Project Number: 42182
Loan Number: 2517
November 2009
Version: (Inception) 2009 - 02

Viet Nam: Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector Project

The project administration memorandum is an active document, progressively updated and revised as necessary, particularly following any changes in project costs, scope, or implementation arrangements. This document, however, may not reflect the latest project changes. This PAM shall be read along with the Report and Recommendations of the President and Grant Agreement. This PAM incorporates agreements reached between ADB (SEEW) and the PC 1, PC 2, PC3 as of 16 November 2009. In case of discrepancy, the Loan Agreement shall prevail.

Asian Development Bank
CURRENCY EQUIVALENTS
(as of 16 November 2009)

Currency Unit – dong (D)

D1.00 = $0.00006
$1.00 = D17,870

ABBREVIATIONS

ADB – Asian Development Bank
ADF – Asian Development Fund
CDM – Clean Development Mechanism
EMDF – ethnic minority development framework
EMDP – ethnic minority development plan
EVN – Vietnam Electricity
GDP – gross domestic product
ICB – international competitive bidding
IEE – initial environmental examination
LDU – local distribution unit
MOF – Ministry of Finance
MOIT – Ministry of Industry and Trade
NCB – national competitive bidding
PC 1 – Power Company 1
PC 2 – Power Company 2
PC 3 – Power Company 3
PMB – project management board
PPC – provincial people’s committee
REREPMB – Rural Electrification and Renewable Energy Project Management Board
SEDP – Socio-Economic Development Plan
TA – technical assistance

WEIGHTS AND MEASURES

GWh – gigawatt-hour (1,000,000 kWh)
km – kilometer
kV – kilovolt (1,000 volts)
kWh – kilowatt-hour (1,000 watt-hours)
MW – megawatt (1,000,000 watts)
MVA – megavolt-ampere (1,000,000 volt-ampere)

NOTES

(i) The fiscal year (FY) of the Government and its agencies ends on December. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2000 ends on 31 December 2000.

(ii) In this report, “$” refers to US dollars.
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## LOAN PROCESSING HISTORY

<table>
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<tr>
<th>Activity</th>
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<tr>
<td>b. Management Review Meeting</td>
<td>5 December 2008</td>
</tr>
<tr>
<td>c. Appraisal Mission</td>
<td>FF mission upgraded to Appraisal, approved during MRM</td>
</tr>
<tr>
<td>d. Staff Review Committee Meeting</td>
<td>14 January 2009</td>
</tr>
<tr>
<td>e. Loan Negotiations</td>
<td>24-25 February 2009</td>
</tr>
<tr>
<td>f. Board Approval</td>
<td>30 March 2009</td>
</tr>
<tr>
<td>g. Loan Signing</td>
<td>17 September 2009</td>
</tr>
<tr>
<td>h. Loan Effectiveness</td>
<td>(for processing, deadline 17 December 2009)</td>
</tr>
<tr>
<td>i. Physical Completion Date</td>
<td>31 December 2015 (original)</td>
</tr>
<tr>
<td>i. Loan Closing Date</td>
<td>30 June 2016 (original)</td>
</tr>
</tbody>
</table>
I. PROJECT DESCRIPTION

A. Project Area and Location

1. The Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector Project consists of two major components: (i) development of mini-hydropower plants in mountain provinces, and (ii) network expansion and rehabilitation of distribution networks serving poor provinces.

2. The development of mini-hydropower plants (Component 1) will cover the areas of Lai Chau, Dien Bien, and several other provinces in northern and central Viet Nam. Electricity connections will be provided to poor, remote ethnic minority areas in northern Viet Nam, and about 100 gigawatt hours (GWh) of renewable energy to the national grid.

3. Component 2 of the Project will support rural electrification programs in five poor provinces in the Central Highlands. The Government intends to extend this program to five more provinces in the northern mountain areas (i.e., Dien Bien and Lai Chau), Mekong Delta (Tra Vinh and Soc Trang), and central Viet Nam (Quang Tri). The Map describes the sub-project sites.

B. Impact and Outcome

4. The impact of the Project will be the promotion of pro-poor and balanced economic development of remote mountainous communes and poor communes through the sustainable use of electricity and renewable energy in an affordable manner. The outcome of the Project will be provision of reliable and affordable supply of electricity to remote mountainous and poor communes. The Project's design and monitoring framework is in Appendix 1.

C. Outputs

5. The Project comprises two main components and an associated TA grant for capacity building for renewable energy development in Viet Nam. The detailed description of subprojects is provided in Appendix 2, and the subproject selection criteria are provided in Appendix 3.

1. Loan Component 1: Mini-Hydro Development for Rural Electrification

6. The Project will finance the development of about 5–10 mini-hydropower plants, each with a capacity of less than 7.5 MW in Lai Chau, Dien Bien, and several other northern and central provinces. The Project will also finance the connection of these mini-hydropower plants to the national grid and the expansion of the low voltage network to supply nearby un-electrified villages. This component of the Project is expected to contribute over 30 MW of combined generation capacity to the national power system, and extend the medium voltage power network in remote areas of Viet Nam by about 50–100 kilometers (km). In addition to the development of mini-hydropower plants, the Project will finance the electrification of villages that are located close to the existing medium voltage network. Low voltage transformers will be installed and the low voltage network extended by about 75–100 km. An additional 25–50 villages and about 3,000–5,000 households are expected to be provided with electricity. Through the associated TA grant administered by ADB, the Project will strengthen the technical and administrative operation and maintenance capability of small hydropower plants of PC1 and PC3.
2. Loan Component 2: Network Expansion and Rehabilitation for Poor Communes

7. The Government has initiated a special program of rural electrification. Under this program, the state budget provides financing to EVN’s Power Company 2 (PC 2) and Power Company 3 (PC 3) to finance 85% of the cost of rural electrification in five selected provinces in the Central Highlands. The Government intends initially to extend this program to include four additional provinces (i.e., Soc Trang and Tra Vinh in the south, and Dien Bien and Lai Chau in the north). Component 2 of the Project will finance the proposed government financing in these provinces. This financing will cover the expansion of the rural distribution network to connect villages that do not have access to electricity and rehabilitation of the existing poorly constructed low voltage networks serving remote communes. The project scope includes (i) expansion of the medium voltage network by about 800–1,000 km, (ii) 2,000 to 2,500 km of medium to low voltage substations totaling 35 to 40 megavolt-amperes (MVA), and (iii) 2,500 to 3,000 km of low voltage distribution lines to provide electricity to about 100,000 households in more than 1,000 villages.

8. MOIT will submit the final list of provinces to be included in the Government’s Special Program for Rural Electrification to ADB before loan effectiveness. The Government will onlend any surplus funds over and above the funds allocated for the provinces included in the Special Program, to the respective executing agency on term and conditions outlined in the financing plan to electrify communes not included in the special program to be selected in accordance with the selection criteria in Appendix 3.

D. Special Features

1. Cost Recovery of Power Supply to Difficult Areas

9. One of the main issues for power utilities serving sparsely populated rural areas with low per capita consumption of electricity is the low financial viability of grid extensions. In Viet Nam, off-grid technologies such as micro hydro and solar power have poor financial rates of return, and provide unreliable and poor quality electricity supply. The Project is designed to address this issue by sharing the cost of grid expansion with mini-hydropower plants and using the revenues from electricity sales of these plants to subsidize expansion of the grid to communities. The proposed approach will use locally available hydro resources for the benefit of local communities, and provide surplus renewable energy to the national power network.

2. Clean Development Mechanism

10. The Project involves several mini-hydropower plants in remote areas, which will result in reduced transmission and distribution losses, as well as replacement of energy generated at thermal power plants. The proposed mini-hydropower plants are run-of-river type and will not result in methane emissions. They will reduce grid losses by being close to demand centers at the end of relatively long and weak transmission systems. As overall capacity increases with the completion of several large hydropower and thermal power plants towards the end of the proposed Project in 2014-15, prevailing system power shortages will be minimized by the time sub projects financed under the proposed project are commissioned. The small hydropower plants to be built under the Project are therefore expected to replace the thermal power generation. They will also meet the additional criteria of the CDM executive board as they face investment barriers due to the high cost of construction in remote areas and lower economies of scale compared with large-scale hydropower plants. ADB will provide assistance for the
preparation of project design documents for submission to the CDM executive board for each province included in component 1 (several mini-hydropower plants will be located in a given province).

3. Pro-Poor Geographic Targeting

11. The Project is designed with a special focus on geographically targeting poor communities for electrification. Sites will be selected for development of mini-hydro and network expansion subprojects by stipulating that at least 50% of households receiving electricity through a subproject shall have income level below the national poverty rate. The medium voltage lines for connecting the mini-hydropower plants will be routed to maximize the connection of households without electricity. For poor households (i.e., those with a monthly income of less than D200,000 [$13] per capita as per the Government’s definition of poverty), subsidized grid connection will be provided to ensure they receive the benefits of electrification.

4. Promotion of Productive Use of Energy and Income Generation Activities

12. Electrification has a poverty reduction potential only if poor and near-poor households can afford and have capacity to benefit. In very poor communities, most people do not have the necessary economic or technical capacity to use electricity to improve their lives and livelihoods. The Project will promote the productive use of electricity through the associated TA. A nongovernmental organization will be contracted to implement this component to undertake the following activities:

(i) support poor households’ access to microfinance credits for income generation; and
(ii) provide borrowers with TA and capacity building for utilizing the loans efficiently to improve their livelihoods.

II. COST ESTIMATES AND FINANCING PLAN

A. Detailed Cost Estimate

13. The project investment cost is estimated at $197.6 million, including taxes and duties of $20 million. The summary cost estimates are shown in Table 1 and detailed project cost estimates by expenditure category, executing agency, and financing source is shown in Table 4.1 of Appendix 4. The cost estimates need to be updated once the subprojects’ feasibility studies are finalized.
Table 1: Project Investment Plan
($ million)

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Base Cost$</strong></td>
<td></td>
</tr>
<tr>
<td>1. Component 1</td>
<td></td>
</tr>
<tr>
<td>a. North Viet Nam (executed by PC 1)</td>
<td>43.3</td>
</tr>
<tr>
<td>b. Central Viet Nam (executed by PC 3)</td>
<td>26.9</td>
</tr>
<tr>
<td>2. Component 2</td>
<td></td>
</tr>
<tr>
<td>a. North Viet Nam (executed by PC 1)</td>
<td>33.9</td>
</tr>
<tr>
<td>b. Central Viet Nam (executed by PC 3)</td>
<td>33.9</td>
</tr>
<tr>
<td>c. South Viet Nam (executed by PC 2)</td>
<td>33.9</td>
</tr>
<tr>
<td><strong>Subtotal (A)</strong></td>
<td><strong>172.0</strong></td>
</tr>
<tr>
<td><strong>B. Contingencies$</strong></td>
<td><strong>24.6</strong></td>
</tr>
<tr>
<td><strong>C. Financing Charges during Implementation</strong></td>
<td><strong>1.1</strong></td>
</tr>
<tr>
<td><strong>Total (A+B+C)</strong></td>
<td><strong>197.6</strong></td>
</tr>
</tbody>
</table>

$ Includes taxes and duties of 10% equivalent to $20 million.
$ b In mid-2008 prices.
$ c Physical contingencies computed at 10%. Price contingencies for foreign and local currency in US dollars computed at 6.8% in 2008, 0.7% in 2009, 1.4% in 2010, 0.4% in 2011, and 0.5% in 2012 onward. Interest during construction is computed at 1% for Asian Development Fund loan interest during implementation.

Source: Asian Development Bank estimates.

B. Financing Plan

14. The Government has requested a loan of SDR 102,161,000 ($151,000,000 equivalent) from the ADF to help finance the Project as it geographically targets poor communes. The loan will have a 32-year maturity period including a grace period of 8 years, and an interest rate of 1% during the grace period and 1.5% during the amortization period. The Ministry of Finance (MOF) will onlend the component 1 proceeds to the executing agencies (i.e., Power Company 1 [PC 1] and PC 3) with a repayment period of 27 years including a grace period of 7 years and interest rate of 2.5% subject to Government approval. MOF will provide the loan proceeds allocated for provinces included in the Government’s Special Program for Rural Electrification under component 2 to PC 1, PC 2, and PC 3 on grant basis. EVN proposes that MOF onlend the funds allocated for component 2 for provinces not included in the Special Program for Rural Electrification to the PC 1, PC 2, and PC 3 with a repayment period of 27 years including a grace period of 7 years and interest rate of 2.5%, subject to Government approval.

15. ADB financing will cover 100% of the eligible expenses including taxes incurred in procuring equipment, materials, and civil works for implementing the Project; the taxes are not excessive, amounting to less than 10% of the total project cost. The counterpart funds to be provided by the executing agencies will finance resettlement expenses, bank charges, and project management costs including the services of national consultants required for project preparation and supervision. The indicative breakdown of cost estimates by project component, executing agency, and cost item; and the proposed financing arrangements for each cost item is provided in Table 4.2 of Appendix 4; ADB funding is summarized in Table 2.
Table 2: Financing Plan
($ million equivalent)

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Component 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Asian Development Bank</td>
<td>61.0</td>
<td>30.9</td>
</tr>
<tr>
<td>2. Power Company 1</td>
<td>12.9</td>
<td>6.5</td>
</tr>
<tr>
<td>3. Power Company 3</td>
<td>6.8</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>Subtotal (A)</strong></td>
<td>80.8</td>
<td>40.9</td>
</tr>
<tr>
<td><strong>B. Component 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Asian Development Bank</td>
<td>90.0</td>
<td>45.5</td>
</tr>
<tr>
<td>2. Power Company 1</td>
<td>8.9</td>
<td>4.5</td>
</tr>
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<td>3. Power Company 2</td>
<td>8.9</td>
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<td>4. Power Company 3</td>
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<tr>
<td><strong>Subtotal (B)</strong></td>
<td>116.8</td>
<td>59.1</td>
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<td><strong>Total</strong></td>
<td>197.6</td>
<td>100.0</td>
</tr>
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</table>

Source: Asian Development Bank estimates.

C. Allocation of Loan Proceeds

16. The allocation of loan proceeds on the basis of categories of expenses has been established in the loan agreement in Special Drawing Rights and here converted into US Dollars as shown in Table 3 below.

Table 3: Allocation and Withdrawal of Loan Proceeds

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>AMOUNT ALLOCATED (SDR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>Item</td>
</tr>
<tr>
<td>1</td>
<td>Component 1</td>
</tr>
<tr>
<td>1A</td>
<td>Allocation to PC1</td>
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<td>1B</td>
<td>Allocation to PC3</td>
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</tr>
<tr>
<td>2B</td>
<td>Allocation to PC2</td>
</tr>
<tr>
<td>2C</td>
<td>Allocation to PC3</td>
</tr>
<tr>
<td>2</td>
<td>Interest</td>
</tr>
<tr>
<td>Total</td>
<td></td>
</tr>
</tbody>
</table>

III. IMPLEMENTATION ARRANGEMENTS

17. For component 1, PC 1 will be the executing agency in northern Viet Nam and PC 3 the executing agency in central Viet Nam. For component 2, PC 1, PC 2, and PC 3 will be the executing agencies in their respective geographic areas. MOIT will assign the Rural Electrification and Renewable Energy Project Management Board (REREPMB), currently responsible for implementation of the ongoing World Bank Rural Energy Project, overall coordination of project implementation. MOIT will set up a steering committee chaired by a vice minister comprising representatives of Office of the Government (OOG), Ministry of Planning
and Investment (MPI), Ministry of Finance (MOF), State Bank of Viet Nam (SBV), ADB, EVN, PC 1, PC 2, PC 3, and provincial People’s committees of twelve (12) targeted provinces namely Dien Bien, Son La, Lai Chau, Lao Cai, Yen Bai, Quang Tri, Thua Thien-Hue, Quang Nam, Quang Ngai, Gia Lai, Tra Vinh, and Soc Trang to monitor and provide guidance and direction to project implementation. The roles of the provincial people’s committees in the steering committees are (i) to provide advisory in subproject selection, and to give a no objection to subproject proposals once selected, and (ii) to help the EAs in dealing with resettlement and social activities. MOIT is currently requesting above mentioned agencies to nominate representatives to participate in the steering committee. Appendix 5 describes the Project’s overall organizational structure on a per component basis and EAs' organizational charts. (to be provided when Loan is declared effective)

18. The power companies will entrust project implementation in each region to the project management boards (PMBs), staffed with full-time personnel. PC 1 and PC 3 have each recruited national consulting firms financed through counterpart funds to prepare feasibility studies for selected subprojects. The international consultants will provide capacity building to PMBs to review selection of subprojects, the feasibility studies, technical design, and bid documents prepared by the executing agencies’ national consultants for component 1 of the Project. The subprojects to be included in component 1 should satisfy the subproject selection criteria in Appendix 6. PC 1 and PC 3 will submit the feasibility study including the (i) technical assessment, (ii) financial and economic analyses, and (iii) necessary safeguard documents such as initial environmental assessment to ADB for approval before preparing the bidding documents. PC 1 and PC 3 will approve the technical design of each subproject. PC 1 and PC 3 will also submit to ADB for approval the resettlement plan for each subproject under component 1 before the award of each civil works contract.

19. Each executing agency will implement component 2 through their provincial units and the PMB of each executing agency. The selection of subprojects will be undertaken in close collaboration with the PPCs in accordance with the selection criteria outlined in Appendix 6. The power companies will submit a simple subproject selection report to MOIT and ADB for approval for each province to be included in the Project. Upon approval of the subproject selection, the power companies will entrust implementation of subprojects in each province to their provincial units, and the PMB of each power company will be responsible for supervising implementation and reporting progress to MOIT. Each power company will recruit national consulting firms financed through counterpart funds to prepare feasibility studies for selected subprojects; the international consultants will monitor progress.

IV. IMPLEMENTATION SCHEDULE

20. The Project will be implemented from June 2009 to December 2015. The original detailed implementation schedule is in Appendix 6. The identification and selection of subprojects to be included in component 1 will be completed in 2009. The feasibility studies, including the hydrological measurements, will be undertaken in 2010 and the technical designs and bidding documents will be completed by June 2011. The civil work contracts and equipment supply contracts are expected to be awarded for component 1 by December 2011, and project construction will be carried out during 2012–2014; commissioning will be variable depending on the subproject, but would start mid-2014. EAs will provide by 30 November 2009 realistic schedules for each sub-project based on the current status of the Project.

21. PC 2 can update the procurement plan for the procurement of equipment and civil works contracts for component 2, immediately for Soc Trang and Tra Vinh provinces as soon as ADB
has approved the feasibility studies already approved. ADB will review the feasibility studies once PC2 has submitted the reports by the Government. The civil works under component 2 for Soc Trang and Tra Vinh provinces will commence in the third quarter of 2010 and be completed by the end of 2012. The feasibility studies and bidding documents for component 2, to be implemented by PC 1 and PC 3, will be prepared during June 2009–December 2010, and procurement will be undertaken during the first half of 2011. The civil works and installations of the rural electricity network in PC 1 and PC 3 areas will be undertaken from October 2011 to December 2013.

V. PROCUREMENT

22. Procurement of works, goods and services will be in accordance with ADB’s Procurement Guidelines (2007, as amended from time to time). The Procurement plan is described in Appendix 7 and shows details of the immediate procurement for the next 18 months, and estimates for the Project overall. As the list of sub-projects to be financed under the sector Project is finalized in the early stages of project implementation, the procurement plan will be updated to include that information.

23. The electromechanical equipment for the mini-hydropower plants, and equipment and materials for medium and low voltage distribution lines and substations will be procured in several packages using international competitive bidding procedures. The civil work contracts for construction of the mini-hydropower plants and installation of medium and low voltage distribution lines will be awarded using international competitive bidding or national competitive bidding procedures (NCB) acceptable to ADB and will be subject to selective post review.

24. The NCB procedures will be applied for work contracts below $2 million and equipment contracts below $500,000; shopping will be allowed for procurement of goods and services with a contract price less than $100,000. The NCB procedures will be in accordance with ADB’s Procurement Guidelines, as well as its NCB Annex applicable to Viet Nam (Appendix 8). The indicative flow charts for ICB and NCB procedures are described in Appendix 9.

VI. CONSULTANT RECRUITMENT

25. The executing agencies will recruit consultants financed by them to prepare feasibility studies, detail design documents, and bidding documents; and supervise construction. These consultants will be recruited and engaged in 2009 according to Vietnamese guidelines. Consulting services required for technical and safeguard support for subproject preparation and capacity building will be provided through the associated TA grant administered by ADB. These consulting services will be selected and engaged in accordance with ADB’s Guidelines on the Use of Consultants (2007, as amended from time to time). The detailed terms of references for the TA consultants as reflected in the Request for Proposals are in Appendix 10.

VII. SAFEGUARDS PLAN

A. Environment and Resettlement

26. Given the nature and magnitude of the proposed mini-hydropower projects to be included in component 1, adverse environmental impacts are not expected to be significant and mitigation measures will be implemented to minimize negative impacts. Construction of the mini-
hydropower plants and grid expansion will entail vegetation loss. However, adverse impacts on biodiversity are expected to be minor since the area to be cleared for each subproject is relatively small. Further, the subprojects will not be located in ecologically protected areas. Other potential impacts associated with the construction of mini-hydropower plants include siltation due to surface run-off, erosion of exposed areas, and increased noise due to site works and equipment operation. Operation impacts may include changes in the stream hydrological regime that could influence the aquatic ecosystems in terms of water quality and population structure of aquatic organisms. The Project will reduce global greenhouse gas emissions due to replacement of expensive thermal power generation with a renewable and clean source of energy through run-of-river mini-hydro plants. An environmental assessment and review framework was prepared to guide the preparation of component 1 subprojects Supplementary Appendix H of RRP. The initial environmental examination (IEE) for a core subproject under component 1 is summarized in Supplementary Appendix I of RRP.

27. A short resettlement plan was prepared for the core subproject, Nam Nghe mini-hydropower. Nine households will be affected due to permanent impacts on their agricultural land. No stream uses or fishing activities occur on the proposed reservoir and downstream area, therefore, the subproject will not affect any livelihood or socioeconomic activities of local residents. The resettlement impacts of the remaining component 1 subprojects are not expected to be significant as only subprojects with involuntary resettlement categorization B will be included in the Project. A short resettlement plan will be prepared in accordance with the resettlement framework for these subprojects. A summary resettlement plan and framework is presented in Supplementary Appendix J of RRP. The resettlement framework and resettlement plan are shown in Supplementary Appendixes K and L, respectively of RRP.

28. The Government and executing agencies will ensure that only subprojects that fall within category C (no impacts) or category B (no significant impacts) on involuntary resettlement and the environment will be permitted under the Project. The screening and categorization of the subprojects will be done in accordance with the agreed resettlement framework and environmental assessment and review framework. In the event that any resettlement impacts are unavoidable for a particular subproject, the Government will prepare a resettlement plan for such subproject following the detailed design and in accordance with the agreed resettlement framework and ADB’s *Policy on Involuntary Resettlement Policy (1995).*

29. The Government will ensure that project activities comply with (i) applicable laws and regulations of Viet Nam; (ii) ADB environment policies and regulations, specifically ADB’s *Environment Policy (2002)*; (iii) agreed environmental assessment and review framework; and (iv) environmental mitigation measures and environmental monitoring plan as set out in the IEE to be approved by ADB. The Government will also ensure preparation of IEEs for noncore environment category B subprojects consistent with ADB’s *Environment Policy.*

30. The Government will ensure that resettlement plan and IEE will be publicly disclosed in places accessible to all affected people prior to submission to ADB for its review and approval, all in accordance with ADB’s *Public Communications Policy (2005).* Approval by ADB of the resettlement plan and IEE for each category B subproject will be a precondition to the award of contracts for civil works.

31. The Government will ensure that civil works contractors are not issued a notice of possession of site for construction work for any involuntary resettlement under a category B subproject until the executing agencies have satisfactorily completed, in accordance with the approved resettlement plan, compensation payment and relocation to new sites, and have ensured that rehabilitation measures are in place and the area required for civil works is free of
all encumbrances. Thus, related activities on resettlement planning and compensation will be done in parallel with the procurement bidding activities.

