity and habitats.

[9] Appendix 5 of SPS (2009)

2. ADB Protocol

29. After complying with the initial screening criteria above the first step toward safeguard development is screening the project for potential environmental impacts and risks to determine the level of impact assessment that is required. Screening also determines the extent of public consultation on the project, and follow-up environmental management that is required.

30. A Rapid Environmental Assessment (REA) is conducted by the Power Project Management Board (PPMB) of the power company to determine the general scope of potential impacts of the project including existence of valued resources such as protected ecological areas, critical wildlife habitat, or rare or endangered species. The REA consists of a series of checklists of potential impacts for different development sectors. An example REA checklist for the power grid development sector is provided in Appendix A.

31. The result of screening assigns a Category A, or B, [or C for completeness] designations to the project which are defined as follows:

A **Category A** project is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An EIA, including an EMP, is required. The Category A condition for a project (e.g. location) is to be avoided.

A **Category B** project will have less adverse potential environmental impacts, which are site-specific, few if any are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An IEE, including an EMP, is required.

A **Category C** project it is likely to have minimal or no adverse environmental impacts. An EIA or IEE is not required after screening although environmental implications need to be reviewed.

32. The environment Category of project is determined from the most environmentally sensitive component including direct, indirect, induced, and cumulative impacts. Example guidelines for project selection are provided below.

i. Project is not located within national parks, wildlife sanctuaries and nature reserves, or wetlands, unless unavoidable for technical reasons;

ii. Clearing of any existing forest resources will be avoided if possible, and where unavoidable, will be minimized and compensated as per GOV regulatory criteria;

iii. Monuments of cultural or historical importance must be avoided;

iv. Construction activities do not adversely affect the population living in the vicinity of the proposed lines and do not create any threat to the survival of any community with special reference to tribal community or public utility services like schools, parks, hospitals, etc; and

v. New equipment/facilities specifications shall follow international standards and best practices to avoid use of chemicals causing Green House Gas (GHG) emissions. All equipment procured shall be free from Polychlorinated biphenyls (PCBs). If SF6 (sulphur hexafluoride, a highly non-toxic greenhouse gas (GHG) based equipment is

installed, proper maintenance management program will have to be implemented to avoid leakage beyond international norms for GHG to the atmosphere.

33. The results of screening and initial categorization of a project proposed by PPMB design team are sent to the sector operations department of the ADB for review. The Operations Department also assesses whether the project is complex or has high-risk elements. The Operations Department will confirm whether project is Category B for environment.

a. Project Alternatives Assessment

34. For projects deemed Category A, the PPMB of the Power Corporation must examine alternatives to the project location, design, technology, and components that would avoid the Category A condition

35. If the project is classed as category A, or includes high-risk elements or is complex, the Operations Department will send the results of screening to the Chief Compliance Officer (CCO), through the Environment and Safeguards Division (RSES) of the RSDD for review. The CCO is responsible for the final categorization of a project including the determination whether a project is to be deemed highly complex and sensitive. However, the "no project" alternative must be anticipated given the selection criteria above.

36. Table 2 exemplifies ADB categories for different generic project types. Note that electrical transmission and substation investments generally fall under category B.

Table 3. Example Assessment Categories of Different Generic Project Types[10].

Category A	Category B	Category C	Category F1
Dams and reservoirs Forestry and production projects (large-scale) Industrial plants (large-scale) Irrigation, drainage, and flood control (large-scale) Mineral development (oil and gas) Port and harbour development Thermal and hydropower development	Agro-industries **Rural electrification** **Electrical Transmission** Urban water supply and sanitation Rural water supply and sanitation Irrigation and drainage (small-scale) Watershed projects Renewable energy	Forestry research and extension Rural health services Marine research Family planning program Microfinance projects likely to have minimal or no adverse impacts	Not applicable to MFF (e.g., credit lines)

[10] ADB, 2003. Environmental Assessment Guidelines, 107 pgs + Appendices

37. Currently, there are no Category A non-core projects anticipated for the Power Grid Development Sector. However, if subsequent changes to project design context occur that warrants a re-categorization a new REA checklist must be prepared.

38. Should a re-categorized Category A project proceed, an EIA report will be prepared and disclosed on the ADB website 120 days before approval of the board of each of the projects. Conversely and importantly, if there are any changes in the project details or anticipated impacts of project, the respective EMP will be updated with mitigation measures to address the new issues.

