Luxembourg, 16th September 2014

Environmental and Social Data Sheet

Overview

Project Name:	NEPAL POWER SYSTEM EXPANSION PROJECT
Project Number:	2013-0599
Country:	NEPAL
Project Description:	The project comprises priority investments in the power transmission grid to be implemented over the period 2015-2019, including seven new high voltage transmission lines and associated substations as well as the expansion and upgrading of several existing substations. The project will contribute to meeting domestic demand by connecting new hydroelectric schemes in the Western Development Region of Nepal to the national grid and will facilitate cross-border power exchange with India. In the short term, electricity trading will mainly concern imports from India in order to reduce the incidence of load shedding. Some export of wet season surplus power is likely in the medium term, while in the longer term exports are expected to predominate as the high-voltage transmission network is further expanded and Nepal is able to generate surplus power on a firm basis from the exploitation of new hydropower capacity.
EIA required:	yes

The project includes several 400 kV and 220 kV transmission lines that would fall under Annex I of Directive 2011/92/EU if located within the EU and that would therefore require an Environmental Impact Assessment (EIA); however, under national legislation in Nepal only those transmission lines that impinge on a protected area or require clearance of more than 5 ha of forest are subject to a mandatory EIA. The remainder are required to undergo an Initial Environmental Examination (IEE) which may result in a recommendation to conduct a full EIA.

Project included in Carbon Footprint Exercise[1]: no

Summary of Environmental and Social Assessment, including key issues and overall conclusion and recommendation

The project will include preparation of the right-of-way and construction of seven high-voltage transmission lines, construction of new substations and expansion of existing substations. The main environmental impacts during the construction phase will be those associated with the clearing of vegetation, the construction of temporary access roads, construction camps and equipment storage areas, the construction of substation buildings and outdoor switchyards, the erection of transmission towers and the stringing of aerial conductors. The removal of vegetation will be offset by a reforestation programme conducted in accordance with Nepali regulatory requirements. Impacts during operation are mainly related to some long-term change in land use along the route of the transmission lines and at the substation sites, including maintaining adequate clearance between vegetation and project structures.

[1] Only projects that meet the scope of the Pilot Exercise, as defined in the EIB draft Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: above 100,000 tons CO2e/year absolute (gross) or 20,000 tons CO2e/year relative (net) – both increases and savings.

Other potential impacts include noise and electromagnetic fields from the transmission lines and substations, and domestic and industrial waste from the substations

The routing of transmission lines and the location of new substation sites avoids environmentally-sensitive areas to the greatest extent possible. Parts of the 25 km long Manang-Khudi 220 kV transmission line, including the substations at either end of the line, are located within the Annapurna Conservation Area (ACA), within the intensive land-use zone in which electricity and other infrastructure development is permitted. This line closely follows the course of the Upper Marsyangdi River, which forms the boundary of the ACA and routing the line entirely outside of the protected area is not technically feasible.

The measures to avoid, minimise and mitigate potential negative impacts of the project are identified in the Environmental Management Program (EMP). The EMP will be updated to take into account the findings and recommendations of the IEE and EIA procedures for individual transmission investments as well as field conditions, construction contractor performance and stakeholder feedback encountered during the project design and implementation stages. The Borrower will be required to ensure that no works contract which involves environmental+ impacts is awarded until the relevant provisions from the EMP have been incorporated into the works contract and to provide semi-annual monitoring reports.