B. Ethnic Minorities

32. Ethnic minorities are the major beneficiaries in the northern mountain project provinces of Dien Bien and Lai Chau where subprojects under component 1 are likely to be located. In Muong Te District, Lai Chau province, where the core subproject is located, poverty is high with 61% of households and almost 97% of the total population living in poverty. The population comprises 14 ethnic minority groups. In Dien Bien province, five ethnic minority groups make up more than 98% of the population. For preparation of the ethnic minority development plan (EMDP) for all subprojects under component 1, an ethnic minority development framework (EMDF) was prepared (Supplementary Appendix M, a summary is in Supplementary Appendix N). The EMDF will ensure that culturally appropriate implementation of the Project and social and economic benefits of electrification accrue to ethnic minorities and potentially adverse impacts are avoided. An EMDP was prepared for a selected subproject in component 1 of the Project in accordance with the EMDF (Supplementary Appendix O of RRP). The EMDF supports promoting productive use of electricity and will focus on providing poor households with extra support to improve their livelihoods through new opportunities with electrification.

33. Although communes and villages with ethnic minorities are likely to be included in component 2 of the Project, the impacts on indigenous people due to provision of electricity are not significant. However, EAs will prepare ethnic minority development plans for each province taking part in component 2 to ensure that project benefits accrue to the ethnic minorities. This includes the selection of poor communes and villages to be included in the Project, and provision of subsidized electricity connections to poor households.

34. The executing agencies will undertake social analysis for all the subprojects to be included in component 1 and for a sample of communes of each province to be included in component 2 of the Project. Based on the social analysis, the Government will ensure that EMDPs are prepared for all subprojects under component 1 and provincial EMDPs for each province included in component 2 that have significant impacts on ethnic minorities as per the EMDF. The Government will ensure that the EMDPs are submitted to ADB for review and approval. The Government will also ensure that the EMDPs will be disclosed to the affected ethnic minorities prior to such submission and provide ADB with sufficient information so that it can be posted on the ADB website. The poor ethnic minority households will also be provided with subsidized electricity connections.

C. Gender Strategy

35. Ethnic minority women in the mountainous region live in remote locations, and have very limited contact and information outside their own communities. Women play a significant role in agriculture, livestock rearing, and collection of forest products. Lack of electricity increases their workload. Access to electricity can improve agriculture productivity, and enhance opportunities for income-generating activities for women. Electricity in public places will increase security for women and enable their participation in evening social gatherings. Electricity will improve health services, especially maternal health facilities, in the communes. Overall, women’s living conditions, work, and income generation can be improved through electrification, both directly and through cumulative impacts, but gains will depend on their ability to afford improvements (e.g., household electric appliances and production machines). A gender strategy prepared for

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the overall Project focuses on activities to ensure women benefit from electrification and the prevention of harmful impacts during construction, particularly in poor and vulnerable communes to be included in the two project components. Details of the social assessment, including a gender strategy are included in the summary poverty reduction and social strategy (Appendix 11).

36. The Government will ensure that the gender strategy provided in the EMDP and summary poverty reduction and social strategy to maximize project benefits to women is implemented. It will include the following specific actions: (i) hold separate meetings for planning productive use of the electricity component with representatives from the Women’s Union and women community leaders on community management boards, (ii) provide capacity building training to women on productive use of electricity and awareness raising campaign on safe electricity, (iii) provide ethnic minority households headed by women with subsidized electricity connections, and (iv) register the replacement land in the names of both the husband and wife in cases where land acquisition has taken place.

D. Poverty and Other Social Matters

37. The Government will ensure the project benefits accrue to the poorer segments of ethnic minorities living in the target provinces. The Government will ensure poor households in provinces under the special program are provided with subsidized electricity connections fee at $40 or half the cost of connection, whichever is lower. The executing agencies will provide the house wiring for electric bulbs and sockets as part of connection. The Government will take appropriate measures that the poor households will be consulted for, and participate in, the Project during subproject implementation.

38. **Output Based Assistance (OBA).** As discussed during the loan negotiations, ADB will provide a proposal for the household connection subsidy program. The Mission discussed with EVN, MOIT, PC1 and PC3 the OBA program, an ADB facility supported by several donors (Norway, Nordic Development Fund [NDF], Australia and others) that can finance subsidies for household connections.

39. During the Loan Inception Mission, PC1 and PC3, with the support of EVN, agreed in principle to apply for OBA to obtain funds for subsidy of connections definition of poor households. To will be able to start the process of application, PC1 and PC3 need to (i) define the scope of the subsidy at household level; (ii) identify how many poor households will qualify under components 1 and 2; and (iii) estimate the costs. The identification process can coincide with the social analysis of the subproject's feasibility study. PC1 and PC3 will provide by 30 November 2009 an initial estimate of number of new connections to poor households under each sub-project in Components 1 and 2, and corresponding costs. Then, ADB will advise the Office of Co-financing in ADB of the possible request for OBA funds in 2010, and it is understood that the information provided is only a rough estimate. ADB can assist the EAs in doing the pre-investment study and help in the application process.

40. Once the OBA application is approved, the EAs can implement the household connections by advancing the payment. The OBA program will cover the following costs after an implementation audit: (i) cost for identification study (can be arranged by ADB); (ii) any borrowing costs (i.e. interests, application fee) PCs may have incurred to prepay the house

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2 The poor are defined as having an income below the national poverty line (D200,000 per person per month as of 2008 poverty line).
connections; (iii) actual costs of household connections; (iv) auditing costs (will be arranged by ADB). There is no maximum amount limit set by the OBA program, thus, encouraging the EAs to maximize the benefits of the Program made by the Steering Committee before implementing this program.

41. The Government will cause PC 1, PC 2, and PC 3 to (i) cause contractors to comply with all applicable labor laws and related international treaty obligations, and to not employ child labor; (ii) cause contractors to provide safe working conditions for male and female workers; and (iii) carry out, in the campsites and the subproject villages, education and awareness campaigns for HIV/AIDS and anti-trafficking of women and children, in coordination with the agencies working on the national program of HIV/AIDS prevention.

VIII. DISBURSEMENT PROCEDURES

A. Conditions for Disbursement of Funds for Component 2

42. No disbursement will be made from the portion of the loan to support a particular province under the Government’s Special Program for Rural Electrification, until the Government issues a decision stipulating such province is included in the special program for rural electrification.

43. No disbursement will be made from the portion of the loan to support a particular province not included in the Government’s Special Program for Rural Electrification until subsidiary loan agreements relating to the onlending of funds are signed in substance and form satisfactory to ADB.

B. General Procedures

44. Disbursements will be according to ADB’s Loan Disbursement Handbook (2007, as amended from time to time) and detailed arrangements agreed between the Government, executing agencies, and ADB. The Project’s disbursement flow and procedures are described in Appendix 12. The disbursements for civil works, goods, and equipment procured through international competitive bidding will be made by direct payment and commitment procedures. Each executing agency will set up one imprest account soon after loan effectiveness at banks acceptable to ADB. The imprest accounts will be established, managed, replenished, and liquidated in accordance with ADB’s Loan Disbursement Handbook and detailed arrangements agreed to by the Government, executing agencies, and ADB. The maximum amount to be maintained in each imprest account will not exceed 10% of the grant or loan funds made available to each power company from the ADB loan, or 6 months of expenditures to be funded through their respective imprest accounts, whichever is less. Appendix 13 describes the establishment of the EA’s imprest accounts.

45. The statement of expenditures procedure will be used to reimburse eligible expenditure and liquidate advances to the executing agencies; records will be maintained to substantiate the payments made through statement of expenditures. Payments under statement of expenditures will be limited to $100,000 per payment. The executing agencies will prepare withdrawal applications and submit them to MOF for endorsement. Disbursement arrangements are shown in a flow chart in Supplementary Appendix E. The executing agencies financial management capacity is deemed adequate since PC 2 and PC 3 have previously received ADB funding, and
all three executing agencies are presently implementing World Bank-financed rural electrification projects.

IX. PROJECT MONITORING AND EVALUATION

46. Project progress and performance will be monitored by a steering committee to be set up by MOIT, comprising representatives of each of the executing agencies and EVN. The committee will use a comprehensive project performance monitoring system. Appendix 14 provides a sample calculation on project progress.

47. **EA Progress Report.** There are different monitoring activities to be conducted during implementation. Project progress and performance will be monitored by the Steering Committee to be set up by MOIT, comprising representatives of each of the executing agencies and EVN. Each EA will submit quarterly progress reports to the Steering Committee with a copy to ADB within 30 days of the end of the reporting period. The progress report will record (i) progress made, (ii) problems encountered during the review period, (iii) steps taken or proposed to remedy the problems, (iv) proposed program of activities, (v) progress expected for the following quarter, and (vi) Compliance with covenants. The first EA progress reports will be submitted no later than 30 April for activities up to 30 March 2010. The next quarterly report for 1 April to 30 June would be submitted by 30 July 2010.

48. The EAs will include in their quarterly reports a project schedule in MS Project showing planned and actual progress for each main project infrastructure component. The project schedule will also show resettlement, environment, and social development activities, and main Project infrastructure milestones. The Mission will provide the EAs with a sample.

49. Within 6 months of physical completion (mid 2016) of the Project, the executing agencies will submit to ADB a project completion report describing (i) physical progress of the Project, (ii) actual costs incurred in relation to cost estimates, (iii) results of capacity-building activities, (iv) outcome of safeguard efforts, (v) preliminary assessment of achieved benefits, and (vi) other relevant project implementation matters requested by ADB. PC2 plans to complete the implementation of their part of the project by 2011. Therefore, the PCR for PC2 activities would be completed within six months of the completion of these activities. Appendix 15 provides sample templates on the EA quarterly progress report and project completion report.

50. **ADB Review Missions.** Apart from the regular reviews (twice a year), ADB and the Government will undertake a comprehensive review within 18 months of loan effectiveness (mid 2011) when the first batch of subprojects will be in the construction stage. A midterm review will be undertaken within 36 months of loan effectiveness (end 2012). These reviews will include: (i) a comprehensive evaluation of project implementation arrangements; (ii) detailed evaluation of the scope and implementation process, and progress of subprojects; and (iii) possible reallocation of loan proceeds. Remedial action will be instituted as required.

51. The EAs will periodically monitor project benefits and impacts of electrification of selected subprojects. Socioeconomic baseline data for a sample set of communes will be established and included in the feasibility studies of subprojects during the commencement of project implementation. It was agreed that the sample set of communes would be agreed
between the relevant PC and ADB before initiating the study. The socioeconomic status of these communes will be monitored after project completion to assess the impact of electrification on the socioeconomic well-being of the communes. The international consultants recruited by ADB will assist the EAs undertake these activities.

X. REPORTING REQUIREMENTS

52. Each executing agency will maintain records and accounts that identify the goods and services financed from the loan proceeds, resources received, expenditures incurred, including the use of counterpart funds for implementing the subprojects included in the Project. Separate accounts for subprojects will be established and maintained at each executing agency in accordance with internationally accepted accounting standards. As an example, under contract packaging, lots will be used to separate subprojects. Contractors will be requested also to issue individual receipts for each lot.

XI. AUDITING REQUIREMENTS

53. Auditors acceptable to ADB will audit annual project accounts maintained at executing agencies for activities undertaken in relation to the Project. Audit coverage will include separate opinions on (i) utilization of the imprest accounts; (ii) statement of expenditures, including whether the amount claimed is duly supported and verified; and (iii) whether the executing agencies are operating the imprest accounts in accordance with ADB procedures. The audit reports, management letter, and related financial statements will be submitted to ADB not later than 6 months after the end of the fiscal year to which they relate, or the project closing date, if earlier. The guidelines in audit reports are described in Appendix 16. The financial performance and financial management analysis of the executing agencies is provided in Supplementary Appendix F of RRP.

XII. MAJOR LOAN COVENANTS AND ASSURANCES

A. Specific Assurances

54. In addition to the standard assurances, the Government and executing agencies have given the following assurances, which are incorporated in the legal documents:

1. Subproject Selection

55. The subprojects under components 1 and 2 will be screened and selected in accordance with the criteria and procedures agreed between the Government and ADB and with strong support by the benefiting communities, as outlined in Appendix 3.

2. Policy Issues

56. By the end of the project period, the Government will take necessary administrative and/or regulatory measures (i) to establish simplified procedures for approval, licensing, and connecting of embedded renewable generation projects connected to the medium voltage network having a capacity less than 30 MW, and (ii) to establish a transparent subsidy
mechanism to promote renewable energy development and support electrification of remote and difficult areas.

3. Financial Issues

57. The Government will ensure, through appropriate tariff adjustments and other means, that EVN, PC 1, PC 2, and PC 3 maintain (i) a self-financing ratio of 25% or above, (ii) a debt service coverage ratio of 1.5 or above, and (iii) a long-term debt-equity ratio of 70:30 or less. The Government will also ensure that adequate tariff increases are proposed by EVN and processed by the relevant authorities of the Government in a timely and effective manner.

4. Operation and Maintenance of Project Facilities

58. The Government will ensure that each PC will carry out the annual budget allocation that fully covers costs for the operation and maintenance of any Project facilities.

B. Conditions for Loan Effectiveness

59. The Government will sign separate subsidiary loan agreements, relating to the onlending of funds allocated for component 1, with PC 1 and PC 3 in substance and form satisfactory to ADB.

60. The status of compliance, including actions taken to comply with the covenants (see Appendix 17), should be indicated in the appropriate column and be appended in the quarterly progress reports.

XIII. TECHNICAL ASSISTANCE

61. A $2.9 million advisory TA project will be provided with the sector loan for Capacity Building of Renewable Energy Development. The TA will be financed through the Climate Change Fund ($1.6 million) and Technical Assistance Special Fund (TASF-IV, $0.9 million). The Government will provide $29,000 in kind and the power companies $371,000 also in kind (Appendix 10). ADB will be the executing agency for the TA, and PC1, PC 2, PC 3 and MOIT will be the implementing agencies. The TA consultants will be selected and engaged in accordance with ADB’s Guidelines on the Use of Consultants. The disbursements will be made in accordance with ADB’s Technical Assistance Disbursement Handbook. The TA is expected to commence in August 2009 and finish in December 2015. The TA comprises the following components (a detailed description of the TA is provided in Appendix 10).

   (i) Develop a policy framework for renewable energy development in Viet Nam by supporting the Government in developing a new renewable energy law and implementing decrees and guidelines. The consultants will propose specific incentives to be included in the law to facilitate renewable energy technologies such as wind. One international and one national individual consultant will undertake this with 4 person-months of international consultant input and 8 person-months of national consultant input. MOIT will be the implementing agency for this component of the TA.

(ii) Capacity building in sustainable small hydropower plant planning (including preparation of feasibility studies, technical designs, and ADB-compliant bidding and safeguard documents); implementation and operation of the power companies and its provincial subsidiaries; and operation and preventive maintenance of small hydropower plants. The TA consultants will assist the Government in preparing the CDM project design documents. The consultants will also undertake capacity building on preparing ethnic minority development plans for rural electrification projects at provincial level. An international firm of consultants will undertake this work with 56 person-months of international consultants input and 54 person-months of national consultant input. The full technical proposal format and quality- and cost-based selection (80:20) will be used to select the consulting firm. PC 1, PC 2, and PC 3 will be the implementing agencies for this component.

(iii) Assist people receiving electricity under the Project to develop income-generating activities using electricity and help in accessing microfinance for such activities. A nongovernmental organization will undertake this with 70 person-months of staff input. The bio-data technical proposal format using the fixed-budget selection method will be used to select the NGO. PC 1, PC 2, and PC 3 will be the implementing agencies for this component.

XIV. KEY PERSONS INVOLVED IN THE PROJECT

62. The key ADB staff involved in the Project are as follows:

A. ADB Staff

| Energy and Water Division (SEEW) Southeast Asia Regional Department (SERD) | Mr. Anthony Jude |
| Director, SEEW | Tel. No.: (63-2) 632-6409 Divisional Fax No.: (632) 636-2336 |
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| Mr. Edvard Baardsen |
| Project Team Leader/ Senior Infrastructure Specialist, SEEW |
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Central Operations Services Office  
Consulting Operations Services Division 2 (COS2)  
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Procurement Specialist Outposted in VRM  
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E-mail: egagnon@adb.org

Mr. Md. Amir Ingratubun  
Procurement Specialist  
ADB HQ
B. Executing Agency

63. The key contact persons are:

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Deputy Director General  
Address: 20 Tran Nguyen Han Street, Hanoi, Viet Nam  
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Email:

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Email: lepn@pc2.v

**Power Company No. 3**
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Email: thangtv@pc3.com.vn

C. Other Implementing Agencies

64.

**Ministry of Industry and Trade (MOIT)**
Do Huu Hao  
Vice Minister of Industry and Trade  
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Ha Noi, Viet Nam  
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Email: haodh@moit.gov.vn

**Rural Electrification and Renewable Energy Project Management Board**
Le Tuan Phong  
Deputy Director General, Energy
ADB’s Anticorruption Policy (1998, as amended to date) was explained to and discussed with the Government and the executing agencies. Consistent with its commitment to good governance, accountability, and transparency, ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the Project. To support these efforts, relevant provisions of ADB’s Anticorruption Policy are included in the loan regulations and the bidding documents for the Project. In particular, all contracts financed by ADB in connection with the Project shall include provisions specifying the right of
ADB to audit and examine the records and accounts of the executing agencies and all contractors, suppliers, consultants, and other service providers as they relate to the Project. EVN has handled several ADB projects, and is familiar with ADB procedures and anticorruption measures. These projects helped establish clear procedures and practices for procurement of equipment and civil works. There have not been any major audit issues or suspicion of fraud. As a parent company, EVN is expected to oversee PCs on these measures adequately implemented; Governance risks will be further minimized by providing detailed Project information on a project website, using detailed procurement plans, regular project reviews, and providing information and training for EAs’ staff not familiar with ADB’s policy and procedures. Spot-checking will also be done to check adherence to the Policy.

66. The ADB Office of the General Auditor is the point of contact to report allegations of fraud and corruption among ADB-financed projects or its staff. Within that office, the Anticorruption Unit is responsible for dealing with all matters related to allegations of fraud and corruption. Please refer to the ADB’s Anticorruption Policy Handbook. Anyone coming across evidence of corruption associated with the Project may contact the Anticorruption Unit by telephone, facsimile, by mail, or by email as follows:

Integrity Division (OAGI)  
Office of the Auditor General  
Asian Development Bank  
6 ADB Avenue, Mandaluyong City  
0401 Metro Manila, Philippines  

Postal Address: P. O. Box 789  
0980 Manila, Philippines  

Telephone No.: (63-2) 632 5004  
Facsimile No.: (63-2) 636 2152  
E-mail: anticorruption@adb.org or integrity@adb.org  

67. The PAM shall be read in conjunction with the RRP, Loan Agreement, and relevant ADB documents listed in Appendix 18.
### DESIGN AND MONITORING FRAMEWORK

<table>
<thead>
<tr>
<th>Design Summary</th>
<th>Performance Targets and/or Indicators</th>
<th>Data Sources and/or Reporting Mechanisms</th>
<th>Assumptions and Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Impact</strong></td>
<td>Promotion of pro-poor and balanced economic development of remote mountainous communes and poor communes through the sustainable use of electricity and renewable energy in an affordable manner</td>
<td>Over 20% reduction in poverty rates in the districts to be provided with electricity under the Project by 2020</td>
<td>Assumption: Provision of electricity through renewable energy sources and grid expansion will lead to broad economic development in the remote parts of targeted provinces.</td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
<td>Provision of reliable and affordable supply of electricity to remote, mountainous, and poor communes</td>
<td>5,000 households provided with electricity by the mini-hydropower plants developed under the Project by 2016</td>
<td>Assumptions: The provision of electricity will result in improved income generation opportunities to the targeted communities. The project implementing agencies will target the poor and remote communes for electrification under the Project. The electricity generated through renewable energy and grid expansion is affordable to the targeted communities. The feed-in tariff for grid-connected mini-hydropower plants will be adjusted to compensate for potential increases in construction cost.</td>
</tr>
</tbody>
</table>

- More than 100,000 households provided with electricity by the grid expansion component of the Project by 2016
- Addition of over 500 MW of grid-connected renewable energy including small hydro (i.e., less than 30 MW) capacity by 2016
- Annual generation of 100 GWh of energy and 125,000 tons of annual greenhouse gas emissions abated because of the Project by 2016
- 75% of households headed by women in the targeted communes are provided with electricity by 2016
- Annual project implementation reports and project completion reports
- Progress reports submitted by executing agencies
- CDM facility assessment reports and validation reports to be prepared for subprojects during project implementation
- Post project completion socioeconomic surveys to be undertaken

**Risk**
- Hydro resource availability and impacts are unpredictable because of extreme climate events
- Maintenance of the mini-hydropower plants is weak during operations resulting in lower output
<table>
<thead>
<tr>
<th>Design Summary</th>
<th>Performance Targets and/or Indicators</th>
<th>Data Sources and/or Reporting Mechanisms</th>
<th>Assumptions and Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outputs</td>
<td>1. Installation of 5–10 mini-hydropower plants to electrify mountainous communes</td>
<td>30 MW of mini hydropower capacity installed</td>
<td>Quarterly and annual reports and project completion reports</td>
</tr>
<tr>
<td></td>
<td>2. Electrification of 1,000 villages through grid expansion</td>
<td>Expansion of medium voltage network by 500 km and low voltage network by 1,300 km</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Over 2 GWh of energy consumed in the predictive sectors in the targeted communities</td>
<td>The implementing agencies have the necessary technical expertise to implement the subprojects in a timely and efficient manner due to the TA provided.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The communities in the targeted areas are not capable of starting business enterprises to utilize electricity for productive purposes.</td>
</tr>
</tbody>
</table>

### Activities with Milestones

**1. Mini Hydropower Systems**
1.1 Selection of subprojects completed by September 2009
1.2 Detailed feasibility studies completed by June 2010
1.3 Detailed technical designs completed by December 2010
1.4 Bid documents and CDM documents completed by June 2011
1.5 Procurement and contract award completed by June 2012
1.6 Commissioning completed by December 2014

**2. Network Expansion and Rehabilitation**
2.1 Selection of villages and communes for grid expansion completed by September 2009
2.2 Detailed design and bid documents for grid expansion and rehabilitation completed by September 2010
2.3 Contracts awarded by March 2011
2.4 Commissioning completed by December 2012

### Inputs
- ADB ADF loan: SDR 102,161,000 ($151 million)
- Technical assistance grant: $2.5 million, equivalent ($1.6 million from the Climate Change Fund and $0.9 million from TASF), and $0.4 million from the Government and executing agencies
- Counterpart funds of $46.6 million from PC 1, PC 2, and PC 3

*ADB = Asian Development Bank, ADF = Asian Development Fund, CDM = Clean Development Mechanism, GWh = gigawatt hour, MW = megawatt, PC = power company, SDR = Special Drawing Rights.*
Appendix 2

TECHNICAL DESCRIPTION OF SUBPROJECTS

A. Small Hydropower Projects

1. The Renewable Energy for Remote Communes Sector Project is based on three propositions: (i) that the scale of small hydro subprojects to serve small groups of remote households is generally uneconomic because the load factor of mainly domestic consumption is very low; (ii) the poor scale economies of small generating units imply high costs/kilowatt (kW); and (iii) electrifying these households by grid expansion requires long lines to serve small loads, and therefore is equally uneconomic. The proposed solution is to promote small hydro subprojects of sufficient size to make a grid connection economic (and selling to the grid at the new avoided cost tariff), but to divert some proportion of the output to electrify local households at the national consumer tariff. Since grid sales are expected to account for the bulk of the revenue, the financial sustainability of the subprojects is assured.

