



1. Project Data

Project ID P115767	Project Name NP-IN Electricity Transmission & Trade P	
Country Nepal	Practice Area(Lead) Energy & Extractives	
L/C/TF Number(s) IDA-49020,IDA-52630,IDA-H6600,IDA-H8580	Closing Date (Original) 31-Dec-2016	Total Project Cost (USD) 104,804,773.87
Bank Approval Date 21-Jun-2011	Closing Date (Actual) 31-Oct-2021	
	IBRD/IDA (USD)	Grants (USD)
Original Commitment	99,000,000.00	0.00
Revised Commitment	115,320,424.28	0.00
Actual	104,804,773.87	0.00

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2. Project Objectives and Components

a. Objectives

According to the International Development Association (IDA) Financing Agreement (p.5) dated July 15, 2011, and the IDA Additional Financing Agreement (p.5) dated September 11, 2013, the project objectives are “to: (a) establish cross-border transmission capacity of about 1000 MW to facilitate electricity trade between India and the Recipient; and (b) increase the supply of electricity in the territory of the Recipient by the sustainable import of at least 100 MW of electricity.” The Recipient is defined as Nepal.



The formulation of the project objectives in the Project Appraisal Document (p.15) is slightly different than the formulations in the financing agreements but there is no material difference in content: “to: (a) establish cross-border transmission capacity between India and Nepal of about 1000 MW to facilitate electricity trade between the two countries; and (b) increase the supply of electricity in Nepal by the sustainable import of at least 100 MW.”

b. Were the project objectives/key associated outcome targets revised during implementation?
No

c. Will a split evaluation be undertaken?
No

d. Components

According to the financing agreement, the project consisted of three components. Two special purpose vehicles (SPVs) formed by the governments of India and Nepal were to provide funding to the first component. The project was to use the IDA credit and grant to fund the second and third components.

A. Civil Works and Installation. (*Appraisal cost: US\$47.6 million excluding contingencies; revised cost at Additional Financing: US\$62.3 million; actual cost: US\$47.6 million*)

This component was to finance the design, construction, and operation of the following two 400 kilovolt (kV) double circuit transmission lines to interconnect the Indian and Nepalese transmission grids. These two interconnected transmission lines were named as Dhalkebar-Muzaffarpur (DM) Transmission Line:

A1. Muzaffarpur-Sursand Transmission Line in India (approximately 90 kilometers (km))

A.2. Dhalkebar-Bhittamod Transmission Line in Nepal (approximately 40 km).

B. Civil Works and Installation. (*Appraisal cost: US\$118.6 million excluding contingencies; revised cost at Additional Financing: US\$98.6 million; actual cost: US\$108.0 million*)

This component consisted of two sub-components:

B.1. Hetauda-Dhalkebar-Duhabi Transmission Line and Substations: This subcomponent was to finance the design, construction, and operation of an approximately 285 km 400 kV double circuit line in Nepal together with related substations. This line was to connect to the transmission line between Nepal and India at Dhalkebar, which would be constructed under the first component. The name of this transmission line was later changed to Hetauda-Dhalkebar-Inaruwa (HDI) Transmission Line because of the location of the substation in Inaruwa.

B.2. Synchronization of Operation of the Power Grids: This subcomponent was to finance the installation of power system stabilizer in the major power generating stations in Nepal to synchronize the power system of India with that of Nepal.



C. Technical Advisory Services to Nepal Electricity Authority (NEA). (*Appraisal cost: US\$11.0 million; actual cost: US\$4.8 million*)

This component was to hire an owner's engineer to assist NEA in overseeing the implementation of the works in Component B and a lender's engineer to assist NEA in results monitoring and evaluation. The component was also to support the preparation of a transmission system master plan within Nepal with additional cross-border connections. Lastly, the component was to hire consultancy services to strengthen NEA's institutional capacity in transmission business including cross-border connections, assist the Ministry of Energy and NEA to develop an understanding of the concepts of benefit-sharing in export oriented hydroelectric projects, and strengthen their project implementation capacity.

Revised Components

At the time of the additional financing in September 2013, the hiring of a lender's engineer under the third component was dropped as the SPV that was responsible for the construction of the transmission lines under the first component took on this role. A third subcomponent was added to Component B to finance uncompleted three activities of the World Bank-financed Power Development Project after its closing on December 31, 2013.

B.3. Transmission Line and Integrated Financial Management Information System (IFMIS) of NEA (*Cost at Additional Financing: US\$36.5 million; actual cost: US\$24.98 million*): This subcomponent was to finance the construction of a two 220 kV transmission lines between Hetauda-Bharatpur and Bharatpur-Bardaghat and their associated substations, provision of conductors for the Hetauda-Dhalkebar-Inaruwa transmission line, and establishment of an IFMIS for NEA.

At the second restructuring in December 2016, subcomponent B.2 Synchronization of Operation of the Power Grids was dropped as it was agreed that the Power Grid Corporation of India (POWERGRID) and the NEA would finance this a separate government-to-government activity.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost: The project cost was originally estimated at US\$177.3 million excluding US\$15.0 million for contingencies and US\$10.0 million for interest payments during construction. At the time of the additional financing, the estimated project cost increased to US\$208.40 million excluding contingencies and interest payment. On October 31, 2021, the project closed with a total cost of US\$185.38 million, which was calculated based on the total committed amount for contracts. At project closing, some project activities were uncompleted.

Financing: At appraisal, the IDA credit and grant amount was estimated at US\$99.0 million. An additional amount of US\$39.0 million was approved under the additional financing in September 2013, and the total IDA commitment increased to US\$138 million. By project closing in October 2021, the project had disbursed US\$104.80 million and cancelled US\$10.5 million. The project team commented that the difference between the committed amount and the total of actual disbursement and cancelled amount was because of the changes in the exchange rate between the Special Drawing Rights (SDR – the currency used in the financing agreements) and the US dollar.



Additionally, the project was to finance the construction of the transmission line under Component A through US\$13.2 million line of credit from the government of India, US\$24.38 million commercial borrowing, and equity financing of a total of US\$11.1 million from the shareholders of the SPV (for NEA's contribution as a shareholder of the SPV, see Borrower's contribution below). At the time of the additional financing, the commercial borrowing amount was estimated at US\$33.2 million and the shareholder's equity financing at US\$15.5 million. The ICR does not report the actual disbursement of these funds.

Borrower's contribution: At appraisal, the NEA's contribution to the construction of the transmission line under Component A was estimated at US\$4.96 million and to the construction of the transmission lines under Component B at US\$29.75 million. At the additional financing, the NEA's estimated contribution increased by US\$2.0 million because of the addition of new project activities under sub-component B.3. Transmission Line and IFMIS of NEA. The ICR does report the actual borrower's contribution at project closing.