The project will involve land acquisition and some involuntary resettlement; however, the social impact of the project will largely be economic, with limited instances of physical displacement. Approximately 715 households will be impacted by land acquisition and the loss of crops and trees. Most of the land to be acquired will be within the right-of-way for the transmission lines and will be able to be returned to its original use on completion of the construction phase. The owners of land and buildings that need to be acquired on a temporary or permanent basis will be provided with compensation in accordance with national legal requirements. An initial assessment shows that there will be no endangered indigenous peoples' groups in the project areas. Where specific groups are considered to be vulnerable, additional resettlement assistance will be provided and consultations will be carried out to inform them about the project and to obtain their endorsement for land acquisition. A draft combined resettlement and indigenous peoples plan (RIPP) has been prepared and is undergoing review by the Bank's services to verify compliance with the Bank's standards. The draft RIPP will be publicly disclosed to interested stakeholders and will be updated and finalised following the detailed design and final route surveys prior to the start of construction activities, as required under national legislation. A grievance redress mechanism (GRM) will be established to receive, evaluate and facilitate the resolution of affected people's concerns, complaints, and grievances about the social and environmental performance at the project level. The Borrower will be required to ensure that no works contract which involves involuntary resettlement or impacts on indigenous peoples is awarded until the final versions of the RIPP and GRM, approved by the competent authorities, has been provided to the Bank.

The project will evacuate power from hydroelectric plants with a combined capacity of up to 1 000 MW in each of the Marsyangdi and Kali Gandaki basins to the main load centres in the Kathmandu valley. Surplus power will also, in the future, be exported to India. The project will lead to the positive effects of bridging the electricity demand-supply gap in Nepal with renewable energy and thereby reducing the need to operate oil-fired back-up diesel generator units. EIAs have been or will be conducted for the hydropower plants served by the project as required by Nepali regulations.

As the detailed technical design of individual project components has not been completed, the magnitude of some of the environmental and social impacts, including in particular any involuntary resettlement associated with the transmission lines and substations, as well as the environmental impacts within the ACA, is yet to be determined. These issues have been addressed in the draft environmental impact assessment and the draft RIPP, and further studies will be carried out during the period leading up to the start of construction. Completion of the EIA procedures for each of the lines to be funded by the EIB, including update and finalisation of the EIA report, the RIPP and the EMP, will be required prior to the start of construction and will be a condition of disbursement. In conclusion, the framework that has

been put in place to ensure the environmental and social integrity of the project, which will be appropriately reflected in contractual conditions placed on the project and further reviewed by the Bank prior to authorising disbursement for individual project components, is considered to be satisfactory and the project is considered to be acceptable for Bank financing from an environmental and social perspective.

Environmental and Social Assessment

Environmental Assessment

Under the Nepalese environmental regulatory framework, survey licences and transmission licenses are required for individual transmission lines rather than for the entire Project. Each proposed transmission line included in the project is also required to undergo an IEE or, in the case of lines that cross a protected area or require clearance of more than 5 ha of forest, a full EIA. The Project includes a 25 km 220 kV transmission line from Manang to Khudi in the Upper Marsyangdi Valley, part of which, including the substations at either end, lies within the Annapurna Conservation Area (ACA), and an EIA will be required by the Nepalese authorities for this component. The other transmission lines are not expected to require an EIA according to Nepalese legislation and would normally follow IEE procedures; however, in this specific case all components to be funded by the EIB that fall under Annex I of the EIA Directive will also be required to undergo a full EIA, including public consultation and publication on the EIB website. Completion of the EIA procedures for each of the lines to be funded by the EIB, including update and finalisation of the EIA report, the RIPP and the EMP, will be required prior to the start of construction and will be a condition of disbursement.

External funding for the project is being provided by a number of multilateral and bilateral financiers, including the EIB and the Asian Development Bank (ADB). Components not being funded by the EIB will follow environmental and social assessment procedures in accordance with national legislation and the requirements of the ADB. A draft environmental impact assessment covering all project components has been prepared in accordance with ADB procedures and was disclosed on the ADB's website on 28/02/2014. This document will serve as an input to the IEEs and EIAs that will be carried out in advance of the construction schedule for the individual transmission investments.

Nepalese environmental legislation does not include any requirement for Strategic Environmental Assessment (SEA) and no SEA is planned to be undertaken in the context of this project. EIAs have been, or will be, carried out, however, for all hydropower plants associated with the project which have a capacity of more than 5 MW or are located in a protected area.