2. Consultants fielded by the Asian Development Bank (ADB) first screened, through a desk study, potential hydropower sites based on subproject proposals from the provincial people’s committees of Lai Chau Province and Dien Bien Province, served by Power Company 1 (PC 1). Later, Viet Nam Electricity (EVN) requested that Quang Nam and Hue provinces served by Power Company 3 (PC 3) also be included in the Project’s scope of work. The selection criteria for the long-list of subprojects was that (i) the installed capacity should range between 500 kW and 6,000 kW;1 (ii) an existing (or planned and sure to come) 35 kV line should be within about 20 km of the proposed power plant; (iii) unserved households should be close to the power plant and along the route of the proposed medium voltage (MV) transmission line; (iv) the institution arrangements must allow the local population to benefit from the revenue resulting from the generated electricity; and (v) minimal relocation and resettlement should result (i.e., the small hydropower plant should be within ADB’s category B environment classification).

3. Hydrological records for Lai Chau and Dien Bien were not available for any of the proposed sites, so assumptions had to be made on regional considerations in terms of adopted flow duration curves and average runoff. However, rainfall is high in this part of Viet Nam exceeding 2,500 millimeters/year and resulting in an annual runoff modulus exceeding 60 liters/second/square kilometer (km²) in many parts of Lai Chau Province.2,3 About 72% of the rain falls during May to August, with highest runoff being 1 month later. For indicative design purposes, a design flow of 40 liters/second/km² was adopted for subprojects in Lai Chau province and 30 liters/second/km² in Dien Bien Province. Maps with a scale of 1:50,000 were used to identify potential sites and estimate available head.4 Four proposed subprojects had heads ranging between 10 and 15 meters (m). The remaining subprojects had more suitable heads of between 35 m and 185 m. As an initial approximation, the turbines were dimensioned to operate at full capacity between 4,500 and 5,200 hours per year. Following the desk study, the consultant visited the best sites to verify the suitability of the dam site and powerhouse locations, approximate alignment of waterways, and available head.

4. Tentative cost estimates based on desk studies and verifications on site were made for four subprojects: Nam Nghe 1, Na Say, Ta Con, and Na Son hydropower subprojects. The unit

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1 The upper limit was subsequently increased to 7.5 MW when EVN requested inclusion of projects under PC 3.
2 NWCR, Viet Nam Water Resources Atlas, Institute of Hydro Meteorological Services. Hanoi
3 Mean annual rainfall in Hue and Quang Nam provinces’ mountainous areas range between 3,200 and 3,600 mm with about 63% falling during September to December. The annual runoff modulus is in the range 60–80 liters/second/km², with about 68% of the annual runoff occurring during October–December.
4 Head: difference in elevation between water level at head pond and water level at power plant tailrace
costs ranges between $882/kW (rehabilitation) and $2,500/kW (new construction). The cost estimates for other hydropower plants are based on unit costs of around $2,000/kW–$2,200/kW. The costs of transmission lines at 35 kV are based on estimated distance between the power plant and the nearest connection to the grid. Distribution line costs (0.4 kV) are based on the average per household connection cost (including local MV line, low voltage [LV] lines and step-down transformers) of the four subprojects listed.

5. In Lai Chau Province, the consultants identified eight power subprojects (one with two alternatives) totaling 13.8–16.8 MW of installed capacity. The potential mean annual generation would be about 67–80 GWh at a total cost of $40 million–$46 million, including $10 million for 182 km of 35 kV MV transmission lines. The subprojects would provide electricity to about 2,174 households that would require about 1.5 GWh of electricity per year, leaving about 65–78 GWh available for sale to the EVN grid. Providing electricity to all 2,174 households would require an investment of about $3 million in distribution facilities. This corresponds to about 7% of the cost of the power plant and transmission line to the grid. To provide electricity to all the households with grid-connected small hydro would therefore require about $43 million–$49 million.

6. In Dien Bien Province, the consultant identified 10 subprojects totaling 19.6 MW of installed capacity. The potential mean annual generation would be about 81 GWh at a total cost of $44 million, including $0.9 million for 20 km of MV transmission lines. The subprojects would provide electricity to about 5,665 households, requiring about 4 GWh of electricity per year, leaving about 77 GWh available for sale to the EVN grid. To provide electricity to all 5,665 households would require an investment of about $7.7 million in distribution facilities. This corresponds to about 17% of the cost of the power plant and transmission line to the grid. To electrify all communes with grid-connected small hydro would require about $52 million.

7. Since the cost of the proposed subprojects of about $100 million exceeds the available funds under the proposed ADB loan (about $60 million), a representative number of subprojects from Lai Chau and Dien Bien had to be selected. Subprojects were ranked according to (i) levelized costs of generation, (ii) energy available for sale to the grid (will increase revenues for further rural electrification), (iii) number of households close to the subproject that could be electrified, and (iv) an attractiveness factor (reflecting technical ranking) (Table A5.1). Since subprojects are small and unlikely to affect many people, the negative social and environmental impact was not considered at this stage, although it will need to be considered during the feasibility studies. The following subprojects were selected to be included in the Project.

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5 The hydropower potential of small hydropower projects in Lai Chau and Dien Bien is much higher than the list here, but many subprojects have been reserved by the private sector, and memorandums of understanding and development licenses have already been issued.
6 Assumes consumption of 740 kWh/household per year or 2 kWh/day, equivalent to about 200 watts average domestic load.
7 This assumes an average unit cost of $1,360 per household. This cost is based on estimates for Ta Con, Na Son, Na say, and Nam Nghe 1 hydropower projects and includes local MV lines. Without the MV line the unit cost for LV voltage alone, but including step-down transformers, is $550/household.
8 The "attractiveness factor" AF = f*√(P*H), where P: design capacity (will give higher energy output at a given site and valuable peaking capacity), H: available head (high head projects are normally lower unit cost that low head projects), and F: plant factor (high value will indicate higher utilization). The higher the number, the more attractive the subproject.
Table A5.1: Shortlist\textsuperscript{a}

<table>
<thead>
<tr>
<th>Item</th>
<th>Energy Output (GWh)</th>
<th>Total Cost ($ million)</th>
<th>Levelized Costs ($/kWh)</th>
<th>Energy for Grid (GWh)</th>
<th>Households to be Provided with Electricity ($ million)</th>
<th>Attractiveness Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lai Chau Province</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nam Nghe1b, 2.8 MW</td>
<td>17.0</td>
<td>8.74</td>
<td>0.059</td>
<td>16.8</td>
<td>256</td>
<td>561</td>
</tr>
<tr>
<td>Nam Ha B</td>
<td>8.1</td>
<td>4.91</td>
<td>0.068</td>
<td>7.9</td>
<td>298</td>
<td>195</td>
</tr>
<tr>
<td>Nam Ngoc</td>
<td>8.7</td>
<td>6.43</td>
<td>0.083</td>
<td>8.3</td>
<td>457</td>
<td>225</td>
</tr>
<tr>
<td>Nam So</td>
<td>9.7</td>
<td>5.22</td>
<td>0.062</td>
<td>9.5</td>
<td>260</td>
<td>166</td>
</tr>
<tr>
<td>Total</td>
<td>43.5</td>
<td>25.30</td>
<td>42.5</td>
<td></td>
<td>1,271</td>
<td>166-561</td>
</tr>
</tbody>
</table>

| Dien Bien Province | | | | | | |
| Na Son (Na Phat) | 9.9 | 5.57 | 0.060 | 9.5 | 555 | 102 |
| Sinh Phing | 4.6 | 3.40 | 0.062 | 4.0 | 796 | 207 |
| Nam Huoi Ku | 15.7 | 9.67 | 0.063 | 14.8 | 1,237 | 449 |
| Nam He | 24.0 | 14.86 | 0.073 | 23.6 | 500 | 285 |
| Total | 54.2 | 33.50 | 51.9 | | 3,088 | 102-449 |

GWh = gigawatt hour, kWh = kilowatt hour, MW = megawatt.
\textsuperscript{a} EVN requested that (i) Aroang hydropower plant in Hue Province with an estimate installed capacity of 7.2 MW and an investment cost of $7.5 million; and (ii) Dakpring hydropower plant with an estimate installed capacity of 8 MW and an investment cost of $9.1 million, also be considered under the Project.


B. Nam Nghe 1 Small Hydropower Subproject

8. The Nam Nghe 1 small hydropower plant is located on the Nam Nghe River in Hua Bum commune, Muong Te district, in Lai Chau Province. With an annual precipitation of 2,500 millimeters/year and a catchment of 35 km\textsuperscript{2}, the mean annual flow is estimated at 2.8 cubic meters (m\textsuperscript{3})/second (s), ranging between an average of 0.7 m\textsuperscript{3}/s in March and 8.5 m\textsuperscript{3}/s in July. The firm flow (90%) is estimated at 0.54 m\textsuperscript{3}/s. The power plant tentatively consists of a concrete overflow weir on the Nam Nghe River with a maximum height of about 14 m but with little pondage, a 1,400 m long headrace canal lined with reinforced concrete on the right bank of the river, a 340 m long steel penstock, and a powerhouse. The available head is 185 m. The powerhouse, on the right bank of the Nam Nghe River and close to the confluence with the Nam Bum River, will be located within some rice fields, which will require compensation. It will contain two Pelton-type turbines with a design discharge of 1.9 m\textsuperscript{3}/s, giving a total capacity of 2.8 MW. The estimated annual energy output is 17.0 GWh. Firm power is estimated at 0.8 MW, which corresponds to 19 MWh/day of generation. The subproject will be optimized during the technical design following more in-depth engineering studies including detailed topographic surveys, and hydrological and geological studies.

9. Five hamlets within 10 km of the power plant have a total of 136 households and one border post with 35 border guards, who will benefit from the local 0.4 kV LV distribution. Along the way to Muong Te, two more hamlets with about 94 households will be electrified. A 35 kV transmission line will transmit power to a substation east of Muang Te town, some 12 km west of the power plant. The annual consumption by the 230 households is estimated at 0.2 GWh (613 kWh/day), leaving 16.8 GWh for sales to the grid at Muong Te. In the driest months, the power plant will be able to generate 19,000 kWh/day, resulting in a surplus to be sold to the grid. Muong Te is scheduled to be connected at 35 kV to the EVN grid in 2009, before the commissioning of the Nam Nghe 1 power plant.
10. The cost of the power plant is estimated at $8.2 million including the 35 kV transmission line to Muong Te, while the local transmission and distribution system is estimated at $0.54 million, totaling $8.74 million.

11. Before bidding, a full feasibility study must be conducted to confirm the feasibility of the subproject. Consultants will conduct further detailed investigations such as topographic surveying and mapping, geological and hydrological investigations, detailed cost estimation, and optimization of installed capacity. Following approval of the feasibility study, bid documents will be prepared for civil works construction and equipment supply packages. The subproject will take 2 to 3 years to build.

C. Network Expansion and Rehabilitation of Distribution Network Serving Poor Provinces

12. The Government has initiated a special program of rural electrification to improve the electrification rate of poor provinces inhabited by ethnic minorities—where the rate is significantly lower than the national average. Under this program, the state budget provides financing to Power Company 2 (PC 2) and PC 3 to cover 85% of the cost of rural electrification in five selected provinces in the Central Highlands.

13. The Government intends to extend this component to cover five additional provinces (i.e., Soc Trang and Tra Vinh provinces in the south, Quang Tri Province in the center and Dien Bien and Lai Chau provinces in the north), with a total of 733,681 households. The current electrification rate is 83.5%, varying between 36.0% in Lai Chau province and 97.3% in Quang Tri province. Of the 129,563 households not yet connected, 66,837 will be connected by 2015 raising the electrification rate to 92.6%. Component 2 of the Project will finance the proposed government financing in these five provinces. This component will finance the expansion of the rural distribution network to connect villages without electricity and to rehabilitate the existing low voltage network in poorly constructed low voltage networks serving remote communes. The project scope is expected to include the expansion of the MV network by about 900 km of MV lines (at 22 kV and 35 kV), about 1,100 medium to low voltage substations with a total capacity of 31 MVA, and about 2,500 km of low voltage (0.4 kV) distribution lines to provide electricity to about 67,000 households, and improve supply to a further 55,000 households in more than 1,000 villages. The total cost will amount to about $57 million, or $468 per connected household Table A5.2 provides the main data for each province being considered included in the Project and the overall total.
Table A5.2: Basic Statistics

<table>
<thead>
<tr>
<th>Item</th>
<th>Units</th>
<th>Soc</th>
<th>Trang</th>
<th>Tra Vinh</th>
<th>Quang Tri</th>
<th>Lai Chau</th>
<th>Dien Bien</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households No.</td>
<td></td>
<td>267,380</td>
<td>237,663</td>
<td>102,307</td>
<td>55,304</td>
<td>71,027</td>
<td>733,681</td>
<td></td>
</tr>
<tr>
<td>Connected to grid</td>
<td>No.</td>
<td>243,492</td>
<td>209,648</td>
<td>99,268</td>
<td>19,930</td>
<td>40,059</td>
<td>612,397</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td></td>
<td>87.7</td>
<td>86.8</td>
<td>97.3</td>
<td>36.0</td>
<td>57.0</td>
<td>83.5</td>
<td></td>
</tr>
<tr>
<td>Not connected HH</td>
<td>32,887</td>
<td>28,015</td>
<td>2,769</td>
<td>35,374</td>
<td>30,518</td>
<td>129,563</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To be connected HH</td>
<td>20,388</td>
<td>19,923</td>
<td>1,639</td>
<td>17,070</td>
<td>7,817</td>
<td>66,837</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strengthen existing grid HH</td>
<td></td>
<td>54,780</td>
<td>54,780</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Target electrification rate %</td>
<td></td>
<td>95.1</td>
<td>94.1</td>
<td>99.9</td>
<td>66.9</td>
<td>68.0</td>
<td>92.6</td>
<td></td>
</tr>
</tbody>
</table>

**Required Facilities**

<table>
<thead>
<tr>
<th>22 kV/35 kV lines</th>
<th>Km</th>
<th>304</th>
<th>207</th>
<th>115</th>
<th>220</th>
<th>42</th>
<th>888</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substations No.</td>
<td></td>
<td>499</td>
<td>418</td>
<td>37</td>
<td>83</td>
<td>39</td>
<td>1,076</td>
</tr>
<tr>
<td>MVA</td>
<td></td>
<td>10.8</td>
<td>7.4</td>
<td>3.6</td>
<td>5.6</td>
<td>3.3</td>
<td>31</td>
</tr>
<tr>
<td>0.4 kV lines</td>
<td>Km</td>
<td>867</td>
<td>654</td>
<td>666</td>
<td>242</td>
<td>86</td>
<td>2,515</td>
</tr>
<tr>
<td>Costs D million</td>
<td>305,377</td>
<td>226,983</td>
<td></td>
<td>964,136</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$ million</td>
<td>18.0</td>
<td>13.4</td>
<td>7.9</td>
<td>14.4</td>
<td>3.2</td>
<td>56.9</td>
<td></td>
</tr>
<tr>
<td>Average unit cost $/HH</td>
<td>880</td>
<td>670</td>
<td>150</td>
<td>841</td>
<td>409</td>
<td>468</td>
<td></td>
</tr>
</tbody>
</table>

HH = households, km = kilometer, MVA = mega-volt ampere, No. = number, $ = US dollar.
Source: Viet Nam Electricity, 2008.

**D. Network Expansion for Tra Vinh Province Subproject**

14. The economy of Tra Vinh in the Mekong Delta is agriculture-forestry based. Agriculture, forestry, and fisheries account for more than 60% of the total gross domestic product (GDP). However, the shares of construction, industry, and commerce are increasing. In 2007, the province's total GDP was D6,111 billion, almost 14% higher than the previous year. Of Tra Vinh's 1.05 million population, 31% are Khmer (about 328,000). Annual per capita income in 2007 was D9 million, lower than the national average. The province has 61,000 households living under the national poverty line; 29,500 of these are Khmer.

15. Tra Vinh Province receives electricity from the national grid via the Vung Liem–Tra Vinh 110 kV line. Two substations provide electricity in Tra Vinh Province: the 110/22 kV Tra Vinh substation and the 110/22 kV Duyen Hai substation. The Tra Vinh MV network consists of three-phase and single-phase 22 kV line totaling about 2,000 km.

16. Between 2000 and 2007, the rural electrification rate in Tra Vinh Province increased from 50% to 86%; in 2000 only 96 communes (95,300 households) had access to grid electricity. In 2007, the corresponding numbers are 102 communes with 204,000 households. Table A5.3 shows the rates of access to grid electricity by districts for total households and for Khmer households.
Table A5.3: Connection Rates by District

<table>
<thead>
<tr>
<th>District</th>
<th>Total HH</th>
<th>No. Khmer HH</th>
<th>% HH with Access to Grid</th>
<th>% Khmer HH with Access to Grid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tra Vinh town</td>
<td>20,948</td>
<td>4,340</td>
<td>92.2</td>
<td>87.7</td>
</tr>
<tr>
<td>Cang Long</td>
<td>38,367</td>
<td>2,305</td>
<td>95.7</td>
<td>76.4</td>
</tr>
<tr>
<td>Chau Thanh</td>
<td>31,571</td>
<td>10,262</td>
<td>87.2</td>
<td>77.9</td>
</tr>
<tr>
<td>Cau Ke</td>
<td>27,559</td>
<td>8,423</td>
<td>80.5</td>
<td>72.5</td>
</tr>
<tr>
<td>Cau Ngang</td>
<td>31,900</td>
<td>11,626</td>
<td>80.2</td>
<td>75.0</td>
</tr>
<tr>
<td>Duyen Hai</td>
<td>21,684</td>
<td>3,543</td>
<td>84.8</td>
<td>67.7</td>
</tr>
<tr>
<td>Tieu Can</td>
<td>26,118</td>
<td>8,231</td>
<td>87.1</td>
<td>74.8</td>
</tr>
<tr>
<td>Tra Cu</td>
<td>39,516</td>
<td>24,101</td>
<td>86.9</td>
<td>88.5</td>
</tr>
<tr>
<td><strong>Total for Province</strong></td>
<td><strong>237,663</strong></td>
<td><strong>72,831</strong></td>
<td><strong>87.0</strong></td>
<td><strong>80.0</strong></td>
</tr>
</tbody>
</table>

HH = household.
Source: Power Company No 2.

17. PC 2 has carried out a feasibility study, and proposed that the Government extend the grid to unserved communes. The objective of the subproject is to extend the MV and LV network in 83 communes of seven districts in Tra Vinh Province to provide electricity to 19,923 households, most of which belong to the Khmer ethnic group, the poorest people in the province. The subproject will increase the province rural electrification rate from the current 87% to 94%, and will specially target Khmer ethnic households by bringing their electrification rate from the current 80% to 93%.

18. The subproject consists of an MV component and an LV component. For MV (22/15 kV), single circuit distribution lines will be built to connect seven districts, currently not connected to the grid, to the existing MV grid. The MV component will build one 0.5 km three-phase MV line and 206 km of single-phase lines. The MV component includes also 418 transformers in seven districts (22/15 kV for 3-phase and 12.7/8.6 kV for single-phase). The LV component consists of 636 km distribution lines and 19,923 drop-down transformers and meters for the corresponding number of households.

19. The cost of the subproject is estimated at $7.9 million.

20. The average consumer electricity tariff in the province is D550 per kWh, while the buying price is D635/kWh. Distribution losses are 7%. The operation and maintenance costs are estimated at 2% of the capital investment costs. For the economic analysis, PC 2 values the benefits of provision of electricity at the estimated cost of energy not served (15 times the consumer tariff). The subproject is economically viable with the economic internal rate of return at 18.6% and present value equal to D103 million.
SUBPROJECT SELECTION CRITERIA AND APPROVAL PROCEDURES

A. Component 1: Mini-Hydro Development for Rural Electrification

1. Selection Criteria

The subproject should include the following features:

(i) Be technically feasible and have a capacity less than 7.5 megawatts (MW). Institutional arrangements for ownership, project implementation, and operation and maintenance should be acceptable to the Asian Development Bank (ADB).

(ii) Be financially and economically viable after taking into account the cost of grid connection and grid expansion to serve local communes. The financial internal rate of return should exceed the weighted average cost of capital.

(iii) Have strong community support based on in-depth consultations with beneficiaries.

(iv) Not have major resettlement impacts requiring relocation of households or extensive land acquisition. It should be categorized as category B or category C under ADB’s Involuntary Resettlement Policy (1995).

(v) Not have major environment impacts. It should not involve transfer of water from one sub basin to another, and should not be located in environmentally sensitive areas such as national parks and protected areas. It should be categorized as category B or category C under ADB’s Environment Policy (2002).

(vi) Enable electrification of a minimum of 100 households per MW of installed capacity. (i.e., a 5 MW mini-hydropower project should enable the connection of at least 500 households).

(vii) Have undertaken a poverty and social analysis, which has been submitted to ADB as part of the subproject feasibility report. Over 50% of households receiving electricity under the Project should have an income below the national poverty rate.

2. Subproject Approval Procedure

The subproject approval should follow the following procedure:

(i) International consultants will review the feasibility study of each component 1 subproject and their recommendations will be incorporated in the feasibility study as appropriate.

(ii) The feasibility study and Project safeguard documents, including the initial environment examination report will be approved by the executive agencies.

(iii) ADB approves each subproject base on submitted feasibility study.

B. Component 2: Network Expansion for Poor Communes

1. Selection Criteria

The subproject should include the following features:

(i) At least 50% of households receiving electricity through a sub-project shall have an income level below the national poverty rate.
(ii) To ensure the economic viability of the proposed rural electrification subprojects, the average cost per electrified household in each province will be less than $1,500.

(iii) The network expansion subproject should be environment category C (i.e., no adverse environmental impacts) based on ADB’s Environment Policy and minimal resettlement impacts.

2. Approval Procedure

4. The subproject approval should follow the following procedure

(i) The PCs, in consultation with the provincial people’s committee, proposes the list of communes to be included in component 2 of the Project in each province.

(ii) MOIT provides no objection to the list of communes.

(iii) ADB approves the list of communes.
## DETAILED COST ESTIMATES

### Table A4.1: Detailed Cost Estimates by Component

<table>
<thead>
<tr>
<th>Item</th>
<th>FX</th>
<th>LC</th>
<th>Total</th>
<th>D Billion</th>
<th>$ Million</th>
<th>% of Base Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Investment Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Component 1 - Grid Connected Small Hydropower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Nam Nge Small Hydropower Project (Lai Chau) (PC1)</td>
<td>24.7</td>
<td>98.5</td>
<td>123.2</td>
<td>33.53</td>
<td>138.38</td>
<td>171.90</td>
</tr>
<tr>
<td>Hydropower plant</td>
<td>20.4</td>
<td>63.8</td>
<td>84.2</td>
<td>1.21</td>
<td>3.78</td>
<td>4.98</td>
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<tr>
<td>Construction</td>
<td>0.0</td>
<td>61.6</td>
<td>61.6</td>
<td>0.00</td>
<td>3.64</td>
<td>3.64</td>
</tr>
<tr>
<td>Equipment</td>
<td>20.4</td>
<td>2.3</td>
<td>22.6</td>
<td>1.21</td>
<td>0.13</td>
<td>1.34</td>
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FX = foreign currency, LC = local currency, LV = low voltage, MV = medium voltage, PC = Power Company No.
Source: Asian Development Bank staff estimates.
Table A4.2: Detailed Costs by Financier

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ADB = Asian Development Bank, ADF = Asian Development Fund, IDC = interest during construction, PC = power company No.
Source: ADB estimates.
Project Organizational Structure (w. ADB)
EA Organizational Charts
ORGANIZATION CHART OF RURAL ENERGY PROJECT MANAGEMENT BOARD

Note:

: Direct Relation
: Reciprocal Relation

Supervision Department : 12 people including 1 master, 11 engineers.
Materials Department : 09 people including 1 master, 7 engineers, 1 middle.
Technical Department : 22 people including 1 master, 18 engineers, 1 graduate, 2 middles.
Personnel Department : 14 people including 4 engineers, 2 graduates, 1 middle, 7 employees.
Planning Department : 08 people including 1 master, 5 engineers, 2 graduates.
Financial Department : 10 people including 9 graduates, 1 middle.