Additional Financing and Restructurings: An Additional Financing was approved in September 2013, and the project was restructured seven times:

- **Additional Financing (September 11, 2013):** An additional IDA credit of US\$37.0 million and grant of US\$2.0 million were approved to finance three activities of the Power Development Project that would continue after its closure. The hiring of lender's engineer was dropped from project scope (see Revised Components above). New intermediate outcome indicators were added to the results framework to measure the implementation of newly added three activities.
- **First Project Restructuring (Level 2 – April 5, 2016 – RES22274):** One legal covenant related to the finding of a dedicated industrial consumer to sell 150 megawatts (MW) of electricity NEA was to purchase from India was deleted as demand for electricity in Nepal grew in time and there was no need to find such a dedicated buyer. All unallocated funds were transferred to goods and works category to finance the cost of transmission line towers because their cost could not be accurately estimated at appraisal as the transmission line was the first 400 kV line to be built in Nepal. This allocation of funds did not affect the project scope or the funding amount.
- **Second Project Restructuring (Level 2 – December 19, 2016 – RES25664):** The project closing date was extended by 18 months from December 31, 2016 to June 30, 2018 to allow time for the completion of the project activities that were significantly delayed because of forest clearance permissions, right of way issues, and objections to the project by the communities on the Nepal side related to the construction of the HDI Transmission Line and the two 220 kV transmission lines. The subcomponent B.2, the synchronization of the Indian and Nepalese power grids was dropped (see Revised Components above).
- **Third Project Restructuring (Level 2 – June 28, 2018 – RES32862):** The project closing date was extended by six months from October 30, 2018 to December 31, 2018 to allow time for the completion of project activities. At the time of this restructuring, the DM Transmission Line connecting the power grids of India and Nepal has already been completed and operational (Component A). However, except for the substation in Hetauda, all other transmission line related activities under subcomponent B.1 and B.3 were either at the bidding stage or early construction stage because of delays caused by forest clearance permissions, right of way issues, and objections from the communities. The project had already delivered all technical assistance activities under Component C.
- **Fourth Project Restructuring (Level 2 – December 21, 2018 – RES35146):** Following the significant progress the project had made in the implementation of project activities and safeguard policies during the six months added to the implementation period under the previous restructuring,



it was agreed to extend the project closing date by another 16 months from December 31, 2018 to April 30, 2020 to allow time for the completion of the project activities under Component B that were delayed by objections of the communities to the construction of some transmission towers.

- **Fifth Project Restructuring (Level 2 – April 29, 2020 – RES41184):** The project closing date was extended by six months from April 30, 2020 to October 30, 2020 to allow time for the completion of ongoing contracts and assessment of the progress in implementing the action plan agreed between the government of Nepal and the World Bank to improve the project's performance towards the achievement of the objectives. Before this restructuring, project implementation had slowed down because of the onset of COVID-19. Without funding available through the project, the project activities could not have been completed as the government of Nepal was facing fiscal constraints and the NEA did not have sufficient funds. Therefore, it was agreed to extend the project closing date by six months to assess the progress in project implementation and provide funding to ongoing investment activities, such as construction of Hetauda and Inaruwa substations and transmission lines under subcomponents B.1 and B.3, which were delayed because of contract cancellations and flooding.
- **Sixth Project Restructuring (Level 2 – October 20, 2020 – RES – 43388):** The project closing date was extended by 12 months from October 30, 2020 to October 31, 2021 to provide financial support to complete ongoing project activities and to strengthen the project implementing agency's capacity in social and environmental issues and financial management of the project. The project's performance had improved following the signing of new contracts for the construction of the transmission lines and substations under component B.3, but the restructuring paper noted that even this one-year project closing date extension would not have been sufficient for the completion of all project activities by the new project closing date.
- **Seventh Project Restructuring (Level 2 – October 30, 2021 – RES48567):** In August 2021, the government of Nepal and the World Bank agreed to close the project as scheduled without completing all project activities. It was estimated that an additional US\$105 million would be needed to complete all contracts including environmental and social safeguards activities. The government of Nepal was expected to ensure that funds would be available to complete the contracts. Therefore, the project closing date was not extended at this restructuring and US\$10.5 million of unused project funds were cancelled upon the request of the government of Nepal.

Dates: The project was approved on June 21, 2011. The Financing Agreement was signed on July 15, 2011, and the project became effective on September 29, 2011. The Additional Financing Agreement was signed on September 11, 2013. The Mid-Term Review was conducted in February 2015. The original project closing date was December 31, 2016. The project closing date was extended by 58 months, and the project closed on October 31, 2021. The reasons for project closing date extensions are given in the restructuring entries above.

3. Relevance of Objectives

Rationale

The project objectives are highly aligned with the World Bank's strategy as defined in the Country Partnership Framework for FY2018-22 (CPF) for Nepal. The project sought to address the development problem of insufficient electricity supply in Nepal that resulted in long load shedding in the dry season when



the country's mostly run of the river hydropower generation capacity could not generate electricity because of insufficient rain. Insufficient availability of electricity has had an adverse impact on the socioeconomic welfare of the population and the development of private sector. The project was to partially address this problem by establishing a cross-border transmission line between India and Nepal that would allow Nepal import electricity from India during dry seasons to end load shedding. The establishment of such a connection between these two countries is also expected to allow Nepal to export clean energy to India, once Nepal builds sufficient hydropower generation capacity in the future, contributing to the decarbonization of the Indian power generation sector. Although the project achieved the objective to increase supply of electricity through the establishment of transmission capacity between India and Nepal under the previous Country Partnership Strategy FY2014-18 (CPS), the development problem continues to be aligned with the second focus area of the current CPF, i.e., Private Sector-Led Jobs and Growth, and contributes to the achievement of "Objective 2.1 Improved power generation capacity and access to electricity" to meet the energy needs of the country and "pursue regional cooperation in energy to reduce fluctuations in power supply and develop a market for energy as Nepal increasingly benefits from hydropower in the medium and long term" (CPF, p.14).