The project includes approximately 400 km of overhead 220kv and 400kV transmission lines and 9 new substations. The total footprint is estimated to be up to 1 880 ha, although the majority of this area represents the right-of-way (ROW) for the transmission lines and can largely be returned to the original land use on completion of construction. A total of about 30 km of the ROW will cross forested areas, with a footprint of about 138 ha. The land to be acquired for substations is mostly agricultural land, and landholders will be compensated as required by Nepalese legislation. Substations will not be located in reserved forests or protected areas, with the exception of the Manang and Khudi substations which will be located in the intensive land use zone of the ACA. This zone is allocated for human habitation and infrastructure development so that the more sensitive ecosystems, mostly located at higher altitudes, can be preserved. Where forest clearance is unavoidable, reforestation will be carried out on the basis of a 2:1 replanting ratio, except in the ACA where a 25:1 ratio will be applied. After the detailed route surveys are completed, a Compensatory Planting Plan and Slope Stabilisation Plan will be prepared in consultation with the Ministry of Forests and Soil Conservation and the relevant District Forest Offices. Consideration will be given to the possible involvement of suitable NGOs active in this sector to support reforestation activities. Substations will be sited and designed to ensure noise level at the site boundary will not exceed 70 dB(A) at any time and will be equipped with appropriate sanitation facilities. Transformers containing polychlorinated biphenyls (PCBs) will not be used.

Potential impacts are minimised at the design stage by avoiding sensitive ecosystems and populated areas to the greatest extent possible. Transmission line rights-of-way have been reduced by the proposed use of 220 kV lines with high temperature, low sag (HTLS) conductors rather than larger 400 kV lines with conventional conductors. Some disturbance during construction will arise from temporary access road construction, clearing of vegetation, establishment of temporary storage sites for materials and equipment and contactors' camps, construction of substations, erection of transmission towers and stringing of conductors on the towers. Permanent access roads to substations will be required, which in most cases will comprise existing roads or short extensions from existing roads. Surface soils will be disturbed by civil works; however, drainage patterns are not expected to be permanently altered. Minor quantities of construction waste will be generated. The negative impacts are generally considered to be localised, temporary and reversible. Standard construction practices will be employed to minimise and mitigate the impacts, including erosion control and drainage measures to prevent soil run-off, water spraying of to control dust and restrictions on air and noise pollution from construction machinery. Any used equipment and other construction wastes will be disposed of in accordance with best practice and as required by local legislation. Construction contractors will be required to prepare and implement environmental, health and safety plans. Construction sites will be inspected regularly to monitor air quality, noise and waste management practices.

On the basis of the available data and assessments carried out to date, the project will not impinge directly on any critical natural habitats and apart from the compensatory reforestation programme, no biodiversity offsets are expected to be necessary. A ban on poaching of birds and animals in the areas adjacent to the transmission ROW will be imposed during construction. Any specific measures required to address negative impacts on natural habitats in the ACA as a consequence of construction of the Manang-Khudi transmission line will be assessed during the EIA for this component.

The project will have a number of long-term benefits, including a reduction in the emission of greenhouse gases associated with an increase in the efficiency of the power transmission grid and connection of clean energy capacity to the grid, thereby reducing load shedding and reducing reliance on oil-fired diesel generators. The project will also create short-term employment opportunities for the local population during construction, mostly for unskilled and semi-skilled labour.

Social Assessment

Although a draft EIA has been prepared for the project, a self-standing social impact assessment was not required under Nepalese law. A social analysis has been carried out as part of the RIPP in the project area through a sample socio-economic baseline household survey. Impacts on indigenous peoples are also assessed through the social analysis and a separate analysis on indigenous peoples is presented in RIPP.