Hydropower Management Department : 8 engineers
implementación de la programación

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<td>Component 2 - Grid Extensions</td>
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<td>Power Company 1</td>
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<td>Recruitment of Consultants</td>
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<td>Bidding Documents</td>
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<td>Power Company 2</td>
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<td>Power Company 3</td>
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<td>Recruitment of Consultants</td>
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<td>Implementation</td>
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</tbody>
</table>
A. Section 1: Process Thresholds, Review, and 18-Month Procurement Plan

1. Project Procurement Thresholds

1. Except as the Asian Development Bank (ADB) may otherwise agree, the following process thresholds shall apply to procurement of goods and works

<table>
<thead>
<tr>
<th>Procurement of Goods and Works</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Competitive Bidding for Works(a)</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>International Competitive Bidding for Goods(a)</td>
<td>$500,000</td>
</tr>
<tr>
<td>National Competitive Bidding for Works(a)</td>
<td>&lt; $2,000,000</td>
</tr>
<tr>
<td>National Competitive Bidding for Goods(a)</td>
<td>&lt; $500,000</td>
</tr>
<tr>
<td>Shopping for Works</td>
<td>&lt; $100,000</td>
</tr>
<tr>
<td>Shopping for Goods</td>
<td>&lt; $100,000</td>
</tr>
</tbody>
</table>


2. ADB Prior or Post Review

2. Except as ADB may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the Project.

<table>
<thead>
<tr>
<th>Procurement of Goods and Works</th>
<th>Procurement Method</th>
<th>Prior or Post</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Competitive Bidding for Works</td>
<td>Prior</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International Competitive Bidding for Goods</td>
<td>Prior</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Competitive Bidding for Works</td>
<td>Post</td>
<td></td>
<td>First contract to be prior review</td>
</tr>
<tr>
<td>National Competitive Bidding for Goods</td>
<td>Post</td>
<td></td>
<td>First contract to be prior review</td>
</tr>
<tr>
<td>Shopping for Works</td>
<td>Post</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Goods and Works Contracts Estimated to Cost More Than $1 Million

The following table lists goods and works contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

<table>
<thead>
<tr>
<th>General Description</th>
<th>Contract Value</th>
<th>Procurement Method</th>
<th>Prequalification of Bidders (Y/N)</th>
<th>Advertisement Date (quarter/year)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC 1</td>
<td></td>
<td>ICB/NCB</td>
<td>N</td>
<td>Q1/2011</td>
<td>None before 2011</td>
</tr>
<tr>
<td>PC 2</td>
<td>$4 million</td>
<td>ICB/NCB</td>
<td>N</td>
<td>Q4/2009</td>
<td>Component 2 25% of total scope for PC 2: several contracts</td>
</tr>
<tr>
<td>PC 3</td>
<td>$1.75 million</td>
<td>ICB/NCB</td>
<td>N</td>
<td>Q4/2009</td>
<td>Component 2 25% of total scope for PC 2</td>
</tr>
</tbody>
</table>

LV = low voltage, MV = medium voltage, PC = Power Company No, Q: Quarter.

4. Consulting Services Contracts Estimated to Cost More Than $100,000

The following table lists consulting services contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.
5. **Goods and Works Contracts Estimated to Cost Less than $1 Million and Consulting Services Contracts Less than $100,000**

5. The following table groups smaller-value goods, works, and consulting services contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

<table>
<thead>
<tr>
<th>General Description</th>
<th>Value of Contracts (cumulative)</th>
<th>Number of Contracts</th>
<th>Procurement / Recruitment Method¹</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tbd</td>
<td>Tbd</td>
<td>Tbd</td>
<td>Tbd</td>
<td>Tbd = to be decided.</td>
</tr>
</tbody>
</table>

ICB = international competitive bidding, LV = low voltage, MV = medium voltage, NCB = national competitive bidding, PC= Power Company No, QCBS = Quality and Cost Based Selection, Tbd = to be decided, Q = Quarter.
A. **Section 2: Project Procurement Plan**

1. **Indicative List of Packages Required Under the Project**

The following table provides an indicative list of all procurement (goods, works, and consulting services) over the life of the project. Contracts financed by the Government and others should be indicated, with an appropriate notation in the comments section.

<table>
<thead>
<tr>
<th>General Description</th>
<th>Estimated Value (cumulative)</th>
<th>Estimated Number of Contracts</th>
<th>Procurement Method</th>
<th>Domestic Preference Applicable</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power Company 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Component 1: Small Hydro</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Goods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydropower plant electromechanical equipment</td>
<td>$8 million</td>
<td>4-6</td>
<td>ICB</td>
<td>—</td>
<td>2011: number of subprojects tbd in 2010</td>
</tr>
<tr>
<td>MV transmission and LV distribution materials</td>
<td>$3 million</td>
<td>2-4</td>
<td>ICB</td>
<td>—</td>
<td>2011: number of subprojects tbd in 2010</td>
</tr>
<tr>
<td><strong>Works</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil works for dams, waterways and power plant</td>
<td>$18 million</td>
<td>4-6</td>
<td>ICB/NCB</td>
<td>—</td>
<td>2011: number of subprojects tbd in 2010</td>
</tr>
<tr>
<td>MV transmission and LV distribution lines</td>
<td>$7 million</td>
<td>2-4</td>
<td>ICB</td>
<td>—</td>
<td>2011: number of subprojects tbd in 2010</td>
</tr>
<tr>
<td><strong>Component 2: Network Expansion</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Goods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MV transmission and LV distribution materials</td>
<td>$8 million</td>
<td>Tbd</td>
<td>ICB</td>
<td>—</td>
<td>2011</td>
</tr>
<tr>
<td><strong>Works</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MV transmission and LV distribution lines</td>
<td>$18 million</td>
<td>Tbd</td>
<td>ICB/NCB</td>
<td>—</td>
<td>2011</td>
</tr>
</tbody>
</table>

Consulting Services | $11 million | 2 | Vietnamese regulations | 2009: financed by executing agency |

ICB = International competitive bidding, LV = low voltage, MV = medium voltage, NCB = national competitive bidding, Tbd = to be decided.
## Power Company 2

<table>
<thead>
<tr>
<th>General Description</th>
<th>Estimated Value (cumulative)</th>
<th>Estimated Number of Contracts</th>
<th>Procurement Method</th>
<th>Domestic Preference Applicable</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Component 2 – Network Expansion</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Goods</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MV transmission and LV distribution materials</td>
<td>$8 million</td>
<td>Tbd</td>
<td>ICB</td>
<td>-</td>
<td>2011</td>
</tr>
<tr>
<td><strong>Works</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MV transmission and LV distribution lines</td>
<td>$18 million</td>
<td>Tbd</td>
<td>ICB/NCB</td>
<td>-</td>
<td>2011</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General Description</th>
<th>Estimated Value (cumulative)</th>
<th>Estimated Number of Contracts</th>
<th>Recruitment Method</th>
<th>Type of Proposal</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consulting Services</strong></td>
<td>$4.5 million</td>
<td>1</td>
<td>Vietnamese regulations</td>
<td></td>
<td>2009: Financed by executing agency</td>
</tr>
</tbody>
</table>

ICB = international competitive bidding, LV = low voltage, MV = medium voltage, NCB = national competitive bidding, Tbd = to be decided.

## Power Company 3

<table>
<thead>
<tr>
<th>General Description</th>
<th>Estimated Value (cumulative)</th>
<th>Estimated Number of Contracts</th>
<th>Procurement Method</th>
<th>Domestic Preference Applicable</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Component 1 – Small Hydro</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Goods</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydropower plant electromechanical equipment</td>
<td>$4 million</td>
<td>1–2</td>
<td>ICB</td>
<td>-</td>
<td>2011: number of subprojects tbd in 2010</td>
</tr>
<tr>
<td>MV transmission and LV distribution materials</td>
<td>$1.3 million</td>
<td>1</td>
<td>ICB</td>
<td>-</td>
<td>2011: number of subprojects tbd in 2010</td>
</tr>
<tr>
<td><strong>Works</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil works for dams, waterways, and power plant</td>
<td>$13 million</td>
<td>1–2</td>
<td>ICB/NCB</td>
<td>-</td>
<td>2011: number of subprojects tbd in 2010</td>
</tr>
<tr>
<td>MV transmission and LV distribution lines</td>
<td>$3 million</td>
<td>1–2</td>
<td>NCB</td>
<td>-</td>
<td>2011: number of subprojects tbd in 2010</td>
</tr>
</tbody>
</table>

ICB = international competitive bidding, LV = low voltage, NCB = national competitive bidding.
## Component 2: Network Expansion

### Goods

<table>
<thead>
<tr>
<th>General Description</th>
<th>Estimated Value (cumulative)</th>
<th>Estimated Number of Contracts</th>
<th>Procurement Method</th>
<th>Domestic Preference Applicable</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>MV transmission and LV distribution materials</td>
<td>$8 million</td>
<td>Tbd</td>
<td>ICB</td>
<td>-</td>
<td>2011</td>
</tr>
</tbody>
</table>

### Works

<table>
<thead>
<tr>
<th>General Description</th>
<th>Estimated Value (cumulative)</th>
<th>Estimated Number of Contracts</th>
<th>Procurement Method</th>
<th>Domestic Preference Applicable</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>MV transmission and LV distribution lines</td>
<td>$18 million</td>
<td>Tbd</td>
<td>ICB/NCB</td>
<td>-</td>
<td>2011</td>
</tr>
</tbody>
</table>

## Consulting Services

<table>
<thead>
<tr>
<th>General Description</th>
<th>Estimated Value (cumulative)</th>
<th>Estimated Number of Contracts</th>
<th>Recruitment Method</th>
<th>Type of Proposal</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consulting Services</td>
<td>$7 million</td>
<td>2</td>
<td>Vietnamese regulations</td>
<td>-</td>
<td>2009: financed by executing agency</td>
</tr>
</tbody>
</table>

ICB = international competitive bidding, LV = low voltage, MV = medium voltage, NCB = national competitive bidding, Tbd = to be decided.

## Technical Assistance

<table>
<thead>
<tr>
<th>General Description</th>
<th>Estimated Value (cumulative)</th>
<th>Estimated Number of Contracts</th>
<th>Recruitment Method</th>
<th>Type of Proposal</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA consultants for mini-hydropower component</td>
<td>$1.9 million</td>
<td>One</td>
<td>QCBS</td>
<td>FTP</td>
<td>Implementation supervision consultant financed by ADB</td>
</tr>
<tr>
<td>TA consultant for energy law</td>
<td>$0.24 million</td>
<td>Two</td>
<td>2 individual consultants</td>
<td>BTP</td>
<td>One international and one national consultant</td>
</tr>
<tr>
<td>NGOs for income generating activities</td>
<td>$0.13 million</td>
<td>One</td>
<td>QBS</td>
<td>BTP</td>
<td>One NGO</td>
</tr>
</tbody>
</table>

BTP = bio-data technical proposal, FTP = Full technical proposal, QBS = quality-based selection, QCBS = quality and cost based selection, TA = technical assistance.
National Competitive Bidding

1. General

1. The laws to be followed for national competitive bidding shall be those set forth in the Law on Procurement No. 61/2005/QH11 of 29 November 2005 and the Construction Law no. 16/2003/QH11 of 26 November 2003 and with the processes described in Decree No. 111/2006/DD-CP of 29 September 2006 with the clarifications and modifications described in the following paragraphs required for compliance with the provisions of the Procurement Guidelines.

2. Registration

(i) Bidding shall not be restricted to pre-registered firms and such registration shall not be a condition for participation in the bidding process.

(ii) Where registration is required prior to award of contract, bidders: (i) shall be allowed a reasonable time to complete the registration process; and (ii) shall not be denied registration for reasons unrelated to their capability and resources to successfully perform the contract, which shall be verified through post-qualification.

(iii) Foreign bidders shall not be required to register as a condition for submitting bids.

(iv) Bidder’s qualification shall be verified through post-qualification process.

3. Eligibility

(i) National sanction lists may only be applied with approval of ADB.12

(ii) A firm declared ineligible by ADB cannot participate in bidding for an ADB financed contract during the period of time determined by ADB.

4. Prequalification and Post qualification

(i) Post qualification shall be used unless prequalification is explicitly provided for in the loan agreement/procurement plan. Irrespective of whether post qualification or prequalification is used, eligible bidders (both national and foreign) shall be allowed to participate.

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12 Section 52 of the Integrity Principles and Guidelines allows ADB to sanction parties who fail to meet ADB’s high ethical standards based on the decisions of third parties, such a decision can only be made by the Integrity Oversight Committee on the basis of ADB’s own independent examination of the evidence. As such, the process should follow the normal assessment and investigative processes prescribed by the Integrity Principles and Guidelines. [http://www.adb.org/Documents/Guidelines/Integrity-Guidelines-Procedures/Integrity-guidelines-procedures-2006.pdf](http://www.adb.org/Documents/Guidelines/Integrity-Guidelines-Procedures/Integrity-guidelines-procedures-2006.pdf)
(ii) When pre-qualification is required, the evaluation methodology shall be based on pass/fail criteria relating to the firm’s experience, technical and financial capacities.

(iii) Qualification criteria shall be clearly specified in the bidding documents, and all criteria so specified, and only criteria so specified, shall be used to determine whether a bidder is qualified. The evaluation of the bidder’s qualifications should be conducted separately from the technical and commercial evaluation of the bid.

(iv) In carrying out the post-qualification assessment, the Employer/Purchaser shall exercise reasonable judgment in requesting, in writing, from a bidder missing factual or historical supporting information related to the bidder’s qualifications and shall provide reasonable time period (a minimum of 7 days) to the bidder to provide response.

5. Preferences

(i) No preference of any kind shall be given to domestic bidders or for domestically manufactured goods.

(ii) Regulations issued by a sectoral ministry, provincial regulations and local regulations which restrict national competitive bidding procedures to a class of contractors or a class of suppliers shall not be applicable.

(iii) Foreign bidders shall be eligible to participate in bidding under the same conditions as local bidders, and local bidders shall be given no preference (either in bidding process or in bid evaluation) over foreign bidders, nor shall bidders located in the same province or city as the procuring entity be given any such preference over bidders located outside that city or province.

6. Advertising

(i) Invitations to bid (or prequalify, where prequalification is used) shall be advertised in Government Public Procurement Bulletin. In addition, the procuring agency should publish the advertisement in at least one widely circulated national daily newspaper or freely accessible, nationally-known website allowing a minimum of twenty-eight (28) days for the preparation and submission of bids and allowing potential bidders to purchase bidding documents up to at least twenty-four (24) hours prior the deadline for the submission of bids. Bidding of NCB contracts estimated at $500,000 or more for goods and related services or $1,000,000 or more for civil works shall be advertised on ADB’s website via the posting of the Procurement Plan.

(ii) Bidding documents shall be made available by mail, or in person, to all who are willing to pay the required fee, if any.

(iii) The fee for the bidding documents should be reasonable and consist only of the cost of printing (or photocopying) the documents and their delivery to the bidder. (Currently set at 1 Mln VND, increase subject to approval of ADB)
7. **Standard bidding documents**

(i) The Borrower’s standard bidding documents, acceptable to ADB, shall be used. The bidding documents shall provide clear instructions on how bids should be submitted, how prices should be offered, and the place and time for submission and opening of bids.

(ii) Bidders shall be allowed to submit bids by hand or by mail/courier.

8. **Bid Opening**

2. A copy of the bid opening record shall be promptly provided to all bidders who submitted bids.

9. **Bid Evaluation**

(i) Merit points shall not be used in bid evaluation.

(ii) Bidders shall not be eliminated from detailed evaluation on the basis of minor, non-substantial deviations.13

(iii) Except with the prior approval of ADB, no negotiations shall take place with any bidder prior to the award, even when all bids exceed the cost estimates.

(iv) A bidder shall not be required, as a condition for award of contract, to undertake obligations not specified in the bidding documents or otherwise to modify the bid as originally submitted.

(v) Bids shall not be rejected on account of arithmetic corrections of any amount. However, if the Bidder that submitted the lowest evaluated bid does not accept the arithmetical corrections made by the evaluating committee during the evaluation stage, its bid shall be disqualified and its bid security shall be forfeited.

10. **Rejection of All Bids and Rebidding**

(i) No bid shall be rejected on the basis of a comparison with the owner's estimate or budget ceiling without the ADB’s prior concurrence.

(ii) Bids shall not be rejected and new bids solicited without the ADB’s prior concurrence.

11. **Participation by Government-owned enterprises**

3. Government-owned enterprises shall be eligible to participate as bidders only if they can establish that they are legally and financially autonomous, operate under Enterprise law and are not a dependent agency the contracting entity. Furthermore, they will be subject to the same bid and performance security requirements as other bidders.

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13 Minor, non-substantial deviation is one that, if accepted, would not affect in any substantial way the scope, quality, or performance specified in the contract; or limit in any substantial way, the Contracting entity rights or the Bidder’s obligations under the proposed contract or if rectified, would not unfairly affect the competitive position of other bidders presenting substantially responsive bids.
12. **Non-eligibility of military or security units**

4. Military or security units, or enterprises which belong to the Ministry of Defense or the Ministry of Public Security shall not be permitted to bid.

13. **Participation by Foreign contractors and suppliers. Joint Ventures and Associations**

(i) Foreign suppliers and contractors from eligible countries shall, if they are interested, be allowed to participate without being required to associate or form joint ventures with local suppliers or contractors, or to subcontract part of their contract to a local bidder.

(ii) A bidder declared the lowest evaluated responsive bidder shall not be required to form a joint venture or to sub-contract part of the supply of goods as a condition of award of the contract.

(iii) License for foreign contractors operation in Vietnam would be provided in a timely manner and will not be arbitrarily withheld.

14. **Publication of the Award of Contract. Debriefing.**

(i) For contracts subject to prior review, within 2 weeks of receiving ADB’s “No-objection” to the recommendation of contract award, the borrower shall publish in the Government Public Procurement Bulletin, or well-known and freely-accessible website the results of the bid evaluation, identifying the bid and lot numbers, and providing information on: i) name of each bidder who submitted a bid; ii) bid prices as read out at bid opening; iii) name and evaluated prices of each bid that was evaluated; iv) name of bidders whose bids were rejected and the reasons for their rejection; and v) name of the winning bidder, and the price it offered, as well as the duration and summary scope of the contract awarded.

(ii) For contracts subject to post review, the procuring entity shall publish the bid evaluation results no later than the date of contract award.

(iii) In the publication of the bid evaluation results, the borrower shall specify that any bidder who wishes to ascertain the grounds on which its bid was not selected, should request an explanation from the procuring entity. The procuring entity shall promptly provide an explanation of why such bid was not selected, either in writing and / or in a debriefing meeting, at the option of the borrower. The requesting bidder shall bear all the costs of attending such as debriefing. In this discussion, only the bidder’s bid can be discussed and not the bids of competitors.

15. **Handling of Complaints**

5. The national competitive bidding documents shall contain provisions acceptable to ADB describing the handling of complaints in accordance with Article 47 of Decree No. 111/20006/DD-CP, read with Articles 72 and 73 of Law on Procurement No. 61/2005/QH11.
16. **ADB Member Country Restrictions**

6. Bidders must be nationals of member countries of ADB, and offered goods, works, and services must be produced in and supplied from member countries of ADB.

17. **Fraud and Corruption**

7. ADB will sanction a party or its successor, including declaring ineligible, either indefinitely or for a stated period of time, to participate in ADB-financed activities if it at any time determines that the firm has, directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for, or in executing, an ADB-financed contract.

18. **Right to Inspect/ Audit**

8. Each bidding document and contract financed from by ADB shall include a provision requiring bidders, suppliers, contractors to permit ADB or its representative to inspect their accounts and records relating to the bid submission and contract performance of the contract and to have them audited by auditors appointed by ADB.
Figure A9.1: Indicative Flowchart of Procurement under International Competitive Bidding

Procurement under International Competitive Bidding
(with no prequalification)

Executing Agency | ADB | Suppliers/Contractors
---|---|---
Finalize list of goods/works to bid (from procurement plan) | ADB review and Approval \(^a\) | Purchase bidding documents from EA and submit bid
Prepare draft invitation for bids and bidding documents | ADB review and approval \(^a\) Advertise invitation for bids in www.adb | Advertise invitation for bids Locally in English and issue bidding documents; inform ADB of the advertisement; (minimum bidding period 6 weeks)
Advertise invitation for bids | | ADB review and Approval \(^a\) Sign contract agreement and return to EA Provide performance Security (if required)
Public opening of bids Prepare record of public opening of bids | | Deliver the goods and related services and works to the EA
Evaluate bids and recommend contract award | | Payment received (from supplier’s bank under L/C procedures)
Prepare contract agreement and send to supplier | | Goods inspected and received
Send 3 copies of signed contract to ADB | | Prepare PCSS for payment purposes
Signed contract received Prepare PCSS for payment purposes | | Goods inspected and received
Loan/advance contracting approved

\(^a\) Approval not required under post review
Figure A9.2: Indicative Flowchart of Procurement under National Competitive Bidding

Procurement under National Competitive Bidding

1 While NCB procedures are not required to be identical with ADB’s ICB procedures, they must reflect the underlying principles and not contravene ADB’s Procurement Guidelines.

2 Prequalification is discouraged for NCB. DMCs may have a register of suppliers. The processing mission should ensure that the registration system is acceptable to ADB (e.g., it reflects the underlying principles of ADB’s Procurement Guidelines); and where acceptable, a PQ may not be required.

3 If the prequalification or procurement requires prior consideration of the procurement committee, in accordance with PAI 3.11, the EA must be advised not to notify prequalified firms or award contract prior to the committee’s deliberations and subsequent ADB approval.
Associated Loan 2517-VIE: Renewable Energy Development and Network Expansion And Rehabilitation For Remote Communes Sector Project

DETAILED TERMS OF REFERENCE
(as reflected in the Request for Proposals)

TA 7262-VIE: Capacity Building of Renewable Energy Development

Component 2 of TA: Capacity Building For Mini Hydropower Development

A. Background

1. Loan Component 1 - Mini Hydropower Projects for Rural Electrification in Mountainous Provinces - will be implemented in Lai Chau and Dien Bien Provinces by Power Company No. 1 [PC1]; and in Quang Nam and Hue Provinces by PC3. The Project will be carried out in two stages for each component in each province. Stage 1 – Pre Construction - consists of two parts: (i) identification and ranking, and (ii) feasibility study and preparation of technical design/bidding documents of a group of sub-projects. Stage 2 – Construction - consists of two parts: (i) procurement, and (ii) construction and commissioning. Each part of each of the stages will be subject to the approval of Viet Nam Electricity (EVN) and the Asian Development Bank (ADB). The consultants will provide technical assistance to all stages of the implementation.

2. Loan Component 2 - Grid Extension and Rehabilitation of Distribution Networks Serving Poor Communes - will be carried out in the operational areas of PC1 in northern Viet Nam (mainly, Lai Chau and Dien Bien Provinces), PC2 in southern Viet Nam (Tra Vinh and Soc Trang Provinces) and PC3 in Central Viet Nam (several provinces). The grid extensions and rehabilitation will be to facilities owned by each PC. The IAs will provide the Ministry of Industry and Trade (MOIT) and ADB with a list of sub-projects to be implemented under the loan for approval. The consultant will review the first set of bidding documents to be prepared by each of the IAs before submission to ADB for approval, and will monitor project implementation as per agreed plan.