The project objectives are highly relevant to the country context. The project supported the government's strategic objective of improving the amount of electricity in the country to end load shedding during dry seasons and support private sector development. The project objectives were appropriately pitched to the development status and capacity of the country as described in the CPF. Two special purpose vehicles (SPV) formed by well-resourced and technically capable public and private shareholders were to oversee the construction and operation of the transmission line on both side of the border between India and Nepal (Dhalkebar-Bhittamond line in Nepal and Sursand-Muzaffarpur line India – in short Dhalkebar-Muzaffarpur (DM) transmission line). The SPVs were to raise the debt portion of the financing, and the government of Nepal's financial commitment would be in the form of NEA's equity contribution to the SPVs. Therefore, the technical and financing risks were low and the likelihood that the project objectives would be achieved was high.

However, the project objectives were output-oriented as the project's goal was to increase the transmission capacity between the two countries and allow power trade. The outcomes that would have been expected as a result of increased electricity supply from India to Nepal were not defined. Furthermore, the project objective did not encompass the outcomes of all project activities. the project was to finance the construction of a new 400 kV transmission line that would run from west to east (Hetauda–Dhalkebar–Inaruwa (HDI) transmission line) connecting to the cross-border transmission line at the Dhalkebar substation to be built. This would be the first 400 kV transmission line to be built in Nepal and would serve as a backbone line for the future expansion of the high voltage transmission grid in Nepal, while improving the reliability and quality of power supply in the country. This line would also facilitate the further expansion of the secondary transmission lines and low voltage distribution lines. However, the project objective did not capture the outcomes expected from the construction of the HDI transmission line. Additionally, the project objectives would have been expected to be more outcome-oriented as the project benefited from the experience gained and lessons learned during the implementation of the previous World Bank-financed Power Development Project.

Overall, while the formulation of the project objectives is entirely in output terms and does not cover the results expected from all project activities nor comply with the outcome orientation required by the Bank guidance, the alignment of the project's objectives with the World Bank strategy and country context, on the other hand, is high; hence, the relevance of objectives is rated substantial.



Rating

Substantial

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective

To establish cross-border transmission capacity of about 1000 MW to facilitate electricity trade between India and the Recipient and to increase the supply of electricity in the territory of the Recipient by the sustainable import of at least 100 MW of electricity.

Rationale

Theory of Change for the Project

The project's inputs—IDA loans and grants and technical assistance support—were to be used to finance the construction of a 400 kV high voltage transmission line and substations passing through Hetauda, Dhalkemar, and Inaruwa (HDI) in a west to east direction of the country and the installation of power system stabilizers to synchronize Nepalese power system with that of India. The project was to finance the construction of the 400 kV cross-border transmission line between Dhalkebar in Nepal and Muzaffarpur in India (DM transmission line) by utilizing funds from Indian and Nepalese governments, shareholders' equity (shareholders of the SPVs that would build the transmission line), and commercial debt. Under technical assistance support, consultants were to be hired to develop a Transmission System Master Plan for Nepal. The project was to hire an owner's engineer to oversee the construction works for HDI transmission line and a lenders' engineer monitoring and evaluation.

The immediate output of these activities would be the DM transmission line and its associated substations and the creation of a cross-border power transmission capacity between India and Nepal, and the HDI transmission line and its associated substations strengthening the transmission network in the country. Project activities were also to synchronize the two countries' power systems. Assuming no electricity supply shortage on the Indian side, the project output of increased cross-border transmission capacity would increase the amount of electricity imported from India to Nepal and contribute to addressing load shedding and unplanned power outages problems, especially during the dry seasons. Improved reliability and quality of power supply and transmission efficiency (because of reduced transmission congestion in the system) would have been the outcomes expected from the improved domestic transmission network because of the construction of the HDI line. The impacts of the project expected in the medium and long-term would have been increased private sector investments because of reliable electricity supply, improved socioeconomic welfare of the society, and further integration of the national power networks in the region potentially leading to the availability of cheap and clean energy in the region and decarbonization of power generation in India and Bangladesh.

Although the formulation of the project objective includes two objectives, i.e., to establish cross-border transmission capacity to facilitate electricity trade and to increase the supply of electricity in Nepal through



sustainable import of electricity from India, the former is a means (output) achieve the latter, which is also closer to the output level rather than the outcome level (Therefore, this review will assess the achievement of increased supply of electricity in Nepal through sustainable import of electricity from India as its objective). Only half of the project's theory of change was captured by the project objectives, which was restricted to the construction of the cross-border DM transmission line and associated substations, and the synchronization of the power grids of India and Nepal. When assessed with respect to how the project objectives were formulated, the theory of change was robust, and causal chains between the project's activities/outputs and intermediate outcomes (increased transmission capacity between India and Nepal would have been expected to lead to increased supply of electricity in Nepal through imports) were direct and valid and the achievement of the intermediate outcome could be fully attributed to the project's intervention. However, the project objective's formulation did not capture the impact of the project on addressing load shedding and unplanned outages (i.e., outcomes to be expected from increased power supply from India) and the improvement in the reliability and quality of electricity supply and transmission efficiency in Nepal as a result of the construction of the HDI transmission line. In other words, the project objectives were restricted to the outputs related to the DM transmission line, and the project activities related to the construction of the HDI transmission line were redundant to project objectives to be achieved.

The addition of the 220 kV transmission lines to the project scope at the time of the additional financing did not have an impact on the project's theory of change.

Overall, although the project's theory of change was robust and causally linking project activities to outputs and the achievement of the project objectives could be fully attributed to the project activities under Component A and the construction of the Dhalkebar substation under Component B, the project objectives were output oriented, and its formulation excluded the project outcomes expected from the project's intervention.

Outputs

- **Design, construction, and operation of the 400 kV DM transmission line.** The 125 km long 400 kV transmission line between India and Nepal, which was built under Component A, was energized in 2018.
- **Hetauda-Dhalkebar-Inaruwa Transmission Line constructed:** At the time of project evaluation, 80 percent of the foundation and towers of the transmission line was constructed. The construction of the remaining 20 percent could not progress as planned because the foundations are in community disputed locations and dispute had not been solved. The stringing was also delayed because of a dispute with the contractor. Therefore, the project did not achieve the construction of 287 km 400 kV transmission line. The project team informed that at the time of this review 94 percent of the towers had been erected and stringing of lines would start in June 2023.
- **Hetauda-Bharatpur and Bharatpur-Bardaghat Transmission Line constructed:** At the time of project evaluation, 80 percent of the Hetauda-Bharatpur 220 kV transmission line was complete including stringing. The construction of two tower for the Bharatpur-Bardaghat 220 kV transmission line was delayed because of community resistance in the Dumkibas area. The project could complete the construction of 67 km of the 150 km long transmission lines. The project team informed that an agreement had been reached between the community and the NEA in April 2023, and the construction of the line is expected to resume in the near future.
- **Number of substations built:** The results framework did not include an indicator capturing the number of substations built under the project, but the ICR reports that the 400 kV Dhalkebar



substation was built to connect the DM transmission line to the national grid in Nepal. The two 400 kV substations in Hetauda and Inaruwa, and two 220 kV substations in Bharatpur and Bardaghat were uncompleted at the time of project evaluation.

