Project Summary Information (PSI)

Project No: 000086

Project Name	Power Distribution System Upgrade and Expansion Project
Country	Nepal
Sector	Energy
Project No	000086
Borrower	Nepal
Implementation Agency	Nepal Electricity Authority (NEA)
Environmental and Social Category	Category B
Date of PSI prepared or updated	May 10, 2018
Estimated Date of Board Consideration	September 2019
Date of Concept Decision	Approved on May 9, 2018

I. Introduction

Nepal is one of the least developed and poorest countries in the world, with the Gross National Income (GNI) per capita of USD 730 in 2016, which ranked 158th out of 178 countries. Out of about 29 million people, a quarter of the population lives below the poverty line.[1] Challenges to Nepal's economic growth include: its landlocked location as well as vulnerability to natural disasters and climate change impacts.[2] Nepal's Gross Domestic Product (GDP) growth has rebounded in 2017 and resumed to its previous average growth trajectory, after a slowdown caused by the notable 2015 earthquake.

Power shortage in Nepal has been a major constraint to growth. The electricity supply-demand gap in the country persists, due to: (i) increasing but insufficient generation capacity, (ii) seasonal fluctuation of hydrogeneration, which accounts for 94 percent of the total installed generation capacity in the country, and (iii) outdated transmission and distribution (T&D) systems.[3] The electricity supply has been growing significantly, with large investments in new generation capacities and increasing electricity imports from India. Yet the upgrading and expansion of T&D networks have not kept pace with the supply growth. As a result, Nepal experiences high system losses of 23 percent[4] and excessive voltage drops, due to the overloading and extended feeder lengths of the existing networks. Distribution losses contribute to about three quarters of the total system losses. Sizeable investments are needed to relieve the T&D bottlenecks in Nepal so as to ensure an efficient and reliable delivery of electricity to consumers.

In terms of access to electricity, there is a large regional disparity: The mostly rural, mid-western and far-western regions are the least developed in Nepal. While 77 percent of the population has access to electricity,[5] only 42% and 48% of households in the mid-western and far-western regions reported to use electricity for lighting, compared to the eastern, central and western regions with 63-78%, according to the last National Housing and Population Census (2011). Within the mid-western and far-western regions, the mountainous and hilly areas in the north showed the lowest access rates (20-28%), compared to the terai areas in the south (65-72%). In particular, the rural areas of the mid-western and far-western regions are the least connected, thus require substantial investments in distribution networks to increase access to electricity and improve the quality of electricity service.

II. Project Objective and Expected Results

The objective of the Project is to increase access to electricity and reduce distribution system losses in the western and far-western regions of Nepal.

[1] Country Partnership Strategy for Nepal FY2014-2018, World Bank
[2] Nepal Energy Sector Assessment, Strategy, and Roadmap, ADB, March 2017
[3] A Year in Review, FY 2016-17, Nepal Electricity Authority (NEA)
[4] Total T&D losses has been reduced from 25.8% (FY2015/16) to 22.9% (FY2016/17) after NEA carried out a dedicated loss reduction program in FY 2016/17.
[5] The 2017 Electricity Access Dataset, International Energy Agency

III. Project Description

The project consists of the following components:

Component 1: Construction of new 33/11kV substations, related lines, and facilities
This component will comprise activities relating to the construction of new substations and related lines, including, but not limited to: construction of new 33/11 kV substations; 33 kV supply lines; 11 kV feeders; installation of distribution transformers; placement of LV capacitor banks and regulators where needed; and connecting new consumers.

Component 2: Upgrading and rehabilitation of existing 33/11kV substations, related lines, and facilities
This component will comprise activities related to the upgrading of existing substations and related lines, including, but not limited to: augmentation of capacity of existing 33/11 kV substations; 11 kV feeders; installation of distribution transformers; placement of LV capacitor banks and regulators; replacement/upgradation of dilapidated or under capacity 33kV, 11kV, and LV lines; and connection of new consumers.

Component 3: Construction of new integrated compact substations, related lines and facilities, where applicable
This component will comprise activities related to the construction of integrated compact substations and all related facilities from HV lines (e.g. 132kV) to supply rural low-density areas where electrification by 33 kV line extensions will result in an unreliable, poor quality supply of electricity[6] or overinvestment for the required load.[7] This option will enable the provision of electricity supply to areas which otherwise remain unviable both technically and economically.

Component 4: Capacity Building, Project Implementation Support, and Technical Assistance
This component will focus on improving the capacity of NEA's distribution planning and carry out the necessary analysis on the network performance of the proposed Project components. This component will also provide supervisory and monitoring support to the Project Implementation Unit (PIU) needed for project implementation.

The Government of Nepal has applied for the Bank's Project Preparation Special Fund (PSF) to support the project preparation.

IV. Environmental and Social

The Project has been assigned **Category B** in accordance with the Bank's Environmental and Social Framework, which includes Environmental and Social Policy and Environmental and Social Standards (ESS). Categorization for the Project will be reviewed and finalized prior to Appraisal.

During project preparation, an Environmental and Social Management Framework (ESMF) will be developed to cover the entire scope of the Project. An Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) for the identified and agreed project activities will be developed consistent with ESS 1, followed by disclosure, public consultations and feedback. The consultations will be designed so as to involve the meaningful participation of both women and men, vulnerable groups and those who are less literate.

The potential negative environmental impacts of the project are not expected to be significant or irreversible. Component 1, the construction of new 33/11kV substations, related lines and facilities, which would generate the main environmental impacts, will not be located in any environmentally sensitive and protected areas. Anticipated environmental impacts would be mainly in the construction stage and these can be managed and controlled. The health, safety and working conditions of workers involved both in the construction and

[6] i.e. Extending 33kV lines for more than 50 km, which appears common in Nepal, will likely result in a voltage drop, failing to provide a reliable electricity service to meet the technical standards of electronics.
[7] i.e. Constructing a full 33kV/11kV substation for a small load in a distant, rural village of low population density

implementation phases of the Project will need to be both assessed and managed so that it is in compliance with the Bank's policies.

A social assessment (SA), to be prepared as part of the ESIA, will need to be carried out in the participating districts, as a wide range of social impacts including land acquisition and involuntary resettlement under the potential project will need to be identified and measured. If involuntary resettlement and land acquisition are required within specific project areas, a resettlement action plan (RAP) will be prepared in line with requirements of ESS 2: Involuntary Resettlement Assessment, with particular consideration paid to ensuring that women are equally involved in the planning process and receive any compensation that is due to them. The SA will be used to identify the potential presence of Indigenous Peoples in the project area and support, if appropriate, the preparation of an Indigenous Peoples Plan (IPP) as mandated under ESS 3: Indigenous Peoples. The name used for this plan would be consistent with Nepali terminology used to Indigenous Peoples.

V. Estimated Project Cost and Financing Plan

The Project cost is estimated to be USD 107 million. The preliminary financing plan is as follows:

For Loans/Credits/Others	Amount in USD million
AIIB Loan	100
NEA	7
Total	107

VI. Implementation

The project will be implemented by Nepal Electricity Authority (NEA).

All contracts will be procured in accordance with the Bank's Procurement Policy (https://www.aiib.org/en/policies-strategies/procurement-policies/procurement-policy.html) and Interim Operational Directive: Procurement Instructions for Recipients (https://www.aiib.org/en/policies-strategies/procurement-policies/interim-operational-directive.html).

To find out more on business opportunities, contact the Borrower or visit:
https://www.aiib.org/en/opportunities/business/index.html?business=investment

Proposed project implementation period: October 2019 – September 2022.

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