E. Scope of Work

3. The Project is a Sector Project, meaning that sub-projects will be developed during project implementation. The allocated amounts for investment are about $61 million for Component 1 to be implemented by PC1 and PC3; and about $90 million for Component 2 to be implemented by PC1, PC2 and PC3. Each IA will recruit national consultants financed from their own sources to prepare the feasibility studies, technical design, and bidding documents; and carry out supervision of the implementation of the selected sub-projects. ADB will recruit an international consulting firm to provide technical assistance to the IAs during project implementation; the scope of work is presented in these terms of reference. The technical assistance will be for 110 person-months of consulting services (56 person-months of international consulting inputs and 54 person-months of national consulting inputs). The

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14 Additional provinces could be included later subject to availability of funds.
consultants will report to the PCs and to the ADB. Specialists with the following expertise will be required: Team leadership in renewable energy and rural electrification projects planning and implementation supervision; small hydropower planning; tropical hydrology; geology; civil works, turbine, mechanical and electrical works design; medium voltage transmission and low voltage distribution design; construction supervision; rural electrification economics; financial and institutional analysis; environment; resettlement, gender, ethnic minorities, gender issues, HIV issues, social development and poverty analysis; and monitoring and evaluation.

F. Terms of Reference

4. The international consultant will assist the Government in preparing a renewable energy law, and in drafting the set of implementing decisions. The consultant will (i) consider experience in other countries to prepare an analysis of alternative ways of funding the renewable energy fund: (ii) prepare a series of papers outlining the advantages and disadvantages of alternative policy choices; and (iii) assist in drafting the law and the implementing decisions. An important part of the consultancy will be to propose efficient mechanisms for the disbursement of subsidies, to be stipulated in the implementation decrees.

A. Implementation Arrangements

5. MOIT will be the Implementing Agency and provide counterpart staff, office space, and furniture without cost to the consultant. The executing agencies will also provide available documentation.

Part 2: Capacity Building for Mini-Hydropower Development

A. Background

6. Component 1 - Mini Hydropower Projects for Rural Electrification in Mountainous Provinces - will be implemented in Lai Chau and Dien Bien Provinces by Power Company No. 1 [PC1]; and in Quang Nam and Hue Provinces by PC3. The Project will be carried out in two stages for each component in each province. Stage 1 – Pre Construction - consists of two parts: (i) identification and ranking, and (ii) feasibility study and preparation of technical design/bidding documents of a group of sub-projects. Stage 2 – Construction - consists of two parts: (i) procurement, and (ii) construction and commissioning. Each part of each of the stages will be subject to the approval of Viet Nam Electricity (EVN) and the Asian Development Bank (ADB). The consultants will provide technical assistance to all stages of the implementation.

7. Component 2 - Grid Extension and Rehabilitation of Distribution Networks Serving Poor Communes - will be carried out in the operational areas of PC1 in northern Viet Nam (mainly, Lai Chau and Dien Bien Provinces), PC2 in southern Viet Nam (Tra Vinh and Soc Trang Provinces) and PC3 in Central Viet Nam (several provinces). The grid extensions and rehabilitation will be to facilities owned by each PC. The EAs will provide the Ministry of Industry and Trade (MOIT) and ADB with a list of sub-projects to be implemented under the loan for approval. The consultant will review the first set of bidding documents to be prepared by each of the EAs before submission to ADB for approval, and will monitor project implementation as per agreed plan.

15 Additional provinces could be included later subject to availability of funds.
B. Scope of Work

8. The Project is a Sector Project, meaning that sub-projects will be developed during project implementation. The allocated amounts for investment are about $61 million for Component 1 to be implemented by PC1 and PC3; and about $90 million for Component 2 to be implemented by PC1, PC2 and PC3. Each EA will recruit national consultants financed from their own sources to prepare the feasibility studies, technical design, and bidding documents; and carry out supervision of the implementation of the selected sub-projects. ADB will recruit an international consulting firm to provide technical assistance to the EAs during project implementation; the scope of work is presented in these terms of reference. The technical assistance will be for 104 person-months of consulting services (50 person-months of international consulting inputs and 54 person-months of national consulting inputs). The consultants will report to the PCs and to the ADB. Specialists with the following expertise will be required: Team leadership in renewable energy and rural electrification projects planning and implementation supervision; small hydropower planning; tropical hydrology; geology; civil works, turbine, mechanical and electrical works design; medium voltage transmission and low voltage distribution design; construction supervision; rural electrification economics; financial and institutional analysis; environment; resettlement, gender, ethnic minorities, social development and poverty analysis; and monitoring and evaluation.

C. Terms of Reference

9. The consultant's work should include, but not be limited to, the following:

1. Stage 1: Preconstruction

10. As part of the overall Project Management and Coordination, the consultant will:

(i) Review Government’s strategies and policies on renewable and legal framework related to rural electrification and small hydropower development;

(ii) Review all previous available documentation on small hydropower development in the proposed provinces;

(iii) Coordinate necessary consultation workshops to be done at district, provincial and national level;

(iv) ensure that all works and outputs under the TA are fully compliant with all relevant ADB and Government policies and guidelines; and

(v) Coordinate the work of all members of the team, the individual consultants, and be liaison between the consulting team, PCs and MOIT.

a. Subproject Identification and Ranking

11. Under Component 1, the IAs each group candidate hydropower projects in each province separately for a feasibility study. EVN and ADB will approve the sub-projects before the feasibility stage starts. The sub-project will be selected according to predetermined criteria (shown in Appendix 6 of the Report and Recommendations to the President [RRP]) in a consultative manner with all relevant stakeholders, such as MOIT, the Provincial People’s

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16 Tentative person-months are given in Table following para. 24
Committees, and the villagers to be electrified. The consultant will review the proposed list and confirm that the proposed projects meet the required criteria.

12. Under Component 2, the IAs will in consultation with the provincial people’s committee and following a predetermined set of criteria (see Appendix 5 of RRP), propose to MOIT the list of communes to be included in Component 6 of the Project. Subject to a no-objection by MOIT, the list of communes to be electrified will be submitted to ADB for approval.

b. Feasibility

13. The consultant will for Component 1 (C1):

(i) review the proposed hydrological data collection program, the proposed hydro-meteorological station equipment and ensure the quality control of the reference stations;

(ii) review the analysis of the hydro-meteorological data and the determination of energy potential at project sites (ensure that flow duration curves are as far as possible prepared on the basis of daily flows and estimate firm power potential and average annual energy output for various levels of system demand);

(iii) review the flood analysis and suitability of design floods for the various project components (dam, powerhouse, etc.);

(iv) assess the impact of hydropower development on the availability of water for human consumption, irrigation, and other downstream uses in areas where water could be in short supply; and

(v) assess erosion and sedimentation issues in the reservoir, and at the intake and tailrace.

14. The consultant will (for C1):

(i) Review the geological conditions in the reservoir and project areas;

(ii) Review the geo-technical conditions at the site with particular reference to the foundation of the dam, spillway, waterways and power plant;

(iii) Assess the need for monitoring dam safety; and

(iv) Propose necessary field investigations needed for detail design stage.

15. The consultants will (for C1) review

(i) the civil works component review all the necessary layouts and designs to feasibility level for dam, water ways, powerhouse, tailrace in coordination with the mechanical and electrical engineers;

(ii) all aspects of mechanical works including the choice of turbine and installed capacity;

(iii) all aspects of the electrical works of the sub-project (generator, control equipment in powerhouse, transformers, and MV transmission line); and

(iv) the bill of quantities.

16. The consultant (for C1) will
(i) review in cooperation with civil, mechanical, and electrical engineers, and the environmental and resettlement specialists the project base cost estimates, including unit costs and estimates of quantities for project components, identification of local and foreign cost components, and physical and price contingencies; and

(ii) propose the most appropriate procurement method; prepare the sub-projects implementation schedules, a Gantt chart showing the schedule, and a procurement schedule, assess the Project's technical risks and carry out sensitivity analysis to check project viability under these risks.

17. The consultant will:

(i) Prepare demand forecasts for the low voltage consumers for each sub-project selected for feasibility study; and

(ii) Identify the risks, and undertake appropriate risk and sensitivity analysis with respect to the economic internal rate of return.

18. The consultant will undertake, but not be limited to, the following tasks:

(i) Review the overall financial viability of the selected group of sub-projects in each province; and

(ii) Carry out financial analysis of the proposed investment, including calculation of the financial internal rate of return taking into account all the financial costs and revenues that can be attributed to the proposed group of sub-projects.

19. In accordance with ADB's Environmental Policy (2002), Environmental Assessment Guidelines (2003), and Public Communications Policy (2005); the consultant will

(i) assist in the preparation of the initial environmental examination (IEE) as required of the proposed hydropower projects, associated transmission lines, and substations, considering the likely impacts associated with pre-construction and construction activities, as well as the long-term impacts during operation; and

(ii) As part of the EIA/IEE, assist in preparing an environmental management plan (EMP) detailing environmental mitigation measures to address each identified impact and an environmental monitoring program to be implemented during various project phases. The EMP shall identify specific costs, institutional responsibilities, schedule/timeframe, locations, and monitoring parameters.

20. The consultant shall also

(i) conduct an assessment of current institutional capability to implement the EMP and shall propose necessary capacity building program;

(ii) Conduct consultations with groups to be affected (local residents, local officials, people’s organizations, and other stakeholders) by the project and local NGOs. For category B projects, the public consultation shall be conducted at least once;

(iii) document the results of the consultation in the IEE;

(iv) ensure that the cost for implementing mitigation measures, monitoring plan and environmental management capacity strengthening activities are included in the sub-project cost; and
(v) Prepare the terms of reference for any further detailed environmental assessments, if required, in consultation with all concerned.

21. The consultant will in the event that a sub-project (C1) results in social impacts that will trigger ADB’s *Involuntary Resettlement Policy* (1995):

(i) Assist the relevant PC prepare a resettlement plan (RP) for the sub-project if an RP is required. The RP is to be prepared in accordance with ADB’s Involuntary Resettlement Policy and Operations Manual F2 (issued September 2006).

(ii) Preparation of a RP shall be based on a baseline socioeconomic and perception survey of at least 10% of the marginally affected and 20% the severely affected peoples (APs) (if any). Participatory Rapid Appraisal (PRA) techniques such as Key Informant Interviews, Focus Group Discussions, Community Public Meetings, Structured Direct Observations and informal surveys etc., may also be used to ensure adequate social baseline data is collected to allow preparation of the RP(s) which meet ADB requirements.

(iii) Compensation unit rates for all categories of losses and allowance are to be established and incorporated into the RP(s) in the Entitlement Matrix.

(iv) Design and implement an appropriate consultation program. The consultant will assist the IA disclose the RP(s) to affected communities and general public in a form and language they can understand. This can be in the form of a public information booklet, a summary resettlement plan, or a complete resettlement plan. The booklet or summary resettlement plan will state clearly that copies of complete RP(s) (in English and Vietnamese) are available to the public, and can be obtained from the local PC offices.

(v) Determine whether there will be "severely affected people" (based on ADB’s definition). If this is likely, then an appropriate program is to be designed to improve their socioeconomic status. The groups would include any people who might suffer disproportionately or face the risk of being marginalized from the effects of resettlement, i.e.; (a) female-headed households with dependents; (b) disabled household heads; (c) poor households; (d) landless elderly households with no means of support; (e) households without security of tenure; and (f) ethnic minorities, or in communities with special difficulties.

(vi) Work closely with the Social Development and Poverty Specialist to prepare ethnic minority-specific actions for inclusion in each resettlement plan or ethnic minority development plan in accordance with ADB’s Policy on Indigenous Peoples (1998), and include a gender strategy in each resettlement plan;

(vii) For Project components, ensure that suitable and acceptable consultations have occurred and that the project resettlement plans and ethnic minority-specific action or development plans, if any, have been disclosed to affected people; and

(viii) Recommend and participate in necessary consultations with stakeholders.

22. The consultant will for each district in which sub-projects will be developed, prepare a sample-based social assessment that will include:

(i) **Socio-economic profile of the households in the Project area:** Using census and secondary and primary data (household survey), prepare demographic, social, and economic profiles of the population (disaggregated by gender and ethnicity), in the district of the new villages to be electrified as a result of the Project or villages already electrified close to the proposed hydropower plant and along the dedicated
MV transmission line (C1 Project villages). Collect information access to social (education and health facilities) services (disaggregated by gender and ethnicity), access to market, electricity, transportation, water and sanitation in the Project villages. The consultant will also estimate the various population groups based on their poverty and vulnerability profile (disaggregated by gender and ethnicity), and their livelihood system.

(ii) People’s income and ability to pay in Project villages: The consultant will collect information on subsistence system and income opportunities of the households classified as very poor, poor, vulnerable, and non poor, including definition and estimated % of population). Specific attention will be placed on the amount of cash and in kind income. The survey and focus group discussion will include information on households’ interest in access to electricity and types of use of electricity for households’ activities; income and expenses and surplus income, whether surplus income could be used for payment for electricity, and what percent of income could be used for monthly payment for electricity, etc. The consultant will also estimate future income changes in the Project districts.

(iii) Use of electricity in the Project villages: The consultant will estimate the use of electricity (household – by income group, productive, public). S/he will also estimate the willingness and ability to pay of the different users. The cost recovery mechanism for the usage of electricity in public places (e.g. community hall) will also be assessed. To assess the potential for productive use of energy in the districts the consultant will discuss specifically potential for small scale manufacturing and farm production and agro-processing. In addition the importance of lighting for the rural trade sector will be assessed.

(iv) Impact of electricity on changing life: The consultant will analyze the impact of the Project (with and without and/or pre and ante analysis) on the people’s living situation as well as the social and poverty situation in the district overall. This will comprise both economic (income, land productivity, distribution structures) as well as social impact assessment (e.g. benefit of electricity for education, social life, changing gender dimensions) at household and village levels. A summary of positive and negative impact of electricity in the Project villages on men and women’s (as well as children’s and the elderly) work and life shall be prepared.

(v) Ethnic minorities: In the event that the Project villages has high share of indigenous communities, the consultant will also assess the impact of the project on the indigenous communities. S/he will propose – if necessary – how the benefits for the indigenous communities can be enhanced planned or ongoing community development plans. Specific attention will be given to the possibility of using the electricity for productive purposes thereby improving the livelihood and income situation of the indigenous people either as own-account micro-entrepreneurs or laborers. If the social analysis (mentioned above) determines that ethnic minority people are likely to be affected negatively by the land acquisition, an Ethnic Minority Development Plan (EMDP) will be prepared to address the concerns of the ethnic minorities in accordance with ADB’s Policy on Indigenous People. The EMDP will be prepared in full consultation with the IA as the IA will have to implement as part of the overall project implementation.

(vi) HIV/AIDS and human trafficking: It is expected that the Project will not have much impact on HIV/AIDS and human trafficking. The consultant will, however assess this briefly. Should there be an identified impact, then the consultant will develop
gender-sensitive recommendations for the HIV/AIDS and Prevention of Human Trafficking Awareness Campaigns of the government, and discuss them with respective agencies responsible at district/province levels. To this end, the consultant will: (i) collect information on incidence of HIV/AIDS and human trafficking in the Project districts; (ii) assess the type of and level of vulnerability of the population in the Project villages in HIV/AIDS (disaggregated by gender, ethnicity, age type of occupation, mobility etc) and Human Trafficking; (iii) assess the potential risk of HIV/AIDS and Human Trafficking; (iv) identify existing government programs in the Project districts for HIV/AIDS and the prevention of human trafficking as well as programs implemented by donors, nongovernmental organizations (NGOs); (v) assess the capacity building training need assessment of the Provincial and District Committees responsible for implementing HIV/AIDS awareness and prevention of human trafficking program; (vi) in coordination with existing programs, recommend a HIV/AIDS awareness and prevention of human trafficking program for the Project (construction and post construction period); (vii) recommend relevant linkages with other donors and NGOs’ programs; (viii) capacity building training cost and implantation of the program. The recommendations will be succinct and operational feasible directly linked to objectives of the ADB Project.

(vii) Gender: The consultant will prepare a socio-economic profile of women in the Project villages including their economic, social and political status, and their income opportunities. S/he will assess gender division of labor in agriculture and other related activities. S/he will also assess the impact of resettlement – if any - on women, including land acquisition, displacement, temporary disruption through relocation, etc. Specifically, the consultant will distinguish effects on women and men, being poor/vulnerable or not, single headed households or not, on women from the affected households, and by ethnic groups and age. The consultant will also make recommendations to the project team and the IA to address negative impacts as part of the Project directly or indirectly. The gender strategy on community development will focus on how women could be effectively involved in community development plan, relevant activities for women’s increase income, lessening the drudgery of women’s work, access to services etc. Resettlement related gender strategy should include: (i) livelihood programs relevant to women’s present occupation; (ii) women’s access to fair compensation and land titles; (iii) participation of women leaders in the District level resettlement committees; (iv) gender sensitive consultation processes and grievance mechanisms. Identify capacity building training needs of Provincial, District, and Village level Resettlement Committees. S/he will also develop gender-based monitoring indicators for resettlement and HIV/AIDS and Prevention of Human Trafficking. A summary on the net benefits of electricity on women’s work and social aspects of life will be prepared and this will be integrated in strategic gender recommendations for the Project.

(viii) Methodology. The consultant will base his/her analysis on various statistical reports, interviews, background material. S/he will follow the requirements of the ADB’s Handbook on Social Analysis (2007) and ADB’s Poverty Handbook (2006). S/he will – if possible – apply poverty impact assessment tools such as those developed by the World Bank (PSIA) or the DAC (PIA).17 The consultant will also conduct focus group discussion, consultation with men and women groups from

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17 For further information on analytical tools see also ADB’s Poverty website at www.adb.org/poverty
the villages. Furthermore the consultant will discuss the findings from the local research with Government agencies responsible for the project. S/he will make sure that her findings are integrated properly in the main report of the consultant team. For the poverty impact assessment the consultant will closely work with the Economist in the team.

(ix) The consultant will prepare a four-page poverty and social impact assessment summary for the Project which can be published at the ADB poverty website.

23. For C1 and C2, and following approval of the Feasibility studies (C1), the consultant will review the technical design and bidding documents prepared by the IAs’ national consultants ensuring ADB’s requirements are met, for all sub-projects and method of procurement (ICB, NCB, shopping). 18

2. Stage 2: Construction

a. Bidding

24. The consultant will assist PC1, PC2 and PC3, as required, (i) to evaluate the bids under Components 1 and 2, and (ii) during contract negotiations.

b. Construction and Commissioning

25. The consultant will monitor the construction of the facilities under Component 1 to ensure the timely progress of the works, to ensure that the works are carried out in accordance with the design and specifications, and that the quality of works meets the required standards and specifications. The scope of work will include, but not limited to:

(i) Review working drawings and construction designs of main components;
(ii) Monitoring quality control and the application of the Quality Assurance Program;
(iii) Monitoring the civil works of the Project to ensure that the works meet the design and specifications;
(iv) Monitoring of construction progress;
(v) Check compatibility between civil and mechanical/electrical works;
(vi) Monitor progress of construction works and progress payments for completed works;
(vii) Monitor compliance with relevant environmental mitigation and management plans, and the contractor’s health and safety programs including preparations of twice annual environmental supervision reports to MOIT and ADB;
(viii) Review of the contractor’s and supplier’s operation and maintenance manuals;
(ix) Preparation of reports to the Executing Agency and ADB at regular intervals to summarize the progress of the Project and to identify possible difficulties and delays.

18 ADB will approve the first bidding documents for NCB for procurement of goods and of civil works; subsequent bidding documents will be post evaluated.
26. The Consultant will assist PC1 under Component 1, as required; supervise the equipment suppliers to ensure the timely progress of the works, to ensure that the works are carried out in accordance with the design and specifications, and that the quality of supply and installation works meets required standards and specifications. This includes assessment of manufacturing and erection programs, materials, labor, erection and installation methods, and monitoring compliance during installation and commissioning. It also includes supervision of equipment supplier’s rates of progress, performance testing, compliance with specifications and drawings, health, safety, and environmental requirements.

c. Monitoring and Evaluation

27. To ensure the proper implementation of all the ethnic minority development activities according to the Project Ethnic Minority Development Framework, a monitoring and evaluation will be conducted on the ethnic minority stakeholders’ benefiting from the Project. The tasks of a Monitoring and Evaluation consultant will be to

(i) collect data and establish a socio-economic baseline of two villages in two provinces to be electrified under Component 1, and of two reference villages not to be electrified with similar socio-economic conditions in the same or neighbouring provinces;

(ii) collect data and establish a socio-economic baseline of four villages in four provinces to be electrified under Component 2, and four reference villages not to be electrified with similar socio-economic conditions in the same or neighbouring provinces;

(iii) conduct a monitoring during the mid-term review of the Project of the same villages with baseline assessment under Components 1 and 2; and

(iv) follow up with an assessment at the completion of the Project on the same villages concentrating on reviewing if/how electrification has contributed to improving households’ lives and livelihoods.

28. The Consultant shall assist in monitoring the implementation of the Environmental Management Plan (EMP) of EIA by the contractors and implementation of Resettlement and Ethnic Minority Development Plan (REMDP). Consultant shall provide experienced and qualified specialists on environment and resettlement to assist EVN. The scope of work shall include but not limit to:

(i) Assist IAs in Establishing the Environment Management Units (EMU) and setting up procedures for monitoring the compliance with EMU requirements by contractors;

(ii) Prepare detailed program for implementing the EMPs during construction which includes the following aspects:

(a) Environment properties that required supervision, work under supervision and monitoring frequency in correlation with Viet Nam and International standards;

(b) Collection of Social data;

(c) Assist the EMU in monitoring the specific aspects as outlined in the EMPs;

(d) Detail of mitigation measures applied during Project implementation; and
Appendix 10

(e) Regular report and final reports on environment for impact assessment.

(iii) Prepare regular reports for EVN/PCs and ADB on the progress in implementing the EMP; and

(iv) Coordinate with EMU of PCs and local authorities and Contractors to minimize adverse impacts on social and natural environment issues, address them as required.

G. Implementation Arrangements

29. PC1, PC2 and PC3 are the Project Implementing Agencies (IAs) and will provide counterpart staff, office space and furniture, and site transportation without cost to the consultant. The IAs will also provide available reports of small hydropower plants and MV grid extensions.

H. Reporting

30. The consultants will prepare the following reports for the IAs and ADB: (i) an inception report within one month after the commencement of services; (ii) an Interim Report at the completion of each report of sub-project groups; (iii) quarterly progress reports, and (iv) a draft Project Completion Report (PCR) three months after the completion of the services (in 2015). The final PCR will be submitted one month after approval of the report by ADB. Reports and computations will be submitted also in electronic form.