- **Transmission System Master Plan:** The project developed the final transmission master plan as planned.
- **Installation of IFMIS:** The project could not achieve the installation of IFMIS because of unsuccessful bidding.
- **Cross-Border Transmission Capacity:** As a result of the completion of the transmission line between Dhalkebar and Muzaffarpur and the substation in Dhalkebar, the cross-border transmission capacity between India and Nepal increased by 1,000 MW as planned at appraisal.

Outcomes

- **Quantity of electricity imported from India into Nepal.** This result is closer to the output level than the outcome level. The target was 744 gigawatt-hour (GWh) of electricity to be imported from India to Nepal. After the transmission line between Dhalkemar and Muzaffarpur was energized in 2018, Nepal started importing electricity from India. The amount of electricity the NEA imported during the fiscal year from July 1, 2020 to June 30, 2021 (FY2020/21) was 2,826 GWh. In the following fiscal year of FY2021/22 when the project closed, NEA imported 1,050 GWh of electricity from India. This corresponded to a 120 MW capacity through the transmission line, which is higher than the 100 MW specified in the project objective formulation.

The project successfully completed the construction of the DM transmission line and the power transmission capacity between India and Nepal increased by 1,000 MW. This also facilitated power trade between two countries. The power trade is currently from India to Nepal but with the development of hydropower potential generation capacity, Nepal should be able to use the transmission line to export hydropower to India.

As a result of the achievement of these outputs, Nepal started importing electricity from India. However, evidence is insufficient related to the achievement of outcomes expected from increased electricity supply in Nepal. The economic analysis lists the quantifiable (hence, measurable) outcomes expected from the project as reduction in load shedding in Nepal; (b) reduction in the transmission losses based on the use of higher voltage levels in Nepal; (c) reduction in costs on meeting peak demand in India through import of hydropower from Nepal; and (d) carbon dioxide emission reduction benefits to India. The first two outcomes are the immediate outcomes expected from the project's intervention. The latter two are medium and long-term outcomes. The project formulation did not include these development outcomes, and the results framework did not include any indicator capturing these outcomes. The evidence is also insufficient related to the sustainability of the electricity import from India other than the yearly increase in the amount of electricity imported. Furthermore, the project failed to complete the construction of the HDI transmission line and the two 220 transmission lines added to the project scope at the time of additional financing. The outcomes expected from these investments did not materialize nor were they defined in the project objective, such as improved system reliability. The project formulation was set low at the output level. Therefore, the criticality of the HDI and 220 kV transmission lines was not measured or addressed during one of the seven restructuring.

Rating
Modest



OVERALL EFFICACY

Rationale

The project successfully increased the power transmission capacity between India and Nepal through the construction of the DM transmission line and facilitated power trade, which are project outputs. Nepal has been importing electricity from India through the transmission line since the line was energized in 2018. However, evidence is insufficient regarding the achievement of project outcomes of reduction in load shedding because of increased availability of electricity and the transmission losses based on the use of higher voltage levels in Nepal. The evidence is also insufficient for the improvement of the transmission system reliability because of the construction of the HDI and two 220 kV transmission lines as the project failed to complete the construction of these high voltage transmission lines in Nepal despite a 58-month project closing date extension. Overall, the project’s efficacy in achieving the project objective is rated modest.

Overall Efficacy Rating
Modest

Primary Reason
Insufficient evidence

5. Efficiency

Economic Analysis

At appraisal, a “with the project” and “without the project” economic analysis was conducted for the transmission line investments under the project. Quantifiable benefits of the transmission line investments were defined as follows: (a) reduction in load shedding in Nepal; (b) reduction in the transmission losses based on the use of higher voltage levels in Nepal; (c) reduction in costs on meeting peak demand in India through import of hydropower from Nepal; and (d) carbon dioxide emission reduction benefits to India. The costs were taken as physical investment costs, physical contingencies, and operation and maintenance (O&M) costs (1.5 percent of the investment cost per year). The exclusion of socio-economic benefits of increased availability of electricity from the economic analysis was a shortcoming of the methodology. ; Using these costs and benefits, the economic analysis at appraisal resulted in an Economic Internal Rate of Return (EIRR) of 21.22 percent for Nepal portion of the project, 26.17 percent for the India portion of the project, and 39.76 percent for the whole project. The Net Present Values (NPV) with a discount rate of 12 percent for a 35-year useful life were calculated at US\$79.6 million for the Nepal portion of the project, US\$317.0 million for the India portion of the project, and US\$547.5 million for the whole project.

At the time of project evaluation, a cost-benefit analysis was conducted based on a modified version of the methodology used at appraisal. There were differences how the benefits were identified. First, the benefits from reduction in transmission losses were excluded as the construction of the HDI transmission line and the two 220 kV lines added to the project at the time of additional financing was incomplete. Second, instead of the carbon dioxide emission reduction in India because of the import of hydropower imported from Nepal, the reduction in greenhouse gas emission reductions because of the reduced use of backup diesel generation in Nepal were included in the analysis as benefits. Third, and lastly, increased revenue to utilities in both countries as a result of incremental electricity sales were included as benefits, although these financial flows are usually used in



financial analysis, not in the economic analysis. Total project costs were included in the analysis as costs, but the O&M cost was estimated at 1 percent of the total costs, which was lower than the 1.5 percent at appraisal. The discount rate was taken at 6 percent compared to 12 percent at appraisal. Therefore, the methodologies used at appraisal and the time of project evaluation are not comparable, and the assumptions at project closing are favorable to obtaining a higher EIRR. The post-project cost-benefit analysis calculations resulted in significant increases in the EIRRs despite the incompleteness of the transmission lines in Nepal: 49 percent for the Nepal portion of the project, 99 percent for the India portion of the project, and 56 percent for the whole project. Similarly, NPVs were significantly higher than the NPVs estimated at appraisal: US\$1.56 million for the Nepal portion of the project, US\$531.27 million for the India portion of the project, and US\$2.09 million for the whole project.

The main reason for this difference between before-project and post-project calculations was the sharp increase in the amount of electricity imported from India to Nepal. At appraisal, it was estimated that the electricity imported from India would be around 430 GWh per year (i.e., 100 MW power flow at 49 percent load factor). However, in the second year of the operation of the transmission DM transmission line, the amount of electricity imported from India had already reached at 1,050 GWh at project closing. This increase was because of increasing electricity demand and insufficient increase in installed generation capacity that could generate power during dry seasons in Nepal.