39. Before processing of a new project can occur, assurance must be obtained that adequate environmental due diligence was carried out for the previous project. After the environmental safeguard requirements of the earlier project are met due diligence reports produced the next project is approved.

3. GoV Protocol

40. The GoV EIA system screens projects to determine whether an EPC or EIA is required. Annex 1 of Decree 29/2011/ND-CP lists project descriptions from approximately 16 project types which prescribe mostly quantitative criteria related to project size. Projects that meet or exceed the criteria require EIAs, whereas projects that are smaller require EPCs.

4. UXO (unexploded ordnance)

41. After decades of war the presence of UXO is a still considered to be risk in Vietnam by the military headquarters in Ha Noi and Ho Chi Minh. While most of UXO has been cleared from agricultural areas the Ha Noi and Ho Chi Minh City, the military indicates all works under transmission lines and at new excavation sites at new substation sites should still be formally cleared of UXO. It is a legal requirement that the safety of construction workers is ensured by having specialized army units clear UXO before construction commences[2]. It is a requirement that surveys be made to identify and clear UXO before construction.

5. Opportunity for Project Consolidation

42. The primary project types of the Power Grid Development Sector are new or rehabilitated substations, or new or upgraded above (OHL) or below (UGC) ground transmission lines. For substation or transmission projects that stand-alone, single IEEs are generally most appropriate. However, for substations and transmission lines that are linked such as the core projects in HCMC, and the new Noi Bai 110 kV substation and transmission line in Ha Noi then consideration should be given to consolidating the linked substations and transmission lines into a single IEE.

43. Consolidating a substation-transmission line pair into a single IEE strengthens the coherence and overall effectiveness of the assessments because the compilation, examination, and reporting of environmental baseline information, convening public consultations, and conducting the integrated IEE/EIA is done once. Moreover, presenting and discussing the linked substation-transmission as a single project is more complete and meaningful to the public, and to the overall impact assessment.

44. The pre-disposition of EVNHCMC and EVN HANOI project owners and/or their environmental consultants to not consolidate linked projects is due to the requirements of GoV EIA as dictated by the LEP (2005) and supported by Decree 29 for separate EPC/ EIAs for substation and transmission projects. The requirement for single GoV safeguard documents for substation and transmission line projects will and should not change, however, for the SPS (2009) consolidation of projects where appropriate should be considered.

C. Impact Assessment Reports

45. The assessment of potential impacts of a project must follow the structured steps of an IEE/EIA of the ADB. The assessment process systematically links detailed descriptions of project activities to the detailed descriptions of affected components of the natural and social environments in an assessment of potential impacts of the project. Moreover, the IEE or EIA is logically executed and reported by the three phases of project implementation defined by pre-construction, construction, and operational phases.

46. The potential impacts and risks of a project must consider the following project context:

(i) the primary project sites and related facilities;

(ii) associated facilities that are not funded under the investment program and whose viability and existence depend exclusively on the project and whose goods and services are essential for successful operation of the project;

(iii) areas and communities potentially affected by cumulative impacts of the investment program and other sources of similar projects in the geographical area; and

(iv) areas and communities potentially affected by impacts from unplanned but predictable developments caused by the project that may occur later or at a different location

47. The major components of an IEE and EIA are summarized below. The table of contents for an example IEE or EIA report is provided in Appendix B.

1. Description of Project*****
2. Description of Affected Natural and Social Environments
3. Assessment of Impacts*****
4. Public Consultation, Disclosure, and Grievance Redress Process
5. Assessment of Alternatives
6. Environmental Management Plan[11]
    a) Impact Mitigation Plan
    b) Monitoring Plan
    c) Institutional Responsibilities and Capacity Needs
    d) Reporting Requirements
    e) Budget

Environmental Management Plan

[11] Organized and reported by pre-construction, construction, and operational phase of project

48. An EMP must be developed for all projects. The EMP carries the results of the IEE or EIA forward to ensure that unnecessary impacts of a project are mitigated, and that unexpected impacts are identified and managed through follow-up environmental monitoring during project implementation. The major contents of an EMP are found in Appendix B.

49. GoV EIA practitioners are directed to an introductory guideline for the preparation of an EMP[12]. The guideline was developed in support of EIA Harmonization for the Ha Noi Core Statement pursuant to the Paris Declaration on Aid Effectiveness.