The project will involve land acquisition and some involuntary resettlement; however, the social impact of the project will largely be economic, with limited instances of physical displacement. The main potential social impacts associated with construction and operation of the project relate to land acquisition for transmission grid substations and transmission towers as well as some temporary impacts such as the loss of crops, trees, etc. along the Right of Way (RoW) of transmission lines. Further potential social impacts include: impacts on indigenous peoples; core labour standards compliance; and occupational health and safety standards compliance. The potential impacts in terms of land acquisition, resettlement and indigenous people have been addressed in the draft combined Resettlement and Indigenous People Plan (RIPP), which will undergo review by the Bank's services to ensure compliance with EIB standards. Other potential social impacts related to labour and OHS standards will be appropriately addressed in the updated EMP. According to the draft RIPP, about 715 households are estimated as being potentially affected by the project. Land acquisition and temporary impacts on crops are foreseen, for which adequate compensation will be provided based on the Lenders' standards. Vulnerable affected persons will be provided with additional assistance. All of the compensation will be paid to affected persons prior to the start of construction.

The magnitude of impacts on indigenous people (IP) has initially been assessed as not significant as far as overall sensitivity is concerned, including: (a) customary rights of use of, and access to, land and natural resources; (b) socioeconomic status; (c) cultural and communal integrity; (d) health, education, livelihood, and social security status; (e) the recognition of indigenous knowledge; and (f) the level of vulnerability of the affected IP community. The impacts are limited to loss of a portion of land belonging to some IP groups. The initial assessment shows that there will be no endangered IP groups in the project areas. IPs living in the project periphery are Magar, Tharu, Tamang, Rai, Sherpa, Gurung, Tharu and Newars.

Public Consultation and Stakeholder Engagement

The Nepal Electricity Authority (NEA) conducts informal public consultations as part of its route surveys and formal consultation during preparation of environmental assessments (IEEs and EIAs). Most of the transmission routes were identified with surveys conducted during the period 2010 – 2012 and are being, or have already been, surveyed again for the proposed Project. The Manang-Khudi route was originally surveyed in 2010 when it was conceived as a 132 kV line and the route is being surveyed again for the proposed 220 kV line. Under the Nepalese regulatory framework, a full environmental impact assessment, which includes public consultation, is required to be conducted for the Manang-Khudi transmission line and this procedure will be extended to all of the other transmission lines being funded by the Bank.

The surveys being conducted for the purposes of land acquisition and resettlement planning also include consultation with directly affected people in the project area, local community groups and the relevant government officials. Focus group discussions were conducted at 63 different project locations with a total of 1 014 people, including 667 male participants and 347 female participants. Additional consultations were held separately among women's groups at 35 locations involving a total of 447 female participants. These consultations provided inputs to the identification of the felt needs of the affected communities and other relevant stakeholders. The consultation process also included indigenous people's groups living in the project areas. NEA will continue to organise public meetings and will keep the affected communities informed about progress in the implementation of resettlement, social and environmental activities.

NEA has an existing procedure to receive inquiries and complaints about project-related activities as well as to respond to such inquiries and complaints. Feedback from potentially affected people will be used to establish a grievance redress mechanism (GRM) appropriate to the expected level of impacts. Most complaints and concerns are expected to be resolvable at the local level; in those instances where this is not the case, an appeals committee could be included as part of the GRM as an appropriate forum for complaint resolution. NEA will coordinate the further elucidation of the GRM for the Project, which will be required to be in effect prior to commencement of construction.

Other Environmental and Social Aspects

The EMP will be implemented under the responsibility of NEA, with assistance from third party service providers as necessary. NEA's project implementation unit will be responsible for ensuring that the EMP is incorporated in works contacts and that these include appropriate conditions with respect to environment, health and safety (EHS). Contractors will have primary responsibility for the health and safety of workers at construction sites and camps. NEA will review contractors' EHS plans and conduct inspections of construction sites on a monthly basis or more frequently if deemed necessary.

Environmental monitoring activities will include air, noise and water quality measurements during the pre-construction and construction stages, management of construction wastes, and field inspection of vegetation clearance and reforestation activities to ensure that appropriate measures are implemented in accordance with the EMP. NEA will be required to provide the Bank with semi-annual monitoring reports.