However, if the greenhouse gas (GHG) emissions caused by the electricity exported from India to Nepal are included in the calculations, the post-project EIRR of 56 percent for the whole project drops down to 40 percent assuming low shadow price for carbon, and 24 percent assuming high shadow price. Overall, the net GHG impact of the project is negative because the grid emissions factor in India is significantly higher than that in Nepal. The high concentration of coal-fired generation in India's generation mix overrides the project's benefits from reduction in GHG emission from diesel-fired generation replaced in Nepal (ICR, p.13).

Financial Analysis

At appraisal, it was estimated that the project would contribute to the financial recovery of the NEA by enabling additional power at lower costs to be supplied to its consumers and generation of additional revenues through transmission charges (PAD, p.29). The PAD provides a summary of the financial analysis based on a conservative base level of 100 MW (energy equivalent) with a capacity utilization of 49 percent. The calculations resulted in a financial internal rate of return (FIRR) of 13 percent for the Nepal portion of the DM transmission line, and 12.7 percent for the India portion of the line. A financial analysis was not conducted at the time of project evaluation. The project team commented that the Bank guidance did not require a financial analysis.

Administrative and Operational Efficiency

The mismatch between the project design and the formulation of project objectives adversely affected the project's efficiency. The project achieved its objectives after the DM transmission line was energized in August 2018, but the construction of the HDI transmission line, which did not have a direct impact on the achievement of the inadequately formulated project objectives, was significantly delayed resulting in a 58-month extension of the project closing date from December 31, 2016 to October 31, 2021. The main reasons for delays were insufficient project implementation capacity of the PIU, delays in procurement (main contract could only be awarded in two years), significant shortcomings in the implementation of safeguards policies (inefficient coordination among agencies related to forest clearance and payment of land compensations), insufficient counterpart funding, issues with financial management (frequent turnover of staff and qualified external audits), and poor contract management (some contracts were had to be cancelled and rebid). The failure of NEA to hire



an owner’s engineer who would review the detailed design of the HDI transmission line and supervise the construction works contributed to implementation delays. The ICR (p.17) states that “frequent changes in the NEA’s management also resulted in delays.” In the absence of a policy on land acquisition and compensation guidelines for right of way (RoW) of transmission lines, the NEA tried the negotiation method to access land for the construction of the transmission lines. As the ICR (p.18) states this method worked in most of the project area, but in other parts resulted in “disputes related to compensation, RoW issues, and health and safety in some local communities.” At the time of project closing, the construction of the 400 kV HDI transmission line was halted until the dispute with the local communities about the location of two transmission towers is resolved (An agreement between the community and the NEA was reached in April 2023). The stringing of the line was also halted because of a contractual dispute with the contractor. Such disputes resulted in the closing of the project without completing all project activities.

Despite some differences in the methodologies used in cost-benefit analyses before and after the project, the project’s efficiency in achieving the project objectives through the construction of the DM transmission line is assessed to be substantial, but there were significant shortcomings in the administrative and operational efficiency of the project as explained in the above paragraph that led to a 58-month extension of the project closing date. Overall, the project’s efficiency is rated modest.

Efficiency Rating

Modest

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	39.76	100.00 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	56.00	100.00 <input type="checkbox"/> Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

Although the project objectives’ formulation was low and output-oriented resulting in a mismatch that did not capture outcomes from the construction of the cross-border transmission line and the HDI backbone transmission line, the relevance of objectives is rated substantial because of the high alignment of the project objective with the World Bank’s strategy and the country context. The project’s efficacy is rated modest because of the failure of the project to complete construction of the HDI backbone transmission line (hence, the outcomes did not materialize) and insufficient evidence for the achievement of outcomes expected from the increased availability of electricity supply in Nepal. Because of the significant shortcomings in the administrative and operational efficiency of the project that resulted in almost a five-year project closing date extension and seven restructurings, the project’s efficiency in achieving the project objectives is rated Modest, although the



project was substantially efficient in completing the cross-border transmission line between India and Nepal. Overall, the project's outcome is rated moderately unsatisfactory in accordance with the Bank guidance (p.38).

a. Outcome Rating

Moderately Unsatisfactory

7. Risk to Development Outcome

Financing and safeguards: The project closed without completing the construction of the HDI transmission line and the two 220 kV lines. The main reasons were insufficient counterpart funding, disputes with the residents in the project area objecting to the project because of disagreements in compensations, and contractual disputes with the contractors that pending arbitration. While the ICR (p.23) reports that “the Ministry of Finance has committed to provide necessary funding post closure” to finance the remaining project activities and safeguard obligations, insufficient funds and inadequate implementation of safeguard policies still pose as a risk for the achievement of the full project outcomes and their sustainability.

Financial viability of the NEA: The financial viability of NEA has significantly improved following the management change in 2016. Currently, the utility is in a much better financial situation compared to seven years ago but sustaining the utility's financial viability is a challenge because of the increasing needs for investments in transmission and distribution network to meet the country's rapidly increasing electricity demand. A worsening of the financial situation of the NEA could weaken O&M of the HDI transmission line, which is expected to be completed within 2024. It might also adversely affect implementation of new transmission and distribution lines and weaken the sustainability of the development impact of the increased availability of electricity from India if electricity cannot be supplied to households and businesses reliably.

Electricity sector reform: Currently, the NEA, which is a vertically integrated power utility, is the sole buyer and seller of electricity in the country, including cross-border trade. The independent power producers (IPPs) do not have open access to the transmission network, nor they can sell electricity to the Indian grid. This is a barrier to the full utilization of the cross-border transmission line between India and Nepal for the export of hydropower to India. The electricity sector reform has been stalled for the last two years, and the new electricity act, which will liberalize the sector and allow IPPs to trade electricity both domestically and cross-border, has not been submitted to the parliament yet.