31. Tripartite meetings will be held in Hanoi after submission of each major report.

I. Tentative Staffing

32. The following table shows the tentative staffing requirements for the proposed services. Consultant may propose a different person-month distribution, subject to maintaining a minimum of 56 person-months for international consultants and 54 for national consultants.
<table>
<thead>
<tr>
<th>Personnel (incl. specific experience requirements)</th>
<th>Tentative Person Months for each specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management and Planning</td>
<td></td>
</tr>
<tr>
<td>Team Leader (experience in similar projects for IFI a bonus)</td>
<td>9.0 -</td>
</tr>
<tr>
<td>Deputy Team Leader</td>
<td>- 5.0</td>
</tr>
<tr>
<td>Small Hydro and Rural Electrification Planner</td>
<td>4.0 -</td>
</tr>
<tr>
<td>Hydrologist (experience in tropical hydrology a bonus)</td>
<td>2.0 2.0</td>
</tr>
<tr>
<td>Geologist/Geotechnical Engineer</td>
<td>1.0 1.0</td>
</tr>
<tr>
<td>Civil Engineer</td>
<td>- 1.0</td>
</tr>
<tr>
<td>Mechanical Engineer (small hydro)</td>
<td>2.0 -</td>
</tr>
<tr>
<td>Electrical Engineer</td>
<td>2.0 -</td>
</tr>
<tr>
<td>MV Transmission and Distribution Engineer</td>
<td>1.0 -</td>
</tr>
<tr>
<td>Power economist</td>
<td>2.0 2.0</td>
</tr>
<tr>
<td>Financial analyst</td>
<td>2.0 2.0</td>
</tr>
<tr>
<td>Resettlement specialist</td>
<td>6.0 2.0</td>
</tr>
<tr>
<td>Environmentalist</td>
<td>4.0 2.0</td>
</tr>
<tr>
<td>Social Development, Poverty and Gender Specialist</td>
<td>4.0 2.0</td>
</tr>
<tr>
<td>MV Transmission and Distribution Engineer</td>
<td>1.0 1.0</td>
</tr>
<tr>
<td>Sum</td>
<td>40.0 20.0</td>
</tr>
</tbody>
</table>

**Stage 1 - Identification, Feasibility Study and bid documents**

**Stage 2 - Bidding and Construction**

<p>| Management and Planning                          |                                           |
| Team Leader                                      | 6.0 -                                    |
| Deputy Team Leader                               | - 20.0                                   |
| Geologist/Geotechnical Engineer                  | - 1.0                                    |
| Civil Engineer                                   | - 1.0                                    |
| Mechanical Engineer                              | 1.0 -                                    |
| Electrical Engineer                              | 1.0 -                                    |
| Transmission and Distribution Engineer           | - 6.0                                    |
| Resettlement Specialist                          | 4.0 3.0                                  |
| Environmentalist                                 | 4.0 3.0                                  |
| Sum                                              | 16.0 34.0                                 |</p>
<table>
<thead>
<tr>
<th>Personnel (incl. specific experience requirements)</th>
<th>Tentative Person Months for each specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>International</td>
</tr>
<tr>
<td></td>
<td>56.0</td>
</tr>
</tbody>
</table>

IFI: International Financial Institution
Table A.10: Cost Estimates and Financing Plan  
($'000)

<table>
<thead>
<tr>
<th>Item</th>
<th>Small Hydro Project Implementation</th>
<th>Energy Law</th>
<th>Income-Generating Activities</th>
<th>Total</th>
<th>Financing Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Climate Change Fund and Technical Assistance Special Fund&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Consultants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Remuneration and Per Diem</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. International Consultants</td>
<td>1,118</td>
<td>100</td>
<td>-</td>
<td>1,218</td>
<td>CCF</td>
</tr>
<tr>
<td>ii. National Consultants</td>
<td>187</td>
<td>32</td>
<td>56</td>
<td>275</td>
<td>CCF</td>
</tr>
<tr>
<td>b. International and Local Travel</td>
<td>425</td>
<td>34</td>
<td>33</td>
<td>492</td>
<td>TASF</td>
</tr>
<tr>
<td>c. Reports and Communications</td>
<td>35</td>
<td>10</td>
<td>5</td>
<td>50</td>
<td>TASF</td>
</tr>
<tr>
<td>4. Miscellaneous Administration and Support Costs</td>
<td>55</td>
<td>11</td>
<td>12</td>
<td>78</td>
<td>TASF</td>
</tr>
<tr>
<td>5. Training, Seminars, and Conferences</td>
<td>85</td>
<td>30</td>
<td>30</td>
<td>145</td>
<td>TASF</td>
</tr>
<tr>
<td>6. Representative for Contract Negotiations</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>5</td>
<td>TASF</td>
</tr>
<tr>
<td>7. Contingencies&lt;sup&gt;b&lt;/sup&gt;</td>
<td>190</td>
<td>33</td>
<td>14</td>
<td>237</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal (A)</strong></td>
<td><strong>2,100</strong></td>
<td><strong>250</strong></td>
<td><strong>150</strong></td>
<td><strong>2,500</strong></td>
<td></td>
</tr>
<tr>
<td>B. Power Company Financing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Office Accommodation&lt;sup&gt;c&lt;/sup&gt;</td>
<td>21</td>
<td>-</td>
<td>2</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>2. Transport&lt;sup&gt;d&lt;/sup&gt;</td>
<td>105</td>
<td>-</td>
<td>8</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>3. Remuneration and Per Diem of Counterpart Staff</td>
<td>200</td>
<td>-</td>
<td>14</td>
<td>214</td>
<td></td>
</tr>
<tr>
<td>4. Others</td>
<td>21</td>
<td>-</td>
<td>2</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal (B)</strong></td>
<td><strong>347</strong></td>
<td><strong>-</strong></td>
<td><strong>25</strong></td>
<td><strong>371</strong></td>
<td></td>
</tr>
<tr>
<td>C. Government Financing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Office Accommodation&lt;sup&gt;c&lt;/sup&gt;</td>
<td>-</td>
<td>3</td>
<td>-</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2. Remuneration and Per Diem of Counterpart Staff</td>
<td>-</td>
<td>24</td>
<td>-</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>3. Others</td>
<td>-</td>
<td>3</td>
<td>-</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal (C)</strong></td>
<td>-</td>
<td><strong>29</strong></td>
<td>-</td>
<td><strong>29</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,447</strong></td>
<td><strong>279</strong></td>
<td><strong>175</strong></td>
<td><strong>2,900</strong></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Administered by the Asian Development Bank.
<sup>b</sup> Contingency amount is composed of $107,000 (CCF) and $130,000 (TASF).
<sup>c</sup> The executing agencies and the Ministry of Industry and Trade will provide furnished office space for the consultants including telephone line and internet connection.
<sup>d</sup> The executing agencies will provide vehicles for site surveys.
Source: ADB Staff estimates.
A. Linkages to the National Poverty Reduction Strategy and Country Partnership Strategy
Viet Nam has been one of the fastest growing economies in Asia for the last two decades, with real gross domestic product (GDP) growth averaging 8.0% per annum during 2003–2007; per capita GDP increased to $817 in 2007 compared with $441 in 2002. Although the country has suffered from high inflation due to high energy and food prices and supply bottlenecks, the long-term growth prospects remain positive. Viet Nam has achieved remarkable progress in socioeconomic development since 1993. The reduction in the national poverty rate from 58% in 1993 to less than 20% by 2007 is unprecedented. However, poverty remains at over 50% in northern mountain provinces inhabited by ethnic minority communities. The lack of infrastructure facilities and nonfarm income generation activities has contributed to the persistent poverty in these isolated areas. The country strategy and program of the Asian Development Bank (ADB) for Viet Nam focuses on supporting pro-poor economic growth, social equity and balanced development, and sustainable environment management. One of the key challenges for poverty reduction in Viet Nam’s Socio-economic Development Plan (SEDP) is to provide the basic services and infrastructure needed to ensure the access to markets needed to attract private investment and create jobs. ADB’s country strategy to help the Government reduce poverty by implementing SEDP targets is particularly focused on promoting pro-poor, economic growth. Provision of basic infrastructure is one of the prerequisites. The Government’s poverty reduction strategy emphasizes support for poor, remote, isolated, and ethnic minority areas.

The potential for electricity to facilitate communication, income generation, and economic growth is part of the Government's poverty reduction strategy. Currently 91.5% of households in Viet Nam are connected to the national power grid system. The Government plans to extend the system to connect about 96% of villages. Those remaining unconnected are communes in remote mountain, central, and southern provinces, often inhabited by ethnic minorities with 40%-70% of the population living under the national poverty line. The Project contributes to the Government’s objective of ensuring electricity to 100% of households by 2012. The Project is targeted to connect more than half of the remaining villages without access to electricity with mini-hydro schemes and network expansion. It will thus contribute to the Government’s goal of promoting pro-poor and balanced economic development of remote and isolated mountainous and isolated communes using renewable energy.

B. Poverty Analysis

1. Key Issues
   The Project is designed with a special focus on geographically target poor communities for electrification in the northern, central, and southern provinces. It will include remote communes and unelectrified communes of these provinces. Electrification of communes and villages without access to electricity is one of the criteria for selecting sites for development of mini-hydropower plants and network expansion under the Project. Given Viet Nam’s rate of electrification of over 90%, the remaining communes and villages to be electrified under the Project are likely to be poor communes with little access to infrastructure such as electricity. Component 2 for grid extension and rehabilitation is specifically targeted for communes that are officially classified as poor to receive government assistance under Program 135 for poverty reduction and rural infrastructure development or at least 50% of households receiving electricity through a subproject shall have income level below the national poverty rate. The Project will support the Government’s effort to provide all households in the country with electricity by 2020 as part of rural infrastructure provision in the Government’s SEDP. The Project will contribute indirectly to poverty reduction by providing electricity to households, and improving socioeconomic and living standards in high-poverty geographic areas. Social and poverty impact assessment for the central and southern communes has not been completed yet. Social and poverty assessment for mountainous communes indicates that electricity is mainly used for household purposes such as lighting. The scope for productive use of electricity in the mountainous communes is limited, especially in ethnic minority dominated areas.

2. Design Features
   The poor households (i.e., those having a monthly income of less than D200,000 ($13) per capita) will receive free electricity connections. The Project thus contributes particularly to inclusive social development by improving living conditions, and to a lesser extent to pro-poor economic growth through some additional potential for income generation of poor remote mountain communities through productive use of electricity. Under the productive use of electricity component, ethnic minority individual households or groups will be supported to get access to microfinance from the existing microfinance program of the Social Policy Bank. Microfinance will be used for productive activities and to create income-earning opportunities through small businesses. The productive use of electricity component will be limited to the subprojects under component 1 (mini-hydro). A nongovernment organization (NGO) will be recruited to facilitate implementation of microfinance activities.
II. SOCIAL ANALYSIS AND STRATEGY

A. Findings of Social Analysis

Lack of electricity is a major development constraint for the project-targeted communes for household living standards, economic activities, and service delivery. In remote mountain communities, currently households produce electricity through micro-hydropower generators and use kerosene lamps for lighting. Government services such as schools and commune health care stations have no access to electricity. Income generation is based on low-production, small-scale agriculture based on manual labor. Electricity provision can potentially contribute to improving living and production conditions, given that people can afford and will have the capacity to utilize electricity. Electricity can make improvements in agriculture, animal breeding, and food processing. Microfinance can help households buy machinery for wood processing, agriculture, small business, and construction. Electrification will provide better lighting, security, and comfort; and increase participation of household members in evening social events in and around the villages. Local public services like education and health care facilities will potentially be improved through stable electricity provision.

A household's ability to benefit from electricity, preparedness for electrification, and willingness to pay for electricity depends on its socioeconomic condition. Ethnic minority households in mountainous areas often lack motivation for electrification and are not willing to pay for its use. Pricing of electricity will be the most important factor for poor households to connect and use electricity. Minimizing the cost of electricity connection to poor households through the Project might motivate poor households to electrify their houses. Electrification is an important infrastructure for improving living conditions; however, electricity provision needs to be combined with other development efforts, resources, skill training, access to capital such as microfinance, irrigation facilities, provisions for agriculture, employment opportunities, road networks, market access, and access to basic services for sustainable improvement of the living conditions of remote communities.

The project activities for the mountainous communities include (i) motivational and awareness raising campaign on safe use of electricity, conservation, and promotion of productive use of electricity; (ii) subsidized grid connection to all poor households; (iii) access to energy-efficient bulbs; (iv) support to microfinance access for poor households from the Social Poverty Bank and Women’s Union for the subprojects; and (v) technical support to borrowers in utilizing the loans in an efficient way. In the communes, a community management board (CMB) will be formed with participation of commune leaders and representatives from the Women’s Union, other mass organizations, village leaders, and women leaders to facilitate implementation of these activities. An NGO will be recruited to build capacity of the CMB and to implement the activities together with the CMB. The NGO will provide support to poor households in selecting activities and identifying microfinance needs for these. The microfinance program will be targeted to the communes with mini-hydro plants in component 1 and concentration of ethnic minorities as part of the ethnic minority development plan. Although electricity would lead to socioeconomic development of the remote communities, exposure of these remote communities with the outside world can also increase risks of HIV/AIDS, sexually transmitted diseases (STDs), and human trafficking. To counter any risk of HIV/AIDS or STDs, a prevention of HIV/AIDS and human trafficking program is included in the Project. The construction laborers, and women and men from the subprojects will be targeted for this program.

B. Consultation and Participation

1. Stakeholders were consulted in the subproject locations in Lai Chau using a sample household survey; interviews with individuals; and focus group meetings with key stakeholders from different categories such as men and women, from different occupational groups such as small business owners, education and healthcare providers, local administration, and regional development authorities. A project consultation plan was prepared for the subprojects. Consultations have to involve formal commune and commune leaders and traditional ethnic minority leaders, men and women from the communities, mass organizations, and relevant officials.

2. What level of consultation and participation (C&P) is envisaged during the project implementation and monitoring?
   - [ ] Information sharing
   - [x] Consultation
   - [ ] Collaborative decision making
   - [ ] Empowerment

3. Was a C&P plan prepared? [x] Yes [ ] No

A Project C&P strategy was prepared to guide preparation of subproject specific C&P plans (Supplementary Appendix P).

C. Gender and Development

1. Key Issues

This gender analysis is limited to the subproject area of the northern mountainous region. In the mountainous ethnic minority communities, women’s social status is generally lower and mobility is less than for Kinh women. Lower education, remote location, and lack of road networks have resulted in ethnic minority women having few contacts outside their own community. Women’s economic role is related to subsistence agriculture, collecting non-timber forest products, and animal breeding. Lack of electricity for pumping water and irrigation facilities is a constraint for women’s work in agriculture. Living standards, social services, and income generation suffer from lack of roads, transportation,
electricity, and employment opportunities. The poorest households in general are the ones relying on small-scale agriculture; they lack financial resources and capacity for broadening their income generation base. The most vulnerable households among these are those headed by women. Access to electricity and income-earning activities is an important factor for their socioeconomic situation. Access to electricity might provide women with opportunities for small business, trade, and agricultural tools. Mechanization of agricultural tools and electric appliances might lessen their drudgery. If electricity is provided in public places through street lighting, this will contribute to women’s security, mobility, and participation in different social events in the evening.

Electricity will improve health care services and maternal care for women. Refrigeration supports better access to and quality of medicines, vaccines, and blood bank products, which potentially improve health security for women, men, and children. This development, however, is dependent on public sector investment and human resource capacity. Project construction for the mini-hydro component will bring outside male workers to local areas, possibly from different cultural environments and with different cultural habits. The presence of workers may potentially increase the risk for women and girls to be exposed to STDs and HIV/AIDS. Electrification may also increase the number of restaurants, karaoke bars, and nighttime activities. In some subproject areas, electrification will, in the long run, open up for development of tourism, this can pose potential risk of sexual exploitation of women and girls.

### 2. Key Actions

<table>
<thead>
<tr>
<th>Gender plan</th>
<th>Other actions/measures</th>
<th>No action/measure</th>
</tr>
</thead>
</table>

The Project’s gender strategy is related to the following project activities: (i) CMB, (ii) awareness campaign on safe use of electricity and conservation; (iii) productive use of electricity through microfinance; (iv) HIV/AIDS, STDs, and human trafficking program; and (v) resettlement. However, the gender strategy in component 2 (network expansion) is limited to an awareness campaign on safe use of electricity and conservation; and an HIV/AIDS, STDs, and human trafficking program. The gender strategy including the HIV/AIDS and human trafficking prevention campaign will be implemented by the NGO to be recruited under the associated TA. The following are specific measures to ensure women’s involvement in the project activities and that they benefit from the Project:

(i) Inclusion of representatives of the Women’s Union and two women leaders from ethnic minority communities including one woman leader from a poor household in the CMB; capacity building training for women CMB members for planning, implementing, and monitoring project activities (productive use of electricity, awareness of safe use of electricity, and conservation).

(ii) Ensure (a) female households, ethnic minority women, and poor women receive subsidized grid connection of electricity; (b) separate meeting with women’s groups for awareness campaign on safe use of electricity; and (c) participation of ethnic minorities, female households, and poor women in the awareness campaign.

(iii) Train Women’s Union members to facilitate campaign on HIV/AIDS, STDs, and human trafficking program; the HIV/AIDS, STDs, and human trafficking program should targeted women’s groups in the villages; the information and educational material for campaign on HIV/AIDS, STDs, and human trafficking program and motivational campaign on safe use of electricity should be relevant to the ethnic minority culture in the subproject area.

(iv) Conduct a needs assessment for women-specific activities through microfinance; conduct meetings with women’s groups to provide information on the microfinance program and its potential for income generation; provide skill training to women borrowers for productive use of microfinance; specifically target households headed by women and poor women for income improvement activities.

(v) In subprojects, include a resettlement plan gender strategy to ensure that women are consulted separately for loss of inventory, land acquisition, compensation, and logistics.

(vi) In cases where land allocation is required, register the land in both the husbands and wife’s name; and pay compensation to both men and women.

(vii) Ensure that ethnic minority women and poor women participate actively in all the relevant project activities mentioned and have equal access to project benefits; ensure the project monitoring system develops gender disaggregated monitoring indicators for resettlement, awareness and motivational campaign on safe use of electricity, awareness campaign on HIV/AIDS and human trafficking, and microfinance for productive use of electricity.

(viii) Provide capacity building and awareness for the project implementation unit on gender and ethnic minority issues; recruit a national gender specialist for 24 person-months as part of the consultant team to work with the project NGO and project implementation unit to prepare an action plan to operationalize the above measures to address gender issues in the relevant project activities.
### III. SOCIAL SAFEGUARD ISSUES AND OTHER SOCIAL RISKS

<table>
<thead>
<tr>
<th>Issue</th>
<th>Significant/Limited/No Impact</th>
<th>Strategy to Address Issue</th>
<th>Plan or Other Measures Included in Design</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Involuntary Resettlement</strong></td>
<td>Impact depending on each subprocess setting and design; households may lose productive assets</td>
<td>If subproject will lead to loss of land, a compensation plan has to be prepared</td>
<td>□ Full Plan</td>
</tr>
<tr>
<td><strong>Indigenous Peoples</strong></td>
<td>Subprojects located in northern mountainous areas, central and southern provinces</td>
<td>Ethnic minority development plan was prepared for one subproject in northern mountainous area and an ethnic minority development framework was prepared for the subprojects. The framework will be updated after the impact assessment is completed for the subprojects of central and southern provinces.</td>
<td>□ Plan</td>
</tr>
<tr>
<td><strong>Labor</strong></td>
<td>□ Employment opportunities&lt;br&gt;□ Labor retrenchment&lt;br&gt;☑ Core labor standards</td>
<td>The construction contracts will include provision of fair wages, equal wages for men and women for equal work, and basic facilities in the construction camp.</td>
<td>□ Plan</td>
</tr>
<tr>
<td><strong>Affordability</strong></td>
<td>Significant for poor household’s ability to benefit from the Project</td>
<td>The main affordability issue is the poor household’s ability to pay for the initial connection cost and house wiring as this may cost up to $200 per household. (i.e., equal to 20%–25% of average annual household income). Hence, poor households will be provided subsidized connections at $40. The monthly electricity bills are expected to range from $1 to $2, this amount is less than the expenditure on kerosene.</td>
<td>□ Plan</td>
</tr>
<tr>
<td><strong>Other Risks and/or Vulnerabilities</strong></td>
<td>☑ HIV/AIDS&lt;br&gt;☑ Human trafficking&lt;br&gt;□ Others (conflict, political instability, etc), please specify</td>
<td>Awareness campaign for preventing HIV/AIDS and human trafficking is prepared.</td>
<td>□ Plan</td>
</tr>
</tbody>
</table>

### IV. MONITORING AND EVALUATION

Are social indicators included in the design and monitoring framework to facilitate monitoring of social development activities and/or social impacts during project implementation? ☑ Yes □ No
DISBURSEMENT ARRANGEMENTS

A. Guidelines and Practices

a. General Guidelines

1. The recipient is responsible for implementing the project according to the grant agreement. ADB, on its part, monitors the project and reviews its progress to ensure that the Loan proceeds are spent as agreed upon.

2. When the Loan becomes effective, the Loan account is opened in ADB’s books in the name of the recipient and the Loan amount is credited to that account. Withdrawal from the account is approved only after fulfillment of the requirements indicated under basic requirements below.

b. Disbursement Letter

3. Disbursement Letter will be dispatched by the Disbursement Division after the Loan agreement is signed. It outlines the disbursement procedures and other related arrangements for financial administration of the Project.

B. Requirements for Disbursement

a. Basic Requirement

4. The first withdrawal application from the Loan account requires that:

(i) ADB declared the Loan agreement effective;

(ii) The Recipient submitted to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the Borrower, together with the authenticated specific signature of each authorized person before the first withdrawal application is sent to ADB. (Any subsequent change in the list of authorized representatives must be reported immediately and authenticated specimen signatures of new representatives must also be provided); and

(iii) Disbursement conditions as specified in the Loan agreements are met.

b. Withdrawal Application

5. For all withdrawals, ADB must receive a withdrawal application in the prescribed form. A withdrawal application is a written request from the Recipient to ADB to pay funds against the Recipient’s Loan account. No withdrawal application will be entertained after the Loan closing date. The Loan closing date is the date ADB may terminate the right of the recipient to make withdrawals from the Loan account. Expenditures incurred after the Loan closing date will not be financed under the Loan.
6. Before the first W/A is submitted to ADB, the name of the authorized representative(s) must be provided to ADB, through the Authorized Representatives of the Recipients, including the authenticated specimen signatures of the representative(s).

7. The W/A should be signed by the authorized representative(s), sequentially numbered and should not exceed five digits (00001, 00002, etc.)

8. The W/A forms and summary sheets to be used vary for the different procedures. A separate W/A for each currency requested should be submitted.

9. The W/A to be submitted to ADB must be the signed original copy. However, supporting documents may be in photocopies.

10. A withdrawal application consists of:

   (i) the application itself, in letter form, in 2 copies;
   (ii) summary sheet(s) for each category claimed; and
   (iii) original supporting documents.

11. A withdrawal application should:

   (iv) Indicate the payee’s complete name.
   (v) Indicate the complete name and address of the designated payee’s bank, including the name of a branch office, where applicable, and the payee’s account number.
   (vi) Be sure to indicate the complete name and address of the payee bank’s correspondent bank in the country of the currency of payment where applicable, and the account number of the payee’s bank.

C. Allocation of Loan Proceeds

12. The Loan proceeds shall be disbursed on the basis of the percentages stated in the Loan Agreement.

D. Direct Payment (Page 24 of the Handbook)

13. It is a procedure whereby ADB, at the recipient’s request, pays a designated beneficiary directly.

   1. Supporting Documents for Direct Payment

      (i) Signed Withdrawal Application (ADB-DRP/RMP, Appendix 3 of Handbook);
      (ii) Summary Sheet (ADB-DRP-SS, Appendix 4 of Handbook);
      (iii) Contract or confirmed purchase order, indicating amount and due date;
      (iv) For payment of goods: supplier's invoice and bill of lading or other similar documents; and
      (v) For payment of services: consultants’ claim or invoice

E. Other Instructions

14. The withdrawal application’s signed original copy is submitted to ADB. Supporting documents may be submitted as photocopies.
F. **Commitment Procedure (page 26 of Handbook)**

15. This procedure is used for financing import of goods. A letter of credit is usually opened by a commercial bank. The negotiating bank is authorized to seek payment from ADB under the Loan.

16. ADB issues a Commitment Letter against a letter of credit (L/C), and agrees to pay (on behalf of the Recipient and out of Loan funds) the negotiating bank for the payments made or to be made to the supplier in accordance with the terms of the L/C.

1. **Supporting Documents for Issuing Commitment Letter**

   (i) Signed Application for Commitment Letter (ADB-CL, Appendix 5 of Handbook);
   (ii) Summary Sheet (Appendix 6)
   (iii) Contract or confirmed Purchase Order;
   (iv) Two signed copies of L/C.

17. ADB issues a Commitment Letter to the designated commercial bank (usually advising bank) as shown in Appendix 7 of Handbook. A copy of ADB’s commitment letter is also sent to the EA for information.

2. **ADB’s Payment to the Negotiating Bank**

18. The Commitment Letter provides for ADB’s payment to the negotiating bank upon receipt of the reimbursement claim confirming that negotiation has been done in full compliance with the letter of credit terms. Such reimbursement claim is usually made by tested telex or authenticated SWIFT message.