V. PUBLIC CONSULTATION AND DISCLOSURE

A. Public Consultation

50. The EVN HANOI and EVNHCMC must conduct meaningful consultation of affected people and concerned stakeholders to determine their views and concerns of the project. Meaningful consultation occurs when the affected community is able to freely and comfortably express their views of the project in their own language from within their own communes, or districts. Public consultation can take the form of distributed information materials and pamphlets, individual interviews, and formal public meetings. Vietnamese practitioners are directed to a guideline for public consultation that was prepared for the GoV EIA system[13].

51. The EVN HANOI and EVNHCMC shall be responsible for ensuring that a meaningful public disclosure and consultation on the project has been undertaken with the affected stakeholders. All environmental documents shall be subject to public disclosure. These documents will be posted on the ADB website and made available to the public if requested for. All environmental assessment documents including the environmental due diligence and monitoring reports should be properly and systematically kept by the concerned power transmission company.

52. If there are any changes in project details and context, further consultations must be carried out by the concerned power transmission company to ensure that all environmental concerns of the affected households are addressed.

B. Information Disclosure

53. The results of the IEE or EIA should be communicated to the local community before commencement of construction in accordance with ADB's Public Communication Policy 2011[14] (PCP) and the SPS 2009. The updated PCP outlines clear guidelines and directives for maximizing transparent interaction among the ADB, project proponents, and the affected public and community stakeholders. In the context of the Sector the public will be able to access all IEEs and EMPs from the ADB web sites, and from EVNHCMC and EVN HANOI offices and web sites. The EARF itself will be provided alongside all safeguard documents projects to provide the important context for the roles and responsibilities of the ADB and EVN for the implementation of the non-core projects going forward. The upfront and active policy for

[12] JDM et al. 2010. Guidelines for Environmental Management Plan and Public Consultation, report prepared for Study of EIA Harmonization under Ha Noi Core Statement http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/VIETNAMEXTN/0,,contentMDK:22593949~pagePK:1497618~piPK:217854~theSitePK:387565,00.html

[13] Footnote 16.

[14] ADB, 2011. Public Communications Policy, 35vpgs + Appendices

information disclosure is linked directly to and in support of the Grievance Redress Mechanism described below.

54. In addition to ADB web sites, the Power Company will make available up-to-date information including draft and final IEE/EIA reports on project development and impacts to the affected community throughout project implementation 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.

VI. GRIEVANCE REDRESS MECHANISM

55. A Grievance Redress Mechanism (GRM) will be established within the existing institutional set-up of the power transmission company before commencement of any of the projects. The GRM aims to develop a means to address any environmental concerns or grievances of affected people. The existence of the GRM should be communicated to the affected communities through public consultations.

56. Under the regulations in Viet Nam, affected persons having complaints or grievances will not be responsible for paying any administrative and legal fees in filing their complaints. Also, site clearing is not allowed while the resolution of the complaint is still pending. In cases where the affected person is illiterate, the affected person can ask assistance from one representative of his household who can then write all the complaints and grievances to be submitted for resolution. Under the law, all meetings to resolve complaints and grievances should be documented and the minutes of meetings should be disclosed and posted at the Commune People's Committee.

57. Example complaints or grievances in the project context are as follows:

(i) Agricultural land disturbed during placement of new transmission towers, or from construction vehicle access to a RoW was not restored to original condition, thereby preventing immediate return of land to agricultural use;
(ii) The digging and street restoration of defined sections UGC transmission line was not conducted between 23:00 and 06:00, thereby causing disrupted access to businesses; and.
(iii) Construction activities and traffic along USC sections of transmission line causes increased accidents, noise, and dust.

VII. INSTITUTIONAL ARRANGEMENT AND RESPONSIBILITIES

58. The Power Project Management Boards (PPMB) of the two power corporations (EVN HANOI and EVNHCMC) are the Implementing Agencies (IA) of the non-core projects. The IAs will work with the international and national environment specialists (ES) of the Project Implementation Consultant (PIC) to prepare the IEE/EIA reports for the non-core projects of the sector. The budget of the PIC as part of the overall loan proceeds to the two corporations will be used to implement the environmental review and screening procedures, undertake the IEE/EIA studies, monitor implementation of the EMPs, and undertake environmental mitigation measures, as required. The costs of conducting training, monitoring, hiring environmental consultants and implementing the EARF have been incorporated in the investment program as will be budgeted in the EMPs for the individual non-core projects.