8. Assessment of Bank Performance

a. Quality-at-Entry

Increasing electricity supply during dry seasons through electricity import from India was of high strategic relevance to ending load shedding, increasing access to reliable electricity, and meeting increasing electricity demand in Nepal. The project's approach was adequate to achieve this objective; the activities under Component A, i.e., the construction of the DM transmission line between India and Nepal, was sufficient to achieve the project objective to create the cross-border transmission capacity and increase electricity supply from India to Nepal, but the outcomes of the HDI transmission line to be financed under



Component B was not captured by the project objective. Therefore, there was a mismatch between the faulty formulation of the project objective pitched at the output level and the project design. Consequently, the M&E system had shortcomings in capturing the project's all expected outcomes (see section 9. M&E Design, Implementation, & Utilization below). The methodology used in the economic analysis at appraisal was appropriate and sufficient to assess the economic viability of the project but exclusion of socio-economic benefits from the analysis was a shortcoming in the methodology. Technical aspects of the project were adequate and appropriate that would contribute to the upgrading of the Nepal's transmission network through the establishment of the first 400 kV transmission line in the country that would be the backbone of the network. The project benefited from the experience gained and lessons learned in implementing regional power projects and energy projects in Nepal. Therefore, power sales agreement between India and Nepal was negotiated in advance to avoid any delay, and the project was designed to hire an owners' engineer to support the NEA in procurement, construction supervision, financial management, and implementation of safeguards measures. The project successfully facilitated the establishment of the two SPVs, which would be responsible for the financing and construction of the two portions of the cross-border DM transmission line between India and Nepal, and the signing of commercial agreements for power sales by requiring them as a condition for the effectiveness of IDA loans to finance the construction of the HDI transmission line in Nepal. This resulted in the successful completion of the DM transmission line and achievement of the project objectives. Major risks were sufficiently identified, and mitigation measures were in place, but the risks related to the NEA's insufficient project implementation capacity including the safeguards policies and insufficient counterpart funding were underestimated, and mitigation measures were not effective—the project was unsuccessful in hiring an owners' engineer to support the NEA project implementation because of unsuccessful bidding. The World Bank project team provided significant assistance to the NEA during appraisal under the then ongoing Power Development Project to strengthen the project implementation capacity of the utility, but it was insufficient as the project later faced issues in procurement, financial management, implementation of safeguards policies and contract management because of the NEA's insufficient capacity that led to long delays in project implementation.

Overall, the quality at entry is rated moderately unsatisfactory.

Quality-at-Entry Rating Moderately Unsatisfactory

b. Quality of supervision

Supervision missions were held every six months until the onset of COVID-19 in March 2020 after which virtual missions were held. The World Bank project team was primarily based in Nepal, which helped maintain a close dialogue with the NEA and government counterparts and identify implementation issues as they arose. The project team provided support to improve the NEA's project implementation capacity including procurement, financial management, safeguards, and contract management through trainings and hiring of short term experts, but these activities did not have a lasting effect on the utility's capacity because of the absence of dedicated staff at NEA for these tasks. The project team's focus on the development impact of the project through the creation of cross-border transmission line between India and Nepal was sufficient, but the focus on the delivery of the outcomes that were related to the construction of the backbone transmission line between Hetauda and Inaruwa was insufficient. The ICR (p.23) states that "the World Bank team lacked capacity in dealing with challenges, especially on the safeguards side."



Although the project was restructured seven times mostly for project closing date extensions, the restructurings did not include any measure to shift the implementation direction of the project to achieve the outcomes. The project formulation was not revised to capture all expected outcomes from the project's intervention. The project closing time extension of 58 months was excessive. The project team together with the WB senior management tried to address the project implementation issues through an action plan with targets and timetables, but this was unsuccessful. The project closed without completing the activities related to the construction of the HDI transmission line. By the time of project evaluation in the fall of 2022, the NEA had not completed the remaining civil works and implementation of the safeguard measures. The project team continues to supervise the implementation of safeguard measures through the Post-Closure Safeguards Rectification plan that the team and the NEA had agreed on before project closing. The ICR does not report on the candor and quality of performance reporting by the project team, but a quick review of the Implementation Status and Results Reports and Aide Memoires shows that the project team adequately reported the performance of the project in the project documents.

Overall, the quality of supervision is rated moderately unsatisfactory because of the significant shortcomings in the supervision of the project activities and the implementation of the safeguards policies related to the construction of the HDI transmission line and shifting the project's implementation direction to achieve all expected outcomes despite seven project restructurings.

Quality of Supervision Rating

Moderately Unsatisfactory

Overall Bank Performance Rating

Moderately Unsatisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The theory of change was sound and causal links between project activities/outputs and outcomes were valid and direct (see Theory of Change under section 4. Achievement of Objectives), but the project objectives were output-oriented and captured only the outputs and intermediate outcomes expected from the construction of the DM transmission line between India and Nepal. Therefore, the results framework had major shortcomings in encompassing other outcomes expected from the project's intervention such as improvement in the efficiency of the transmission network in Nepal and reliability and quality of electricity supply because of the construction of the HDI transmission line. The mismatch between the project objective formulation and project design led to a deficient M&E design. The two project objective level indicators were defined to capture the project outputs of increased electricity transmission capacity between India and Nepal, and the amount of electricity imported by Nepal. The intermediate results indicators were sufficient to capture the contribution of the operation's investment component (Component A: Construction of the DM transmission line) and outputs toward the achievement of the project objectives. All the output indicators were measurable, achievable, relevant, and time-bound but not specific; the intermediate results indicators captured the construction of the transmission lines in length without any location specified or substations included. The M&E design also lacked indicators capturing the outputs and outcomes expected from the implementation of technical assistance activities except the preparation of



the master plan. The NEA was to be responsible for data collection, and the project was to hire an owner's engineer to support the NEA in the supervision of the construction activities and report on progress among others, which did not happen.

b. M&E Implementation

The quality and timeliness of the NEA's M&E data collection and reporting were insufficient, which gradually improved during project implementation with the support of consultants hired under the project and recommendations of the external auditors. To strengthen NEA's overall M&E capacity, the installation of an IFMIS was added to project scope at the time of additional financing but it did not materialize. The project failed to hire an owner's engineer, which adversely affected the supervision of construction works and reporting progress. The shortcomings in the M&E design in capturing the outcomes expected from the construction of the HDI transmission line and the two 220 kV lines in Nepal and the technical assistance support activities were not addressed during project implementation despite the restructuring of the project seven times. The collection of data related to the increase in the transmission capacity between India and Nepal and the amount of electricity imported from India to Nepal was straightforward and simple.

c. M&E Utilization

The M&E data were used to provide sufficient evidence of the achievement of the project objectives, which were formulated at the output level. The M&E data were used to extend the project closing date by 58 months in five restructurings out of seven but did not lead to a significant change in the implementation direction of the project. Actions were taken to address the implementation issues included in the progress reports, but these were insufficient to complete all project activities before project closing.

Overall, because of significant shortcomings in the design, implementation, and utilization of the M&E system as explained in the previous paragraphs, the M&E quality is rated modest.