3. **Amendment to the Letter of Credit**

19. ADB’s approval is required for amendment to the letter of credit (L/C) involving:

   (i) terms of payment including currency and amount of L/C;
   (ii) the description or quantity of goods;
   (iii) beneficiary;
   (iv) country if origin; and
   (v) extension of the expiry date of L/C beyond the Loan closing date.

20. Amendments not mentioned above do not require ADB’s approval. For example, extension of L/C expiry date within Loan closing date does not require ADB’s approval, but simply inform ADB of such extension by filling out the form shown as Appendix 11 of Handbook and attaching one copy of the amendment.

G. **Reimbursement Procedure (page 30 of Handbook)**

21. ADB pays to the project account for eligible expenditures which have been incurred and paid for by the Government out of its budget allocation or its own resources (page 30 of Handbook).
1. **Supporting Documents for Reimbursement Procedure**

(i) Signed Withdrawal Application (ADB-DRP/RMP, Appendix 3 of Handbook);
(ii) Summary Sheet (ADB-RMP-SS, Appendix 4 of Handbook);
(iii) Contract or confirmed Purchase order, if not yet submitted earlier to ADB; and
(iv) Evidence or receipt of payment showing the amount paid, the date of receipt and the payee.

**H. Statement of Expenditure (SOE) Procedure**

22. This is a procedure requiring no submission of supporting documents. Any individual payment to be reimbursed or liquidated under the SOE procedure shall not exceed $100,000 (including counterpart fund). The procedure derives its name from the Statement of Expenditure (SOE) form, which is submitted with the Withdrawal Application (W/A). The SOE is used in lieu of the usual supporting documents and the Summary Sheet. It may also be used in connection with the liquidation or replenishment of the Imprest Account (page 31 of Handbook).

23. Three types of SOE are available:

(i) SOE form for contract items, mostly related to civil works (Appendix 12 and 13 of Handbook);
(ii) SOE form for noncontract items, mostly related to operating expenses and overhead (Appendix 14 of Handbook); and
(iii) SOE form (free format) for items not provided in the other SOE forms (Appendix 15 of Handbook).

24. Alterations on the application forms are initialed by the recipient’s authorized representatives.

25. In the SOE, the borrower certifies that:

- Expenditures have been incurred and paid for under the terms and conditions of the Loan agreement; and
- Records are maintained and are available for examination by ADB disbursement/review missions and independent auditors.

26. The following conditions must exist before the recipient can use the procedure:

- Impracticability of Full Documentation – The SOE procedure is used where it is impractical to require full documentation. This may apply to EA operating costs or expenditures related to small civil works contracts scattered over a wide area.
- Recipient’s Capability – The recipient must have sufficient administrative and accounting capabilities to prepare and maintain proper SOE records and make them readily available for examination.
- Audit Requirements – The recipient must be capable of arranging for periodic or annual audits of SOE transactions as part of the project’s audit.
F. **PCSS Numbers**

27. The Procurement Contract Summary Sheet (PCSS) number is assigned by ADB for identifying a particular contract approved by the borrower and submitted to ADB under the Loan. The PCSS includes the following:

- ADB contract number;
- Date of contract approval;
- Mode of procurement;
- Name of contractor or supplier;
- Terms of payment and currency of contract; and
- Percentage of ADB financing.

28. On checking the details of payment made under a particular withdrawal application from the ADB Loan Financial Information System (GFIS) Website, the EA will use the PCSS Number under a particular Loan number.

29. Without the PCSS, ADB’s Controller’s Department could not proceed with the processing of payment for the W/A.

30. When an amendment or a variation of a contract is made, a copy of the variation order should also be sent to ADB, for updating of the PCSS.

31. To avoid delay in the processing of payment, the PCSS No. should be indicated in the W/A to be submitted by the EA. The PCSS No. should be shown in the summary sheet.

H. **Disbursement Reports**

32. Recipient, EA, and Donors are given information on the status of Loan disbursement in:

- semi-monthly listings of Loan disbursements (see page 120 of the Handbook);
- statement of withdrawal vouchers; and
- statements of amount capitalized.

33. The above reports and other information are available online at LFIS website at URL://lfis.adb.org. For access to the loan information website, requests may be sent by e-mail to lfis@adb.org.

34. The recipient and its EA provide ADB with the current names, mailing, and e-mail addresses of contact persons who should receive the reports. An updated list of contact persons is to be sent to ADB immediately when there are changes in contact persons or addresses.
PROCEDURES FOR ESTABLISHING AND OPERATING THE LOAN IMPREST ACCOUNT

A. Definition

1. Whenever used in this procedure, unless the context otherwise requires, several terms defined in the Loan Agreement between the Recipient and the Asian Development Bank (ADB) have the respective meanings therein set forth.

B. Imprest Account for Loan Proceeds

2. For the purpose of this project, the Recipient shall cause the Executing Agency to establish after the Effective Date, an Imprest Account. The Imprest Account shall be established, managed, replenished and liquidated in accordance with ADB’s “Loan Disbursement Handbook” of January 2007, as amended from time to time and detailed arrangement between Government of Viet Nam and ADB.

C. Eligible Expenditures

3. Payments out of the Imprest Account will be made exclusively to meet eligible expenditures in accordance with the provisions of Schedule 2 of the Loan Agreement.

D. Account Name and Authorization for Withdrawals

4. The Imprest Account will be opened and maintained at the designated bank acceptable to ADB, in the name of the EDC and the person or persons duly authorized by EDC for making withdrawals from the Loan Account, under relevant provisions of the Loan Agreement will be responsible for operating the Imprest Account and withdrawals and payments therefrom.

E. Initial Advance and Ceiling

5. After the Effective Date, on the basis of a Withdrawal Application-Imprest Fund (Form ADB-IFP) and an Estimate of Expenditure Sheet (Form ADB-IFP-EES) from the PMU setting out the estimated expenditures for the first six months of project implementation, and submission of evidence satisfactory to ADB that the Imprest account has been duly opened, ADB will withdraw from the Loan Account and deposit into the Imprest account an initial amount based on the estimated expenditure for the first 6 months of project implementation or 10% of the total Loan, whichever is lower.

F. Liquidation and Replenishment

6. The EDC will, on a regular basis, furnish to ADB in respect of all payments out of the Imprest Account, the duly filled-in Withdrawal Application-Imprest Fund (Form ADB-IFP-WA) and Summary Sheet (ADB-IFP-SS), together with such supporting documents and other evidence as ADB will reasonably request, showing that each payment was made for eligible expenditures. ADB agrees to the use of the Statement of Expenditure (SOE) procedure for expenditures incurred not exceeding US$100,000.

7. For every liquidation and replenishment request, the PMU will furnish to ADB (a) Statement of Account (Bank Statement) prepared by commercial banks, and (b) the Imprest Account
Reconciliation Statement (IARS) reconciling the abovementioned Bank statement against the EDC’s records.

8. ADB may at any stage by notice to the EDC, suspend further replenishments to the Loan Imprest Account if they failed to comply with any of the provisions of this Appendix.

G. Accounts and Records

9. The EDC will ensure that all amounts received for or in connection with the Loan Imprest Account and amounts withdrawn therefrom are recorded in a separate account in accordance with consistently maintained sound accounting principles. The EDC will retain until one year after the closing date for withdrawals from the Loan account all accounts and records including orders, invoices, bills, receipts and other original documents evidencing the expenditures paid out of the Imprest Account, and will enable ADB’s representatives to examine such account and records during disbursement and review missions.

H. Audit

10. The EDC will cause an independent auditor or government auditor acceptable to ADB to annually audit the Imprest Account/SGIAs and records referred to in Paragraph 43 above and furnish to ADB certified copies of audit report and audited financial statements not later than 6 months after the end of each fiscal year. An opinion on the examination of the Imprest Account and SGIAs should be separately set out in the said Auditor’s Report.

I. Ineligible or Unjustified Payment

11. Where any withdrawal or payment from the Loan Imprest Account/SGIAs is determined by ADB (i) to have been utilized for any purpose not eligible, or (ii) not justified by the evidence furnished pursuant to Paragraph 10 of this Attachment, the EDC will, promptly upon notice from ADB, deposit into the Loan Imprest Account/SGIAs an amount equal to the amount of such payment or the portion thereof not eligible or justified, in the same currency as that in which the amount was withdrawn from the Loan Account. Alternatively, ADB may offset the unjustified payment against new withdrawal applications for replenishment.

J. Closing of the Imprest Account

12. In the event that ADB determines that (i) any amount outstanding in the Loan Imprest Account will not be required to cover further payments for eligible expenditures, or (ii) any amount remains outstanding in the Loan Imprest Account after the closing date, EDC will, promptly upon notice from ADB and unless otherwise agreed by ADB, refund such amount then outstanding in the Loan Imprest Account.

K. Other Issues

13. For matters not covered in the Attachment, the guidelines set forth in ADB’s Loan Disbursement Handbook will apply.
FRAMEWORK AND GUIDELINES IN CALCULATING PROJECT PROGRESS

A. Introduction

1. To ensure that all implementation activities are reflected in measuring implementation progress against the project implementation schedule, the term "physical completion" in the PPR has been changed to "project progress."

2. Physical and pre-commencement activities are considered in calculating project implementation progress. These activities, which may include recruitment of consultants, capacity building, detailed design, preparation of bid and prequalification documents, etc., could constitute a significant proportion of overall implementation and therefore should be counted.

3. Each activity in the implementation schedule will be weighted according to its overall contribution (using time as a reference) to progress of project implementation. These weights will then be used to calculate the percentage of project progress along the entire time span of the project. This is to provide a holistic view of the pace of implementation.

B. Framework for Compiling Activity List and Assigning Weights

4. As implementation activities (with corresponding weights) will vary in terms of project, sector, and country, SEID will be responsible for incorporating them in the project administration memorandum. The actual project implementation progress of these activities should be reported regularly through the EA’s quarterly project progress report. To ensure ADB-wide consistency, the following framework has been established. The application of this framework will be monitored through the PPR.

1. Compilation of Activity List

5. SEID will identify and include major implementation activities in the implementation schedule which is attached as an appendix in the Report and Recommendation of the President (RRP). The implementation schedule should follow the critical path of the project’s major activities in project implementation taking account of various country, sector, and project constraints.

2. Assignment of Weights

6. Corresponding weights for each activity should be assigned to ensure that "project progress" measures the percentage of achievement (nonfinancial except when the project has credit components) for all events during the entire duration of the implementation schedule. To avoid disproportionate assignment of weights, to the extent possible these should be evenly distributed along the implementation schedule. When activities are concurrent, avoid “double counting.”

3. Computation of Project Progress

7. Once all activities are identified and corresponding weights assigned, project progress should be calculated using the following steps:

   (i) Determine the actual percentage progress (non-financial) of each activity.
(ii) Multiply these percentages by the assigned weight of each activity to arrive at the weighted progress.
(iii) Add up the resulting weighted progress of all activities to determine the project progress.

The following figure provides an illustration of this calculation using a generic sample implementation schedule, and the next page shows a specific schedule for this Project.

**Implementation Schedule with Activities and Weights**

1. Sum of all weights should equal 100 percent \((a+b+c+d+e+f+g = 100\%)\)
2. When calculating the percentage of "project progress," all completed activities should be counted as accomplished, regardless of when they were scheduled to be completed. For example, when calculating the percentage of "project progress" after year 3, if activity D is completed in year 3 rather than in year 2, it should still be included in the computation.
3. Total weight of each activity is as follows: Activity A–a; Activity B–b; Activity C–c; Activity D–d; and Activity E–\(e+f+g\)
4. Project progress of a project is the summation of the actual percentage of progress for each activity multiplied by the total weight of each activity.
REQUIRED REPORTS

A. Introduction

1. Loan regulations and Loan agreements require the Recipient and executing agencies (EAs) to provide ADB/Donors with reports and information it reasonably requests. These include the EA’s periodic progress reports that enable the Recipient, EA, and ADB to monitor project progress, become aware of problems during implementation, and assess whether the immediate project objectives will be met.

B. Content and Format

2. The content of the progress report includes sufficient information in summary form to be useful to ADB and other Donors as a funding agency. The purpose of the report is to enable the Recipient, EA, and ADB to monitor the latest progress, become aware of current problems, and assess whether the project’s immediate objectives will be met. More detailed reports are prepared by consultants or contractors for EAs and distributed to all stakeholders. These reports are to be held at EAs and are made available for ADB review, midterm review, and project completion review missions.

3. The progress report sent to ADB is an executive summary of the detailed reports; with format and content permitting ADB and other stakeholders to readily capture key information for inputting into the project performance report (PPR). When ADB requires detailed information (such as background to a particular problem), this is included as an appendix. Simple charts such as a bar or milestone charts to illustrate implementation progress, a chart showing actual versus planned expenditures, and the relationship between physical and financial performance are included.

C. Reports Required by ADB

4. The following reports are required by ADB:

<table>
<thead>
<tr>
<th>Description</th>
<th>Originator</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quarterly Progress Report</td>
<td>PC1, PC2 and PC3</td>
<td>Not later than 30 days after each period – first one not later than 30 April 2010 for quarter January to March 2010</td>
</tr>
<tr>
<td>Audited Project Account</td>
<td>PC1, PC2 and PC3</td>
<td>Not later than 6 months after close of each fiscal year</td>
</tr>
<tr>
<td>Audited Corporate Financial Statements (CFS)</td>
<td>PC1, PC2 and PC3</td>
<td>Not later than 6 months after close of each fiscal year</td>
</tr>
<tr>
<td>Feasibility studies for Component 1 subprojects, including safeguard documents</td>
<td>PC1 and PC3</td>
<td>tbd</td>
</tr>
<tr>
<td>Feasibility studies for Component 2 subprojects, including safeguard documents</td>
<td>PC1, PC2 and PC3</td>
<td>Every December of the year during implementation</td>
</tr>
<tr>
<td>Contract Awards and Disbursement Projections</td>
<td>PC1, PC2 and PC3</td>
<td>Within 6 months of project completion.Every January of the year during implementation</td>
</tr>
<tr>
<td>Project Completion Report</td>
<td>PC1, PC2 and PC3</td>
<td>Within 3 months of project completion. Note PC2 to submit PCR in Q1 2012.</td>
</tr>
</tbody>
</table>
D. Quarterly Progress Reports

5. The EAsPCs will prepare and submit to ADB quarterly progress reports concerning procurement of services, design and preconstruction activities, and construction of all civil works included in the Project. The reports will identify problems and difficulties encountered during implementation and summarize the Project's accounts consisting of disbursements during the reporting period, year to date, and total to date. The report should be submitted to MOIT and ADB not later than 30 days after the end of the period covered by each report.

6. The quarterly report should indicate, among other things: (i) the progress made and problems encountered during the quarter; (ii) steps taken or proposed to be taken to remedy these problems; (iii) the updated bar chart prepared in an acceptable manner showing progress as compared to the schedule agreed, including the number of consumers connected; (iv) description of implementation of the RP, including status of completion of compensation, resettlement and rehabilitation activities, monitoring reports submitted by the independent monitoring organization (IMO), and a description of problems encountered and anticipated with suggested corrective actions; (v) summary of accounts for the Project during the period, year to date and total to date; and (iv) expected progress during the following quarter.

7. Suggested outline of a quarterly progress report is shown below and pro-forma sample is shown in pages 79-80.

   a. Background and Introduction
   b. Project Scope
   c. Financial Progress/Utilization of Funds
   d. Covenants Complied During the Period
   e. Status of Implementation
      i. Progress of Civil Works
      ii. Project Coordination with Donors
      iii. Disbursements (Operation of Imprest Fund, Receipt of Counterpart Funds)
      iv. Problems Encountered and Action Taken During the Period
      v. Planned Activities During the Next Period
   f. List of Annexes
      • Project Performance Report
      • Detailed List of Compliance with Loan Covenants
      • List of Contracts Awarded
      • Updated Implementation Schedule
      • Budget Schedule

E. Project Completion Report (PCR)

8. To facilitate post evaluation of the Project, the Recipient will provide ADB and other Donors within 6 months of physical completion of the Project, a completion report that will comprehensively cover details of project implementation, costs and potential benefits, and any other information that may be requested by ADB and other Donors concerning the Project.

F. Contract Awards and Disbursement Projections

9. Effective monitoring of project implementation requires accurate projections of contract awards, commitments, and disbursements. Comparison of such projections with the actual figures helps identify impediments to implementation progress and remedial measures.
Accurate disbursement projection also helps ADB improve its overall liquidity, cash flow, and portfolio management.

10. ADB distributes the projections worksheet (in either hard copy or electronic form) by the second week of October to the executing agencies (EAs) to complete their projections of contract awards, commitments, and disbursement for the following year. The EA is to submit the completed worksheet to ADB for project implementation by the second week of December of each year.

11. Using information received from the EAs, ADB prepares annual projections of contract awards, commitments, and disbursement (with quarterly breakdowns) for all projects it administers (for Loans approved up to 31 December each year).
Pro Forma of the Executing Agency’s Project Progress Report

A. Introduction and Basic Data

Provide the following:

- ADB Loan number, project title, borrower, executing agency(ies), implementing agency(ies);
- total estimated project cost and financing plan;
- status of project financing including availability of counterpart funds and co-financing;
- dates of approval, signing, and effectiveness of ADB Loan;
- original and revised (if applicable) ADB Loan closing date and elapsed Loan period based on original and revised (if applicable) Loan closing dates; and
- date of last ADB review mission.

B. Utilization of Funds (ADB Loan, Co-financing, and Counterpart Funds)

Provide the following:

- cumulative contract awards financed by the ADB Loan, cofinancing, and counterpart funds (commitment of funds to date), and comparison with time-bound projections (targets);
- cumulative disbursements from the ADB Loan, cofinancing, and counterpart funds (expenditure to date), and comparison with time-bound projections (targets); and
- re-estimated costs to completion, need for reallocation within ADB Loan categories, and whether an overall project cost overrun is likely.

C. Project Purpose

Provide the following:

- status of project scope/implementation arrangements compared with those in the report and recommendation of the President (RRP), and whether major changes have occurred or will need to be made;
- an assessment of the likelihood that the immediate development objectives (project purpose) will be met in part or in full, and whether remedial measures are required based on the current project scope and implementation arrangements;
- an assessment of changes to the key assumptions and risks that affect attainment of the development objectives; and
- other project developments, including monitoring and reporting on environmental and social requirements that might adversely affect the project's viability or accomplishment of immediate objectives.

D. Implementation Progress

Provide the following:

- assessment of project implementation arrangements such as establishment, staffing, or funding of the PMU;
• information relating to other aspects of the EA’s internal operations that may
impact on the implementation arrangements or project progress;

• progress or achievements in implementation since the last progress report;

• assessment of the progress of each project component, such as,
  ➢ recruitment of consultants and their performance;
  ➢ procurement of goods and works (from preparation of detailed designs
    and bidding documents to contract awards); and
  ➢ the performance of suppliers, manufacturers, and contractors for goods
    and works contracts;

• assessment of progress in implementing the overall project to date in comparison
  with the original implementation schedule—quantifiable and monitorable target,
  (include simple charts such as bar or milestone to illustrate progress, a chart
  showing actual versus planned expenditure, S-curve graph showing the
  relationship between physical and financial performance, and actual progress in
  comparison with the original schedules and budgets, the reference framework or
  guidelines in calculating the project progress;

• an assessment of the validity of key assumptions and risks in achieving the
  quantifiable implementation targets.

• Report on the number of consumers connected

• Description on the implementation of the RP including status of completion of
  compensation, resettlement and rehabilitation activities, monitoring reports
  submitted by the IMO and a description of problems encountered and anticipated
  with suggested corrective actions;

E. Compliance with Covenants

Provide the following:

• the recipient’s compliance with policy Loan covenants such as sector reform
  initiatives and EA reforms, and the reasons for any noncompliance or delay in
  compliance;

• the recipient’s and EA’s compliance with financial Loan covenants including the
  EA’s financial management, and the provision of audited project accounts or
  audited agency financial statements; and

• the recipient’s and EA’s compliance with project-specific Loan covenants
  associated with implementation, environment, and social dimensions.

F. Major Project Issues and Problems

Summarize the major problems and issues affecting or likely to affect implementation progress,
compliance with covenants, and achievement of immediate development objectives. Recommend
actions to overcome these problems and issues (e.g., changes in scope, changes
in implementation arrangements, and reallocation of Loan proceeds).
G. Suggested Topics for Project Completion Reports to be Prepared by Borrowers

I. PROJECT DESCRIPTION

i. Objectives
ii. Components
iii. Implementation methods
iv. Description and justification of changes in components (or subproject appraisal criteria) or implementation methods

II. PROJECT IMPLEMENTATION

i. Compare original and actual implementation schedules. Indicate delays, length and causes of delays, and remedial action taken.
ii. Compare cost estimates made during appraisal and actual costs. The costs financed by cofinanciers must be compiled correctly with reference to audited project accounts. Indicate factors that contributed to any significant overruns or underruns.
iii. State problems or difficulties in recruiting consultants, with reference to ADB procedures. Assess the consultant's work and the working relationship between the executing agency (EA) and the consultant. Use of a logical framework is strongly recommended.
iv. State problems or difficulties encountered in procuring goods and services (including civil works) with reference to ADB procedures. Assess the supplier's or contractor's performance under the contract.
v. Give the extent of compliance of the borrower and EA with Loan covenants, with reasons for noncompliance or delays in compliance and the remedial actions taken.
vi. State reasons for any delays in Loan utilization. Evaluate the appropriateness of the disbursement methods used. Justify the reallocation of Loan proceeds.
vii. State problems or difficulties with subproject appraisal. Evaluate the EA's performance and capacity to appraise subprojects.

III. INITIAL OPERATIONS

i. Describe initial operations of the project and transitional problems encountered from project completion to initial operations.
ii. Describe measures taken to ensure continued smooth operation of the project relative to management, staffing, funding, and maintenance of project facilities.
iii. Analyze the prospects of the project benefits being realized.

IV. EVALUATION OF THE ASIAN DEVELOPMENT BANK’S PERFORMANCE

Assess ADB’s performance in supervising project implementation. Include comments on the adequacy of the consultants’ terms of reference and appropriateness of specifications in tender documents. Evaluate the effectiveness and timeliness of assistance extended by ADB to solve implementation problems.

Comment on problems encountered with ADB’s procedures. Note the measures taken to resolve these problems and suggest changes in procedures and requirements.
H. Suggested Table of Contents for Component 1 Summary Feasibility Reports to be Prepared by PCs

The following is a proposed Table of Contents of the summary feasibility study reports to be presented to ADB for approval. Most of the technical information will be available in the Vietnamese language Feasibility Studies prepared by PC1 and PC3's consultants. Additional information will be prepared in cooperation between PCs, its consultants and TA consultants. Actual content will vary depending on the proposed project. Refer to Schedule 5 of Loan Agreement for compliance of safeguard requirements.