59. To comply with ADB's Safeguard Policy Statement (2009), and the requirements of GoV EIA as prescribed by the Law on Environmental Protection (2005) and as executed by Decree 29/2011/ND-CP and Circular 26/2011/TT-BTNMT, EVNHCMC, EVN HANOI, and the ADB agreed on the following responsibilities. The responsibilities defined below are consistent with, and supported by institutional responsibilities that are defined in the EMPs that were prepared for the original core projects of the Sector.

A. EVN HANOI and EVNHCMC

60. The two Power Corporations are the executing agencies (EA) of the non-core projects. They take ultimate responsibility for overseeing the successful implementation of the environmental safeguards for the non-core projects as required by both Viet Mam and the ADB. The EAs report to the EVN and ADB.

B. Power Project Management Boards

61. The Power Project Management Boards (PPMB) which are subsidiaries of the EAs are the Implementing Agencies (IA) of the non-core projects, and are responsible for the preparation and implementation of the EMPs that are prepared for the IEE/EIAs of the non-core projects in accordance with the EARF. Each IA has dedicated 2 personnel for the Environmental and Social Unit (ESU) which is responsible for all environmental and social safeguard activities. The responsibilities of the ESU include ensuring that the project selection criteria are met in consultation with the IA/EA, preparation of timely IEEs/EIA documents, and that the EMPs are implemented successfully. The ESUs are responsible to ensure meaningful public consultation is conducted as prescribed by IEE/EIA and the SPS. The ESUs will prepare and submit the REA checklists, and IEE/EIA and monitoring reports to ADB for review.

62. The ESU/IA works closely with the PIC to implement the EMP for each non-core project. The ESU also supervises and monitors the implementation of the CEMP by the environmental officer (EO) of the contractor. Each IA will also be responsible for obtaining any regulatory approvals and maintaining compliance with the GOV environmental laws as applicable to projects proposed for financing. Each IA will also be responsible for obtaining any regulatory approvals and maintaining compliance with the GOV environmental laws as applicable to projects proposed for financing.

63. The EMP of each non-core project will include a Mitigation Plan and a Monitoring Plan to manage adverse environmental impacts that may occur because of the project. The EMP will include impacts and practical mitigation measures, monitoring requirements, and the responsible authorities to implement the EMP during the construction and operational phases of the project.

64. The detailed designs of each non-core project will follow the recommendations of the IEE/EIA. The Power Corporations (EA) will review the detailed designs before contracts are finalized and modifications will be incorporated if considered necessary. Certification to ADB that the detailed designs comply with the IEE/EIA including EMP recommendations will be required before contracts can be made effective.

65. During the pre-construction preparation stage, a template for the construction contract will be prepared incorporating the general environmental safeguards and practices. The specific construction contracts will include the provisions outlined in the EMP to address

potential construction impacts on the environment which along with the EMPs be used by the contractors to prepare their CEMPs.

b) ADB

66. ADB will be responsible for the regular review and timely approval of the environmental safeguard checklists and IEEs or EIAs. Technical guidance will be provided by ADB to each PPMB (IA), as necessary, in carrying out its responsibilities and safeguard capacity building.

67. ADB will publicly disclose the final IEE prior to Board approval, and if required, a new or updated IEE and corrective action plan for project implementation. ADB will also be responsible for reviewing the regular monitoring reports and uploading them on the ADB website.

68. The PPMB with support from the EA will submit periodic reports stipulated in the EMP and loan agreements. The ADB will monitor the implementation of the EMP and due diligence as part of overall project review mission with the EA/IAs

VIII. MONITORING AND REPORTING

69. As part of the EMP, the PPMB with support from the PIC must develop a reporting protocol to monitor and document environmental impacts and overall environmental management of the project. Regular reports on mitigation and monitoring activities that are prescribed by the EMP must be prepared for the construction and operational phases of the project. Reporting also must include results of public consultations on the project.

70. The regular reports will document the implementation and effectiveness of the impact mitigation measures of the EMP, and will document any unexpected environmental or social impacts of the project. In addition to monitoring for successful implementation of EMP, monitoring activities will assess compliance with any permit conditions.

71. The reporting and monitoring process will also serve the communication mechanisms described above for public consultation, information disclosure, and grievances established between affected communities and the Power Company. Monitoring reporting for project implementation should be distributed or made available to the affected community.