M&E Quality Rating

Modest

10. Other Issues

a. Safeguards

At appraisal, the project was classified as Category B under Environmental Assessment (OP/BP 4.01) and triggered Natural Habitats (OP/BP 4.04), Forests (OP/BP 4.36), Physical Cultural Resources (OP/BP 4.11), Indigenous Peoples (OP/BP 4.10), and Involuntary Resettlement (OP/BP 4.12) safeguard policies.

Environmental Assessment (OP/BP 4.01): The project was classified as Category B because the potential adverse environmental impact of the project's site-specific activities was assessed as not direct, irreversible or significant in nature. For the transmission line to be constructed on the Indian side of the



border, it was agreed that the SPV implemented environmental and social measures based on the policies and procedures of POWERGRID, which were reviewed and approved by the World Bank under the provisions of Piloting the Use of Borrower Systems to Address Environmental and Social Safeguard Issues in Bank-Support Projects (OP/BP 4.00) under the World Bank-financed Fifth Power Sector Development Project.

The section of the cross-border transmission line between Dhalkebar and Bhattamod in Nepal did not pass through forest land, any national park, wildlife reserve, buffer zone, conservation area, wetlands, historically or archaeologically important sites or environmentally sensitive and fragile areas. The Initial Environment Examination (IEE) identified the potential adverse impacts of the line as changes in land use pattern, water pollution, waste disposal, and land degradation that were insignificant and reversible. Environmental Management Plan (EMP) to monitor and mitigate the construction and operation phase impacts of the project. The IEE and the EMP were disclosed in country and on the WB's InfoShop in February 2011.

An IEE was also conducted for the HDI transmission line in Nepal and was published in country and on the WB's InfoShop in February 2011. As the transmission line was to follow the right of way (ROW) of an existing 132 kV line, the proposed line's impact on environment was expected to be minimal, not significant, reversible.

For the two 220 kV transmission lines transferred to the project from the Power Development Project at the time of additional financing, an Environmental Impact Assessment was prepared in November 2007 and the Environmental Management Action Plans (EMAPs) were updated in February 2012.

Natural Habitats (OP/BP 4.04): This safeguard policy was triggered as there were natural habitats in the project area in Nepal. The transmission lines were aligned to avoid two recognized protected areas. Some parts of the transmission lines crossed migratory paths of wild animals in the west of Dhalkebar and migratory birds close to the Koshi Tappu Wildlife Reserve. To assess the impact of the project on wild animals, the project carried out four studies with substantial delay (i.e., Large Animals, Asiatic Elephant, Migratory Birds, and Rhesus Macaque--a species of monkey native to forests in India and Nepal).

Forests (OP/BP 4.36): At appraisal, the project designed transmission lines to minimize the use of forest land. As a result only a small portion of the HDI transmission line would pass through forests requiring the felling of an estimated 158,000 trees in about 390 hectares of forest land. About 80 to 85 percent of the two 220 kV transmission lines added to the project scope at the time of additional financing passed through forests. The project followed stringent procedures for tree felling, but the project activities still resulted in loss and degradation of trees and forest areas along the transmission lines. The project was to compensate each lost tree by planting 25 saplings as per the regulation in Nepal. By project closing, the project had replanted 1.75 million saplings for reforestation in cooperation with the Divisional Forest Offices and Community Forest Users Committees. However, the number of saplings planted was insufficient to meet even the compulsory plantation requirement of 3.95 million saplings for the HDI transmission line. Therefore, the WB and NEA agreed on an Action Plan on post-project safeguard rectification measures, and the NEA will continue with the reforestation of the project area during rainy seasons in accordance with that Action Plan. The delay in reforestation activities was one of the reasons why the project's compliance with safeguards policies was rated Moderately Unsatisfactory during the last years of project implementation.

Physical Cultural Resources (OP/BP 4.11): During the initial review of the route of the transmission lines, it was found out that the construction of the towers and substations of the transmission line in Nepal would



require the relocation of three small local temples, i.e., Gram Devata Dewhar Than, Shiva Temple, and Hanuman Temple. The project was to relocate these temples in consultation with the local community. However, the ICR does not report the implementation of the Physical Cultural Resources safeguard policy. The project team confirmed that these sites were relocated or rebuilt in coordination with the local communities.

Indigenous Peoples (OP/BP 4.10): The Social Impact Assessment (SIA) carried out by the NEA for the transmission lines the project was to construct in Nepal confirmed the presence of indigenous communities in the project areas. During project preparation, the SIA team carried out extensive consultations with these communities and governments regarding the impact of the project and mitigation measures in accordance with the Indigenous Peoples safeguard policy. These consultations confirmed the indigenous communities' support for the project. The project prepared a Social Impact Management Framework (SIMF) and a Vulnerable People Development Framework (VPDF) that would guide interventions to minimize the project's potential impacts on indigenous communities and extend specialized benefits if the transmission lines and substations to be constructed but the unknown location and route had an adverse impact on the indigenous people. The ICR does not report the implementation of this safeguard policy.

Involuntary Resettlement (OP/BP 4.12): This safeguard policy was triggered because of the potential requirement of land acquisition and temporary or permanent relocation of people because of the construction of transmission lines under the project. A Resettlement Action Plan (RAP) was prepared to resettle people who would be affected by the construction of the transmission lines and substations, of which the locations and route were known at appraisal. These were expected to require the acquisition of 21 hectares of land, relocation of nine private structures belonging to six households, and affect 133 households comprising 873 people. Additionally, a Social Impact Management Framework (SIMF) was developed to mitigate the adverse social impact of the transmission lines and substations the locations and routes of which would be finalized during implementation. The SIMF contained "procedures and guidelines to identify, evaluate and prepare plans to address involuntary resettlement" (PAD, p.34).

During project implementation, land acquisition was problematic because communities resisted to the construction of the transmission lines. The RAP was revised to enhance compensation provisions. A RAP implementation manual was prepared to include a communication and grievance redress mechanism. At project closing, communities in six project areas were still opposing to the compensation payments, and construction in these areas were halted because of disputes. The NEA will continue with the resolution of the disputes and the payment of compensations under the Safeguards Rectification Plan agreed between the NEA and the WB. The delay in the payment of compensations to the PAPS was the other main reason the project's compliance with safeguards policies was rated Moderately Unsatisfactory during the last years of project implementation.