1. Introduction
   1.1 Background
   1.2 Execution of Present Study
   1.3 Surveys carried out in the Study
   1.4 Project Selection Criteria

2. Socio-Economic Conditions In Project Area
   2.1 Definition of Project Area
   2.2 Socio-Economic Conditions in Project Area
   2.3 Immediate Beneficiaries
   2.4 Current Electric Power Demand
      2.4.1 Project Area
      2.4.2 Province or PC1/PC3 service area
   2.5 Power Generating Facilities
      2.5.1 Project Area
      2.5.2 Province
   2.6 Transmission and Distribution Facilities
      2.6.1 Project Area
      2.6.2 Province
   2.7 Projected Electric Power Demand and Supply Balance
      2.7.1 Project Area
      2.7.2 Province or PC1/PC3 service area
   2.8 Transmission Line Development Plan in Project Area
      2.8.1 Project Area
      2.8.2 Province

3. Project Location And Topographic Features

4. Hydrological Analysis
   4.1 Introduction
   4.2 General Description of Project Basin
   4.3 Data Collection and Analysis
   4.4 Determination of long-term hydrological data series and flow duration curve
   4.5 Low Flow Analysis
   4.6 Flood Analysis
   4.7 Sediment study
   4.8 Assessment of upstream and downstream water uses (present and future)
   4.9 Recommended additional hydro-meteorological investigations

5. Geology
   5.1 Geology in and around project site
   5.2 Geological investigations
5.3 Construction materials
5.4 Conclusions
5.5 Recommended additional geological and geotechnical investigations

6. Transportation and Access Roads

7. Project Planning and Optimization
   7.1 Optimization Methodology
   7.2 Energy Output Estimation
   7.3 Dam Height Determination
   7.4 Installed Capacity Determination
   7.5 Dam safety

8. Project Design
   8.1 River Diversion
   8.2 Dam and Intake
   8.3 Sediment Exclusion Works
   8.4 Headrace Canal/Tunnel
   8.5 Surge Tank
   8.6 Penstock
   8.7 Power House
   8.8 Switchyard/Substation
   8.9 35 kV transmission line to grid and interconnection works with grid
   8.10 Low Voltage distribution in Project area

9. Environmental Assessment
   [This will be a summary of Appendixes A and B]

10. Social Impact Analysis and Resettlement
    [This will be a summary of Appendixes C and D]

11. Ethnic Minorities Development
    [This will be a summary of Appendix E]

12. Implementation Arrangements
    13.1 Project Schedule
    13.2 Construction management arrangements
    13.3 Procurement Plan

13. Cost Estimates (according to ADB Guidelines with support from TA Consultants)
    14.1 General conditions and assumptions
    14.2 Cost estimate method
    14.3 Total project costs and annual disbursement schedule

14. Project Benefits, Impacts and Risks [to be done according to ADB Guidelines with support from TA consultant]
    15.1 Financial Analysis
    15.1.1 Electricity Tariff
    15.1.2 Revenues
    15.1.3 Financial Internal rate of Return
    15.1.4 Sensitivity Analysis
15.2 Economic Analysis
   15.2.1 Assumptions
   15.2.2 Derivation of Economic costs
   15.2.3 Calculation of Economic Benefits
   15.2.4 Economic Internal Rate of Return Calculation
   15.2.5 Economic levelized cost of energy
   15.2.6 Sensitivity Analysis

15.3 Risk Analysis

15. Operation and Maintenance Plan
16. Conclusions, compliance with selection criteria and recommendations

Appendixes (with assistance by TA Consultants if necessary, please refer to Loan Agreement Schedule 5 for details of what needs to be included):

A. Detailed Project Schedule (MS Project)
B. Procurement Plan (as shown in Appendix 7) including social and environmental safeguard activities and deadlines.
C. Initial Environmental Examination
D. Environmental Management Plan
E. Social Impact Analysis
F. Resettlement Plan
G. Ethnic Minorities Development Plan (see RRP Supplementary Appendix O for sample)
H. Other relevant appendixes

Maps, Figures, Tables and Drawings

i Project location Map
ii Map showing project MV and LV distribution system and names of villages benefiting from Project.
iii Project Layout
iv General details of dam, waterways, powerhouse giving main dimensions
v Electrical works (switchyard, transmission and LV distribution)

I. Suggested Table of Contents for Component 2 Summary Feasibility Reports to be Prepared by PCs

The following is a proposed Table of Contents of the summary feasibility study reports to be presented to ADB for approval. Most of the technical information will be available in the Vietnamese language Feasibility Studies prepared by PC1, PC2 and PC3 consultants. Additional information will be prepared in cooperation between PCs consultants and TA consultants. Actual content will vary depending on the proposed project. Refer to Schedule 5 of Loan Agreement for compliance of safeguard requirements.

1. Introduction
   Background
   Execution of Present Study
   Surveys carried out in the Study
   Project Selection Criteria
2. Socio-Economic Conditions in Project Area
   Definition of Project Area
   Socio-Economic Conditions in Project Area
   Immediate Beneficiaries
   Current electric Power Demand
   Power Generating Facilities
   Transmission and Distribution Facilities
   Projected Electric Power Demand and Supply Balance
   Transmission Line Development Plan in Project Area

3. Project Location And Topographic Features

4. System Analysis

5. Technical Design Standards

6. Environmental safeguards (summary of appendix A)

7. Social Safeguards (summary of appendixes B, C and D)

8. Project Costs (according to ADB Guidelines)

9. Implementation arrangements

10. Project Benefits, Impacts and Risks (according to ADB Guidelines)
    Financial analysis
    Economic analysis
    Risks

11. Conclusions, compliance with selection criteria and recommendations.

Appendixes (with assistance by TA Consultants if necessary, please refer to Loan Agreement Schedule 5 for details of what needs to be included):

A. Matrix by Province and District showing length of MV and LV lines, substations/switchyards, transformers, total population served, ethnic minority household served, and poor people served.

B. Detailed Project Schedule of main components (MS Project) including social and environmental safeguard activities and deadlines.

C. Procurement Plan (in format shown in Appendix 7)

D. Initial Environmental Examination

E. Social Impact Analysis of sample communes in each province

F. Resettlement Plan (if needed)

G. Provincial Ethnic Minorities Development Plan

H. Other relevant appendixes

Maps, Figures, Tables and Drawings

i. Project location map

ii. Map showing project MV and LV distribution system and names of villages benefiting from Project.

iii. Other relevant maps and drawings
FINANCIAL REPORTING AND AUDITING REQUIREMENTS

1. ADB’s Handbook for Borrowers on the Financial Governance and Management of Investment Projects Financed by the ADB (the Booklet) provides guidelines to ensure timely compliance with the loan covenants and the quality of financial information as required by ADB.

2. ADB, by its Charter, is required to ensure that the proceeds of any loan/grant made, guaranteed, or participated in by ADB are used for the purposes for which the loan/grant was approved. ADB requires accurate and timely financial information from its borrowers/recipient to be assured that expenditure was for the purposes stated in the loan/grant agreement.

3. The following are the main requirements:

   (i) ADB requires the EA to maintain separate project accounts and records exclusively for the Project to ensure that the loan funds were used only for the objectives set out in the Loan Agreement.

       The first set of project accounts to be submitted to ADB covers the fiscal year ending 31 December 2008. As stipulated in the Loan or Project Agreements, they are to be submitted up to six months after the end of the fiscal year. For this loan, the deadline is by 30 June 2009. A sample report format with explanatory notes is attached as Annex A of this Appendix.

   (ii) The accounts and records for the project are to be consistently maintained by using sound accounting principles. The external auditor is to express an opinion on whether the financial report has been prepared using international or local generally accepted accounting standards and whether they have been applied consistently.

       ADB prefers project accounts to use international accounting standards prescribed by the International Accounting Standards Committee. The name of external auditor is to comment on the impact of any deviations, by the Executing Agency from international accounting standards.

   (iii) The external auditor specifies in the Auditor's Report the appropriate auditing standards they used, and direct them to expand the scope of the paragraph in the Auditor's Report by disclosing the key audit procedures followed. The external auditor is also to state whether the same audit procedures were followed for all supplementary financial statements submitted.

       ADB wishes that auditors conform to the international auditing standards issued by the International Federation of Accountants. In cases where other auditing standards are used, the external auditor is requested to indicate in the Auditor's Report the extent of any differences and their impact on the audit.

   (iv) The external auditor's opinion is also required on whether

       • the proceeds of the ADB's loan have been utilized only for the project as stated in the Loan Agreement;
       • the financial information contains data specifically agreed upon between the Recipient or EA and ADB to be included in the financial statements;
• the financial information complies with relevant regulations and statutory requirements; and
• compliance has been met with all the financial covenants contained in the Loan or Project Agreements.

(v) The Auditor’s Report is to clearly state the reasons for any opinions that are qualified, adverse, or disclaimers.

(vi) Actions on deficiencies disclosed by the external auditor in its report are to be resolved by the Recipient or Executing Agency within a reasonable time. The external auditor is to comment in the subsequent Auditor’s Report on the adequacy of the corrective measures taken by the Recipient or EA.

4. Compliance with these ADB requirements will be monitored by review missions and during normal project supervision, and followed up regularly with all concerned, including the external auditor.

ANNEX A: SAMPLE FORM OF AUDITOR’S OPINION

Imprest Account

We have examined the Statement of Imprest Account of Loan No 2261-CAM for the period 1 January 2008 to 31 December 2008, pursuant to the Agreement signed between the Government and the Asian Development Bank on 01 December 2006.

Our examination was made in accordance with generally accepted auditing standards emphasizing on the adequacy and completeness of the supporting documents of the Imprest Account and other auditing procedures as we considered necessary in the circumstances;

In our opinion, the Statement of Imprest Account and supporting documents and information submitted with them (can/cannot) be fairly relied on to support the applications for reimbursement/payment in accordance with ADB’s requirements as set out in the Loan Agreement.

STATEMENT OF EXPENDITURE

We have also examined the Statements of Expenditure submitted to ADB during the period in support of applications for liquidation of the Imprest, pursuant to the above-mentioned Loan Agreement. Our examination was made in accordance with generally accepted auditing standards, and, accordingly included such tests of the accounting records, verification of assets and other such auditing procedures as we considered necessary in the circumstances.

In our opinion, the Statement of Expenditures submitted, together with the internal control and procedures involved in their preparation, (can/cannot) be relied on to support the applications for liquidations in accordance with the requirements of the above mentioned Loan Agreement.
## LOAN COVENANTS REPORTING

<table>
<thead>
<tr>
<th>Reference in the Loan Agreement</th>
<th>Major Covenants</th>
<th>Deadline for Compliance</th>
<th>Status</th>
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<tbody>
<tr>
<td>1 Article VI, Section 6.01.</td>
<td>The following is specified as an additional condition to the effectiveness of this Loan Agreement for the purposes of Section 9.01(f) of the Loan Regulations: the execution and delivery of the Subsidiary Loan Agreements for Component 1 on behalf of PC1, PC3 and the Borrower shall have been duly authorized or ratified by all necessary corporate and governmental action.</td>
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<tr>
<td>2 Article VI, Section 6.02.</td>
<td>The following is specified as an additional matter, for the purposes of Section 9.02(d) of the Loan Regulations, to be included in the opinion or opinions to be furnished to ADB: the Subsidiary Loan Agreements for Component 1 have been duly authorized by or ratified by, and executed and delivered on behalf of, PC1, PC3 and the Borrower, and are legally binding upon PC1, PC3 and the Borrower in accordance with their terms.</td>
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<tr>
<td>3 Article VI, Section 6.03.</td>
<td>A date ninety (90) days after the date of this Loan Agreement is specified for the effectiveness of the Loan Agreement for the purposes of Section 9.04 of the Loan Regulations.</td>
<td>90 days after loan signing date</td>
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<tr>
<td>4 Schedule 3, para 5 (a)</td>
<td><strong>Imprest Account:</strong> Except as ADB may otherwise agree, the PCs shall establish immediately after the Effective Date, the respective imprest accounts at commercial banks acceptable to ADB. The imprest accounts shall be established, managed, replenished and liquidated in accordance with ADB's Loan Disbursement Handbook and detailed arrangements agreed upon between the Borrower, the PCs and ADB. The currency of the imprest account shall be Dollars. The maximum amount to be deposited into a particular imprest account shall not exceed the lower of, (i) the estimated expenditure for the six months of Project implementation for the respective PC, or (ii) ten percent (10%) of the total amount to be onlent/granted to each respective PC.</td>
<td>After loan effectiveness</td>
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<td>Reference in the Loan Agreement</td>
<td>Major Covenants</td>
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<tr>
<td>Schedule 3, para. 5 (b)</td>
<td>The statement of expenditures (SOE) procedure may be used for reimbursement of eligible expenditures not exceeding the equivalent of $100,000 per payment and to liquidate advances provided into the imprest account, in accordance with ADB’s Loan Disbursement Handbook and detailed arrangements agreed upon between the Borrower, the PCs and ADB.</td>
<td>Throughout implementation period</td>
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<tr>
<td>Schedule 3, para. 6</td>
<td><strong>Condition of Withdrawals from Loan Account.</strong> Notwithstanding any other provision of this Loan Agreement, no withdrawals shall be made from the Loan Account for carrying out Component 2 of the Project in a particular province: (a) in case of a province under the Special Program, until the Borrower has issued a decision providing that such province has been included in the Special Program; and (b) in case of a province which is not included in the Special Program, until the respective Subsidiary Loan Agreement has been signed in substance and form satisfactory to ADB, or ADB otherwise agrees.</td>
<td>Throughout implementation period</td>
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<tr>
<td>Schedule 4, para. 3</td>
<td>The methods of procurement are subject to, among other things, the detailed arrangements and threshold values set forth in the Procurement Plan. The Borrower may only modify the methods of procurement or threshold values with the prior agreement of ADB, and modifications must be set out in updates to the Procurement Plan.</td>
<td>Throughout implementation period</td>
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<tr>
<td>Schedule 4, para. 4</td>
<td><strong>Domestic Preference.</strong> The Borrower may grant a margin of preference in the evaluation of bids under international competitive bidding in accordance with paragraphs 2.55(a) and 2.56 of the Procurement Guidelines for domestically manufactured Goods and paragraphs 2.55(b) and 2.56 of the Procurement Guidelines for domestic Works.</td>
<td>Throughout implementation period</td>
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<td>Schedule 4, para. 5</td>
<td><strong>National Competitive Bidding.</strong> The laws to be followed for national competitive bidding shall be those set forth in the Bidding Law No. 61/2005/QH11 of 26 November 2005 and the Construction Law No. 16/2003/QH11 of 29 November 2003 with the clarifications and modifications described in the Procurement Plan.</td>
<td>Throughout implementation period</td>
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<td>Schedule 4, para. 6</td>
<td><strong>Condition for Award of Contracts.</strong> The Borrower shall not</td>
<td>Throughout implementation period</td>
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<td>Reference in the Loan Agreement</td>
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<td>award any Works contracts financed under the Loan until the respective resettlement activities have been satisfactorily completed in accordance with the agreed resettlement plan.</td>
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<td>11 Schedule 4, para. 7</td>
<td><strong>Industrial or Intellectual Property Rights.</strong> (a) The Borrower shall ensure that all Goods and Works procured (including without limitation all computer hardware, software and systems, whether separately procured or incorporated within other goods and services procured) do not violate or infringe any industrial property or intellectual property right or claim of any third party. (b) The Borrower shall ensure that all contracts for the procurement of Goods and Works contain appropriate representations, warranties and, if appropriate, indemnities from the contractor or supplier with respect to the matters referred to in subparagraph (a) of this paragraph.</td>
<td>Throughout implementation period</td>
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<tr>
<td>12 Schedule 4, para. 8</td>
<td><strong>ADB's Review of Procurement Decisions.</strong> All contracts procured under international competitive bidding procedures shall be subject to prior review by ADB, unless otherwise agreed between the Borrower and ADB and set forth in the Procurement Plan.</td>
<td>Throughout implementation period</td>
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<td>13 Schedule 5, para. 1</td>
<td>Project Management. PC1 and PC3 shall be the Project Executing Agencies under both Components 1 and 2, while PC2 shall also be the Project Executing Agency under Component 2.</td>
<td>Throughout implementation period</td>
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<td>14 Schedule 5, para. 2</td>
<td>MOIT shall be responsible for overall coordination of Project implementation and shall set up a steering committee within three months of the Effective Date. The steering committee, chaired by a Vice Minister of MOIT, shall comprise representatives of EVN, the PCs and REREPMB, and shall be responsible for monitoring and providing guidance and direction to the Project’s implementation.</td>
<td>Throughout implementation period</td>
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<tr>
<td>15 Schedule 5, para. 3</td>
<td>The PMBs of PC1 and PC3, staffed with full time personnel and assisted by national and international consultants, shall be responsible for day-to-day implementation of Component 1 in their respective regions. For Component 2, the respective provincial units of the PCs and PMBs shall</td>
<td>Throughout implementation period</td>
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<td>Reference in the Loan Agreement</td>
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<td>oversee and supervise overall project implementation and report its progress to MOIT, while each subproject shall be implemented by a provincial unit of the respective PC to be supported by international and national consultants.</td>
<td>Rural Electrification and Renewable Energy Policy. By the end of Project implementation, the Borrower shall take necessary administrative/regulatory measures (i) to establish simplified procedures for approval, licensing and connecting of embedded renewable generation projects connected to the medium voltage having a capacity less than 30 megawatts (MW), and (ii) to establish a transparent subsidy mechanism to promote renewable energy development and to electrify remote and difficult areas.</td>
<td>31 December 2015</td>
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<td>Schedule 5, para. 4</td>
<td>Financial Matters. The Borrower shall ensure, through appropriate tariff adjustments and other means, that EVN and the PCs maintain (i) a self-financing ratio of twenty-five percent (25%) or above, (ii) a debt service coverage ratio of 1.5 or above, and (iii) a long-term debt-equity ratio of 70:30 or less. The Borrower shall also ensure that adequate tariff increases are proposed by EVN and processed by the relevant authorities of the Borrower in a timely and effective manner.</td>
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<td>Schedule 5, para. 5</td>
<td>Subproject Selection. Subprojects of Component 1 shall be selected and processed in the following manner stated in Loan Agreement, Schedule 5, para. 6 (a) and (b)</td>
<td>Throughout implementation period</td>
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<tr>
<td>Schedule 5, para. 6 (a) and (b)</td>
<td>Subproject Selection. Subprojects of Component 2 shall be selected and processed in the following manner stated in Loan Agreement, Schedule 5, para. 7 (a) and (b)</td>
<td>Throughout implementation period</td>
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<tr>
<td>Schedule 5, para. 7 (a) and (b)</td>
<td>Operation and Maintenance. The Borrower shall ensure that each PC will carry out the annual budget allocation which fully covers costs for the operation and maintenance of any Project facilities.</td>
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<td>Schedule 5, para. 8 (a) and (b)</td>
<td>Resettlement and Environmental Issues. The Borrower and the PCs shall ensure that only subprojects that fall within Category C (no impacts) or Category B (not</td>
<td>Throughout implementation period</td>
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<td>Schedule 5, para. 9</td>
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<td><strong>Poverty.</strong> The Borrower shall ensure that the Project benefits accrue to the poorer segments of ethnic minority people living in the target provinces. The Borrower shall further</td>
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<td><strong>Significant impacts</strong> on involuntary resettlement and environment will be selected and implemented, as provided in paragraphs 6 and 7 of this Schedule. The screening and categorization of the subprojects shall be done in accordance with the RF and EARF. In the event that any resettlement impacts are unavoidable for a particular subproject, the Borrower shall prepare a resettlement plan for such subproject following the detailed design and in accordance with the agreed RF and ADB’s Involuntary Resettlement Policy (1995).</td>
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<td>Throughout implementation period</td>
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<td>Schedule 5, para. 10</td>
<td>The Borrower shall ensure that Project activities comply with (i) applicable laws and regulations of the Borrower; (ii) ADB’s environment policies and regulations, specifically ADB’s Environment Policy (2002); (iii) the EARF; and (iv) environmental mitigation measures and environmental monitoring plan as set out in the IEE to be approved by ADB. The Borrower shall also ensure that IEEs for subprojects categorized as Category B will be prepared in accordance with ADB’s Environment Policy (2002).</td>
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<td>Schedule 5, para. 11</td>
<td>RPs and IEEs shall be publicly disclosed in places accessible to all affected people prior to submission to ADB for its review and approval, all in accordance with ADB’s Public Communications Policy (2005).</td>
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<td>Throughout implementation period</td>
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<td>Schedule 5, para. 12</td>
<td>No award of civil works contract for a particular subproject of Category B shall be given until ADB approves the related RP and/or IEE. A notice of possession of site for construction work shall not be issued to civil works contractors for any subproject of involuntary resettlement Category B until (i) compensation payment and relocation to new sites for affected people have satisfactorily been completed in accordance with the RP; (ii) rehabilitation measures are in place; and (iii) the area required for civil works is free of all encumbrances.</td>
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<td>Throughout implementation period</td>
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<td>Schedule 5, para. 13</td>
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<td>ensure that poor households, as identified under the Special Program, are subsidized with electricity connection costs including house wiring for electricity bulbs and electricity socket up to $40 equivalent or one-half of the actual connection cost, whichever is lower. The Borrower shall take appropriate measures that the poor households will be consulted on, and participate in, the Project during subproject implementation.</td>
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<td>Schedule 5, para. 26 14 Ethnic Minority Development. The PCs shall undertake social analysis for all the subprojects to be included in Component 1, and for a sample of commune of each province to be included in Component 2. Based on the social analysis, the Borrower shall ensure that EMDPs are prepared for all subprojects under Component 1 and a provincial EMDP for each province included in Component 2 that have significant impacts on ethnic minorities in accordance with EMDF. The Borrower shall further ensure that EMDPs are submitted to ADB for its review and approval. Prior to the submission to ADB, EMDPs shall be disclosed to the affected ethnic minorities and posted on the respective Provincial Peoples Committee’s website, all in accordance with the ADB’s Public Communication Policy (2005). The poor ethnic minority households shall also be subsidized with electricity connection costs in a manner as set forth in paragraph 13 of this Schedule.</td>
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<td>Schedule 5, para. 27 15 The Borrower shall ensure that the gender strategy to be provided in EMDP and Summary of Poverty Reduction and Social Strategy shall be properly implemented. The gender strategy shall include, but not be limited to, the following specific actions: (i) holding separate meetings for planning productive use of electricity component with representatives from women’s unions and women community leaders in the Community Management Boards; (ii) carrying out capacity building training for women on productive use of electricity awareness raising campaign on safe electricity; (iii) subsidizing female headed poor ethnic minority households with electricity connection costs in a manner as set forth in paragraph 13 of this Schedule; and</td>
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<td>Reference in the Loan Agreement</td>
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<td>(iv) registering the replacement land in both the husband's and wife's names in cases where land acquisition has taken place.</td>
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<td>Schedule 5, para. 28 16</td>
<td><strong>Other Social Matters.</strong> The Borrower shall cause the PCs to: (a) have provisions in the civil works contracts to be financed under the Project to the effect that contractors (i) shall comply with all applicable labor laws and related international treaty obligations and do not employ child labor, and (ii) shall provide safe working conditions for both male and female workers; and (b) carry out, in the campsites and villages under subprojects, education and awareness campaign for HIV/AIDS and anti-trafficking of women and children, in coordination with the agencies working on national program of HIV/AIDS prevention.</td>
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</tbody>
</table>
RELEVANT DOCUMENTS AND REFERENCES

The following are a list of ADB’s reference materials.

A. Project Related

1. Report and Recommendation of the President to the Board of Directors
2. Loan Agreement, Project Agreement and Subsidiary Loan Agreements
3. e-Handbook on Project Implementation
   http://www.adb.org/Documents/Handbooks/Project-Implementation/default.asp

B. Consultants. May be downloaded from the following website:
   http://www.adb.org/Consulting/documents.asp

4. Guidelines on the Use of Consultants by ADB and Its Borrowers
5. Handbook for Users of Consulting Services

C. Procurement. May be downloaded from the following website:
   http://www.adb.org/Procurement/prequalification-bid-documents.asp

6. Guidelines on Procurement under ADB Loans
7. Guide on Bid Evaluation
9. Handbook on Problems in Procurement for Projects Financed by ADB
10. Standard Bidding Documents: Procurement of Goods (including related services)
    Single-stage: One-Envelope
    Single-stage: Two-Envelope
    Two-stage: Two-Envelope
    Two-stage User’s Guide
12. Sample Bidding Documents – Procurement of Civil Works
13. Sample Bidding Documents – Procurement of Civil Works (Small Contracts)
14. Guide on Community Participation in Procurement
15. Contract Awards and Disbursement Projections

D. Disbursement

16. Disbursement Letter issued by Controller’s Department
17. Loan Disbursement Handbook

E. General – may be downloaded or browsed from the following website:
   http://www.adb.org/Integrity/
18. Anticorruption Policy
19. Anticorruption Policy: Description and Answers to Frequently Asked Questions
20. Guidelines for Economic Analysis of Projects
22. Environmental Assessment and Review Procedure
24. e-Handbook on Project Implementation
   http://www.adb.org/Documents/Handbooks/Project-Implementation/default.asp