72. During the construction phase, the contractors and PICs report progress to the PPMB on a monthly and quarterly basis. The EOs of contractors submit monthly reports on the implementation of their CEMPs to the ESU/IAs who along with the monthly EMC reports compile the monthly CEMP reports into quarterly reports for the EA. The PIC will assist the IAs prepare and consolidate quarterly reports into a semi-annual environmental monitoring report (Appendix E) that is forwarded to the ADB. The reports will contain progress made in EMP implementation with particular attention to compliance with required mitigation and monitoring as set out in EMP.

APPENDIX A: EXAMPLE RAPID ASSESSMENT (REA) FOR SCREENING

Instructions:

(i) The PPMB of the Power Company completes REA checklist to identify 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:	Energy Division, Southeast Asia Department, ADB

RAPID ENVIRONMENTAL ASSESSMENT (REA) CHECKLIST **Power Transmission**

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?			

Screening Questions	Yes	No	Remarks
▪ 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?			
▪ **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?			

Screening Questions	Yes	No	Remarks
▪ 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?			
▪ 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?			

Climate Change and Disaster Risk Questions The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.	**Yes**	**No**	**Remarks**

▪ Is the Project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes (see Appendix I)?			
▪ Could changes in precipitation, temperature, salinity, or extreme events over the Project lifespan affect its sustainability or cost?			
▪ Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g. high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)?			
▪ Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., increasing traffic or housing in areas that will be more prone to flooding, by encouraging settlement in earthquake zones)?			

Appendix I: Environments, Hazards and Climate Changes

Environment	Natural Hazards and Climate Change
Arid/Semi-arid and desert environments	Low erratic rainfall of up to 500 mm rainfall per annum with periodic droughts and high rainfall variability. Low vegetative cover. Resilient ecosystems and complex pastoral and systems, but medium certainty that 10–20% of drylands degraded; 10-30% projected decrease in water availability in next 40 years; projected increase in drought duration and severity under climate change. Increased mobilization of sand dunes and other soils as vegetation cover declines; likely overall decrease in agricultural productivity, with rain-fed agriculture yield reduced by 30% or more by 2020. Earthquakes and other geophysical hazards may also occur in these environments.
Humid and sub-humid plains, foothills and hill country	More than 500 mm precipitation/yr. Resilient ecosystems and complex human pastoral and cropping systems. 10-30% projected decrease in water availability in next 40 years; projected increase in droughts, heatwaves and floods; increased erosion of loess-mantled landscapes by wind and water; increased gully erosion; landslides likely on steeper slopes. Likely overall decrease in agricultural productivity and compromised food production from variability, with rain-fed agriculture yield reduced by 30% or more by 2020. Increased incidence of forest and agriculture-based insect infestations. Earthquakes and other geophysical hazards may also occur in these environments.
River valleys/ deltas and estuaries and other low-lying coastal areas	River basins, deltas and estuaries in low-lying areas are vulnerable to riverine floods, storm surges associated with tropical cyclones/typhoons and sea level rise; natural (and human-induced) subsidence resulting from sediment compaction and ground water extraction; liquefaction of soft sediments as result of earthquake ground shaking. Tsunami possible/likely on some coasts. Lowland agri-business and subsistence farming in these regions at significant risk.
Small islands	Small islands generally have land areas of less than 10,000km^2 in area, though Papua New Guinea and Timor with much larger land areas are commonly included in lists of small island developing states. Low-lying islands are especially vulnerable to storm surge, tsunami and sea-level rise and, frequently, coastal erosion, with coral reefs threatened by ocean warming in some areas. Sea level rise is likely to threaten the limited ground water resources. High islands often experience high rainfall intensities, frequent landslides and tectonic environments in which landslides and earthquakes are not uncommon with (occasional) volcanic eruptions. Small islands may have low adaptive capacity and high adaptation costs relative to GDP.
Mountain ecosystems	Accelerated glacial melting, rockfalls/landslides and glacial lake outburst floods, leading to increased debris flows, river bank erosion and floods and more extensive outwash plains and, possibly, more frequent wind erosion in intermontane valleys. Enhanced snow melt and fluctuating stream flows may produce seasonal floods and droughts. Melting of permafrost in some environments. Faunal and floral species migration. Earthquakes, landslides and other geophysical hazards may also occur in these environments.
Volcanic environments	Recently active volcanoes (erupted in last 10,000 years – see www.volcano.si.edu). Often fertile soils with intensive agriculture and landslides on steep slopes. Subject to earthquakes and volcanic eruptions including pyroclastic flows and mudflows/lahars and/or gas emissions and occasionally widespread ashfall.