Other Safeguards Related Issues

The following paragraph is copied and pasted from the ICR (p.21): It explains a request for inspection received by the WB's Inspection Panel in 2021:

"Request for inspection. In October 2021, the World Bank's Inspection Panel received a request for inspection related to concerns about the construction of the 74 km Bharatpur-Bardaghat 220 kV transmission line, including allegations of harm, adverse impacts on land and livelihoods, and noncompliance with the World Bank's policies and procedures. A dispute resolution process (under the World Bank Accountability Mechanism) is currently ongoing between the borrower and the complainants,



with the aim to facilitate agreement between the parties to address the concerns raised in the request. Failing such agreement, the Inspection Panel will commence an investigation (this investigation is being held in abeyance during the dispute resolution process, pending the outcome of the process).”

The project team informed that an agreement was reached between the community and the NEA in April 2023.

b. Fiduciary Compliance

Financial Management

The NEA maintained the book of accounts for the project and submitted project’s interim financial reports regularly with some occasional delays. Although the overall quality of NEA’s management of the financial aspects of the project were assessed as adequate, NEA’s financial management capacity was insufficient resulting in recurring issues. The external auditor’s reports were qualified such as the project accounting for the Nepalese government’s share and loan without the actual amount being received, the unknown status of capital work in progress because of physical verification, and inappropriate accounting of head office overhead cost (ICR, p.22). Internal audits were conducted with delay. Some of the issues identified by internal auditors were long outstanding advances deposits, and receivables, expenses that were not accounted for as actual expenses, and absence of physical verification report of fixed assets. Some of these shortcomings had been partially addressed by project closing. Frequent turnover of financial management staff adversely affected the efficiency of implementation. The NEA had also difficulty in sourcing sufficient counterpart funds for the completion of the project activities because of the tight financial situation of the utility and the government. There were no known issues of corruption or misuse of funds associated with the project. The project team confirmed that all project funds were accounted for at project closing. Overall, the financial management of the project had significant shortcomings adversely affecting the project’s efficiency.

Procurement

Because of the PIU’s insufficient procurement planning and management capacity—the PIU did not have qualified staff to manage procurement—the project could award the major contract for the construction of the HDI transmission line with a two-year delay after project’s approval although all bidding related documents had been prepared under the previous Power Development Project. The failure of the project in hiring an owner’s engineer for the NEA that would oversee the procurement and construction of the line contributed to delays in procurement. Additionally, there were shortcomings in the implementation of contracts. The project started major works without obtaining forest clearance permits and completing compensation for land acquisition. Contractual disputes slowed down project implementation, and some contracts were cancelled and rebid contributing to further delay of project implementation. Shortcomings in procurement adversely affected project’ efficiency in achieving the project objectives.

c. Unintended impacts (Positive or Negative)



None.

d. Other

None.

11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Unsatisfactory	Moderately Unsatisfactory	
Bank Performance	Moderately Unsatisfactory	Moderately Unsatisfactory	
Quality of M&E	Modest	Modest	
Quality of ICR	---	Substantial	

12. Lessons

This review has drawn three lessons based on the information in the ICR.

A mismatch between the output-based formulation of the project objective and the project design can lower project’s efficiency in achieving the project’s objectives and complicate the assessment of the project’s higher-level development outcomes. The project activities financed under Component A of the project were sufficient to achieve the project objectives to increase power transmission capacity and the power trade between India and Nepal. However, the outcomes expected from the achievement of power trade between the two countries were not defined. Furthermore, the project activities under Component B would have been expected to improve the reliability and quality of electricity supply in Nepal but the project objective did not capture such outcomes. Therefore, the significant delays in the construction of the transmission lines in Nepal that were not directly related to increasing the transmission capacity between India and Nepal resulted in a 58-month project closing date extension. This had a significant adverse effect on the project’s administrative and operational efficiency. Furthermore, the mismatch between the project objective formulation and the project design complicated the assessment of the project’s development outcome. Despite the incompleteness of the transmission lines that would strengthen the transmission grid in Nepal, the project was successful in completing the transmission line between India and Nepal and facilitating power flow from India to Nepal. However, the project’s outcome could only be rated Moderately Unsatisfactory because of absence of development outcomes and inefficiencies related to the construction of transmission lines within Nepal.

Insufficient communication with communities affected by the project and inadequate implementation of safeguard policies can adversely affect project implementation and achievement of project outputs. Some project-affected communities in Nepal were not aware that



transmission lines would pass through their villages. These communities were not appropriately consulted during project preparation or implementation and informed about the right-of-way issues. An information dissemination and communication plan was not prepared (ICR, p.26). These led to objections from the communities and significantly delayed project implementation. Additionally, the shortcomings in safeguard policies implementation led to project delays. The project signed contracts for the construction of the transmission lines in Nepal without first obtaining forest clearance permits and completing compensation payments to project-affected communities (this is related to the right-of-way issues). These also led to project implementation delays. As a result, the project closed without completing the transmission line works in Nepal that would strengthen the transmission grid in the country.

Absence of an owner’s engineer can critically affect project outputs and outcomes if the project implementing agency does not have sufficient technical and project implementation capacity. The NEA had insufficient capacity to manage transmission line works at a large scale and scope as defined under Component B. Therefore, the project was to hire an owner’s engineer to support the NEA in project design, procurement, contract management, and supervision. However, because of unsuccessful bidding, the project could not hire an owner’s engineer. This resulted in significant shortcomings in project design, procurement, and contract management such as inefficient transmission line route design, cancellation of contracts, insufficient of supervision of works, and inadequate implementation of safeguard policies.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

The ICR is candid and concise. It provides a detailed overview of the project. The narrative is substantially evaluative with findings supported by evidence. It is internally consistent; there is a logical linking and integration of various parts of the report. Including its annexes, the ICR presents a substantially complete and robust evidence base to support the achievements or under-achievements of the project. The report’s focus on what has or has not occurred as a result of the project’s intervention is sufficient. The report mostly follows and responds to the Bank guidance, but rather than assessing the projects performance in accordance with the objectives-based (outcome oriented) project evaluation methodology, it solely focuses on the achievement of project outputs(see section 4. Achievement of Objectives (Efficacy), Objective 1, Theory of Change for the Project). The ICR insufficiently highlights the mismatch between the project objective and project design, which fails to capture all outcomes expected from the project’s intervention. While there were some shortcomings in its assessment of the project’s outcome, the ICR provides a critical and evaluative assessment of the project’s performance supported by sufficient evidence. The Fiduciary Compliance and Safeguards section could have benefited from a more detailed discussion. The economic analysis is detailed but the methodology used in the cost-benefit analysis is substantially different than the methodology used at appraisal making a pre-project and post-project comparison of economic rate of returns difficult. Entries in the “Lessons and Recommendations” are based on specific experiences of the project. Overall, the quality of the ICR is rated substantial.



a. Quality of ICR Rating
Substantial