APPENDIX B: ANNOTATED TABLE OF CONTENTS OF AN IEE OR EIA

The generic table of contents of an ADB IEE or EIA report is provided below[15]. The difference between the IEE and ADB is the scope of the assessment. The order of dominance of the different sections may vary slightly depending on the assessment context.

A. Executive Summary

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

B. Introduction

Introduces the project, project objectives, and key assessment context if exists

C. Policy, Legal, and Administrative Framework

This section discusses the national and local legal and institutional framework within which the environmental assessment is conducted. It also identifies project-relevant international environmental agreements to which Viet Nam is party.

D. Description of the Project

This section describes the proposed project, its major components, geographic, ecological, social, and temporal context, including any associated facility required by 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.

E. 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 the sources of data.

F. 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), 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.

[15] Directly from Footnote 1, Annex 1 to Appendix 1

G. 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.

H. 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.

I. 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.

J. Environmental Management Plan[16]

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

[16] Updated from ADB, 2003. Environmental Impact Assessment Guidelines

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

describe 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.

K. Conclusion and Recommendation

- Provides overall conclusions of IEE/EIA, and if, or what additional assessment of the project is required. Tables recommendations for the EMP.

APPENDIX C: TERMS OF REFERENCE FOR AN ENVIRONMENTAL ASSESSMENT

A. Objectives

The objective of the consulting services is to ensure the environmental soundness and sustainability of the project and to support the integration of environmental considerations into the project-making process. This will be achieved by conducting environmental impact assessment (EIA) or initial environmental examination (IEE) of the proposed project to identify potential environmental impacts on physical, ecological, socioeconomic, and physical cultural resources, and preparing EIA/IEE report with environmental management plan in accordance with the ADB's Safeguard Policy Statement (2009).

B. Scope of Work

The consultant's scope of work will include the following tasks:

- Primary data (including baseline data if there are no existing data) collection and analysis;
- Analysis of the earlier studies including ecological, geotechnical, hydrogeologic, and other relevant studies for each sub-project;
- Assessment of environmental impacts and development of mitigation measures.
- Examination of alternatives that will include alternatives to the project's location, design, technology, as well as "no project" alternative;
- Public consultations with affected people (at least two round consultations for EIA and one consultation for IEE) ensuring participation of all stakeholders including non-governmental organizations, women. The list of people attended the consultation, time and locations, subjects discussed during consultation will be recorded in systematic manner and attached in the EIA/IEE report as an appendix;
- Establish the Grievance Redress Mechanism to address stakeholder's complaint on the environment;
- Preparation of EMP
- Preparation of IEE/EIA report in accordance with ADB's Safeguard Policy Statement (2009).

C. Team Composition and Organization

Composition of an environmental assessment team will depend on the level of environmental assessment required (IEE or EIA), as well as location, type and magnitude of the project. In general, it will be based on the following requirements:

- both international and domestic specialists will be involved in environmental assessment process;
- in case of an IEE, the team will be composed of, in most cases, environmental specialists;
- in case of an EIA, sub-specialists such as biologists, hydrologists, botanists, etc. will
- be brought into the process depending on the project sensitive field;
- the Team Leader (International Environmental Specialist) will have 10-15 years of experience in environmental assessment, environmental management and monitoring, construction supervision of projects including road construction, team management skills, experience working in teams of multi-discipline experts and leading a national

team of consultants, understanding of administrative, procedural, and technical requirements of environmental assessment;

- Domestic Specialists will be graduates in environmental science, environmental engineering, geological science, engineering hydrology, biology or related discipline with significant experience in environmental management and monitoring of projects, environmental assessment and/or design and implementation of environmental mitigation measures.

APPENDIX D: TOR FOR PROJECT IMPLEMENTATION CONSULTANT

Environment Specialist

OBJECTIVES:

1. Lead and coordinate safeguard policy compliance for environment and provide assessment during project implementation.
2. Lead, monitor, and report on compliance of the project(s) with the implementation of the Environmental Management Plan (EMP) including Mitigation Plan and Monitoring Plan to ensure that ADB and GOV environmental policy requirements are met.
3. Lead in the implementation of an environment, health and safety training program for workers and community.
4. Ensure relevant safeguard compliance documentation of the projects.

SCOPE OF WORK:

1. Guidance and Advisory Function

- Lead and provide guidance and advice on environment safeguard compliance issues for the projects, in consultation with the NPT, EVN, and power transmission company.
- Identify and resolve environmental issues
- Advice the power transmission company on the improvement of environmental compliance
- Coordinate closely with the power transmission company and contractors in ensuring environmental safeguard compliance.

2. Environmental Safeguard Policy Compliance Monitoring

- Monitor environmental safeguard policy compliance of projects during implementation and review implementation issues
- Identify, monitor and report on outstanding issues related to environmental compliance and coordinate immediate action to resolve these issues
- Validate implementation of EMP by the contractors during the construction phase.
- Work closely with power transmission company in the implementation of the EMP Prepare regular monitoring reports for ADB and GOV in coordination with the power transmission company.

3. Institutional Capacity Building

- Conduct a training program on environmental management, occupational health and safety and community health and safety/awareness in coordination with contractors and power transmission company staff.
- Share information on best international environmentally sustainable construction practices
- Ensure the on-going learning and development of power transmission company staff on environmental management.
- Supervise the performance of assigned staff on environmental management, provide clear direction and regular monitoring and feedback on performance.

EDUCATION REQUIREMENTS

A university degree in environmental management/sciences, environmental engineering, or other related fields.

RELEVANT EXPERIENCE AND OTHER REQUIREMENTS

- At least 8 years of relevant professional experience in environmental management
- Familiarity with ADB environment policy, and environmental safeguard compliance requirements
- Sound knowledge of environmental policy and regulatory frameworks of GOV.

APPENDIX E: SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT

Project Semi-Annual Environmental Monitoring Report Outline

The borrower/client is required to prepare periodic monitoring reports that describe progress with implementation of the project EMP and compliance issues and corrective actions. A sample outline which can be adapted as necessary is provided below. Not all sections will be relevant in all cases. Ranking systems for compliance, mitigation effectiveness, etc., are indicative examples only, and can be modified as appropriate.

1. Introduction

1.1. Report Purpose

1.2. Project Implementation Progress

1.2.1. On-going Site Works (description of current site works, location and target completion)

1.2.2. Previous Activities (description of construction activities during the previous months: provide details of specific activities such as earthworks, vegetation clearing, spoils disposal, establishment of construction camp and other construction related facilities (e.g., concrete mixing plant, asphalt batching plant, crushing plant, etc.), establishment and operation of quarry/borrow areas, etc., including locations, schedules, dates, etc.

1.2.3. Schedule of construction activities for the subsequent months (provide details similar to above)

2. Compliance with ADB loan covenants and applicable government laws, regulations and requirements

2.1. Status of compliance with ADB loan covenants: *provide a list of environmental loan covenants and specify level of compliance*)

2.2. Status of compliance with government environmental requirements: *provide a list of government environmental requirements (permits, etc.) for the project as well as construction-related facilities/ activities and specify level of compliance, indicate any required environmental permit/license/consent obtained to date and to be obtained (including schedule) for the project and construction related facilities/activities*

3. Changes in project scope

Such as change in alignment or footprint in case of horizontal infrastructure, implementation of additional Project component/s, etc. (with reference to the Project scope identified in the ADB-cleared environmental assessment report , i.e., IEE or EIA) and corresponding safeguard measures undertaken, if applicable

4. Incorporation of Environmental Requirements into Project Contractual Arrangements

Manner by which EMP requirements are incorporated into contractual arrangements, such as with contractors or other parties.

5. Summary of Environmental Mitigations and Compensation Measures Implemented

Based on EMP; may include measures related to air quality, water quality, noise quality, pollution prevention, biodiversity and natural resources, health and

safety, physical cultural resources, capacity building, and others. *Provide a table/matrix showing a summary of each environmental mitigation measure specified in the EMP*.

EMP Requirement (list all mitigation measures specified in the EMP)	*Compliance Attained (Yes, No, Partial)*	*Comment on Reasons for Partial or Non-Compliance*	*Issues for Further Action and Target Dates*
1.			
2.			
3.			
etc.			

6. Summary of Environmental Monitoring

6.1. Compliance Inspections

6.1.1. Summary of Inspection Activities

6.1.2. Mitigation Compliance[17]

6.1.3. Mitigation Effectiveness[18]

6.2. Emission/Wastewater Discharge (Source) Monitoring Program (*if relevant or required in the EMP*)

6.2.1. Summary of Monitoring

6.2.2. Results

6.2.3. Assessment[19]

[17] Overall compliance with mitigation implementation requirements could be described in qualitative terms or be evaluated based on a ranking system, such as the following:

1. Very Good (all required mitigations implemented)
2. Good (the majority of required mitigations implemented)
3. Fair (some mitigations implemented)
4. Poor (few mitigations implemented)
5. Very Poor (very few or no mitigations implemented)

Additional explanatory comments should be provided as necessary.

[18] Effectiveness of mitigation implementation could be described in qualitative terms or be evaluated based on a ranking system, such as the following:

1. Very Good (mitigations are fully effective)
2. Good (mitigations are generally effective)
3. Fair (mitigations are partially effective)
4. Poor (mitigations are generally ineffective)
5. Very Poor (mitigations are completely ineffective)

Additional explanatory comments should be provided as necessary.

[19] Discharge levels should be compared to the relevant discharge standards and/or performance indicators noted in the EMP. Any exceedences should be highlighted for attention and follow-up. In addition, discharge levels could be compared to baseline conditions (if baseline data is available) and described in qualitative terms or be evaluated based on a ranking system, such as the following:

1. Very Good (overall conditions are generally improved)
2. Good (conditions are maintained or slightly improved)
3. Fair (conditions are unchanged)
4. Poor (conditions are moderately degraded)
5. Very Poor (conditions are significantly degraded)

Additional explanatory comments should be provided as necessary.

6.3. Ambient Monitoring Program, i.e., air quality, noise, water quality, etc. (*if relevant or required in the EMP*)

6.3.1. Summary of Monitoring

6.3.2. Results

6.3.3. Assessment[20]

7. Key Environmental Issues

7.1. Key Issues Identified (e.g., non-compliance to loan covenants, EMP and/or government environmental requirements, insufficient mitigation measures to address Project impacts, incidents, accidents, etc.)

7.2. Actions Taken and Corrective Action Plan (specify actions taken and corrective action plans to be implemented to address non-compliance and other identified issues. Such action plan should provide details of specific actions to be undertaken to resolve identified issues, responsible persons who will carry out such actions and timeframe/target date to carry out and complete required actions. The action plan could be presented in a tabular/matrix form (see below). Timeframe and responsibilities for reporting to ADB on the progress of implementation of corrective action plan should also be specified under this section.

Issue	*Cause*	*Required Action*	*Responsibility*	*Timing (Target Dates)*	*Description of Resolution and Timing (Actual)*
Old Issues from Previous Reports					
1.					
2.					
New Issues from this Report					
1.					
2.					

7.3. Additional Action Required

[20] Ambient environmental conditions should be compared to the relevant ambient standards and/or performance indicators noted in the EMP. Any exceedences should be highlighted for attention and follow-up. In addition, ambient environmental conditions could be compared to the baseline conditions (if baseline data is available) and described in qualitative terms or be evaluated based on a ranking system, such as the following:

1. Very Good (overall conditions are generally improved)
2. Good (conditions are maintained or slightly improved)
3. Fair (conditions are unchanged)
4. Poor (conditions are moderately degraded)
5. Very Poor (conditions are significantly degraded)

Additional explanatory comments should be provided as necessary.

8. Complaints

8.1. Details of Complaint/s (Provide details of any complaints that have been raised by the local population and other stakeholders regarding environmental performance and environmental impacts (complainant, nature of complaint, date complaint was filed, which office received the complaint, etc.)

8.2. Action Taken (Document how the complaints were addressed or will be addressed by indicating the following:

i. names and designation of specific staff or officials within the Grievance Redress Committee, executing agency, project management unit, local government, contractor and/or supervision consultant involved in receiving, documenting, and resolving the complaint (s).

ii. specific actions taken to be taken to resolve the complaint and corresponding timeframe

9. Conclusion and Recommendation

9.1. Overall Progress of Implementation of Environmental Management Measures[21]

9.2. Problems Identified and Actions Recommended

9.3. Monitoring adjustment (recommended monitoring modifications based on monitoring experience/trends and stakeholders response)

Appendices

1. Site Inspection / Monitoring Reports
2. Source and Ambient Monitoring Results (Laboratory Analysis)
3. Photographs
4. Location Map of Sampling Stations
5. Copies of Environmental Permits/Approvals
6. Other relevant information/documents

[21] Overall sector environmental management progress could be described in qualitative terms or be evaluated based on a ranking system, such as the following:

1. Very Good
2. Good
3. Fair
4. Poor
5. Very Poor

Additional explanatory comments should be provided as necessary.