Chirkhwa Hydropower Private Limited: [ICRANP]LB (Assigned)

26 November 2018

Summary of rated instruments:

Instrument	Rated Amount (NPR Million)	Rating Action
Fund-based - Long-term loans	650	[ICRANP]LB (Assigned)
Total	**650**	

Rating action

ICRA Nepal has assigned the long-term rating of [ICRANP]LB (pronounced ICRA NP L B) to the NPR 650-million long-term loans (including proposed limits) of Chirkhwa Hydropower Private Limited (CHPL).

Rationale

The assigned rating considers the early stage of development of the 4.70-MW Chirkhwa Hydroelectric Project (HEP) and, consequently, its high execution risks. The risk results from limited all-weather accessibility to the project location and lack of evacuation infrastructure at the proposed connection point. Though these risks are mitigated to an extent by the promoters' experience in hydropower project development (mostly as contractors), track record in overall development and operation of a hydroelectric plant remains limited. Although regulatory and off-take risks for the project are mitigated by a firm off-take arrangement, the credit profile remains impacted by the high capital cost of the project. Due to high capital cost and fixed tariff (which does not compensate for higher incurred capital cost), the debt coverage and profitability indicators are expected to remain weak for the company. As a result, the company's ability to service debt obligations in the earlier years, when cash reserve build-up will be low, is likely to remain modest. The rating also remains constrained by the hydrological factor, which could have an impact on energy generation and on the company's revenues.

Key rating drivers

Credit strengths

Presence of long-term power purchase agreement with fixed tariff structure results in low offtake risk

CHPL has executed a power purchase agreement (PPA) with Nepal Electricity Authority (NEA) for its entire capacity, at a predetermined energy tariff. Tariff rates are standard NPR 4.8 and NPR 8.4 per unit during wet season (Mid-April to Mid-December) and dry season, respectively, with five times 3% annual escalation on the base tariff. The firm PPA with a pre-defined tariff mitigates the off-take and tariff risks. However, counterparty credit risk remains a concern, given the moderate financial profile of NEA. This is partly offset by sovereign support to NEA and its past track record of timely payment to private HEP developers.

Supply demand gap to ensure healthy offtake

Nepal is a net importer of electricity, even with limited electrification across the country and current supressed demand (per capita power consumption of <150 KW as per 2015 study[1], among the lowest in Asia). As per NEA, the power demand is expected to grow at the rate of ~15% over the foreseeable future, which could be higher in the event of increased economic activities. Hence the supply-demand gap is expected to persist. At the same time, the GoN has introduced favourable regulations like a compulsory floor of 15% of total BFI's loan towards the energy & tourism sector, and a 10-year tax holiday for hydropower projects, among others. All this remains positive for the players in renewable energy sector.

1 Study conducted by Water and Energy Commission Secretariat, GoN

About 29% project equity infused till mid-September 2018; although debt funding yet to be tied up

The project will be developed at an estimated cost of NPR 938 million (including IDC) in a debt-to-equity ratio of 70:30. The developers have already injected ~29% of equity requirements into the project to conduct preliminary works. Regarding the debt financing, the developers are yet to receive firm commitments from bankers, which is expected upon the submission of due-diligence report from bank-appointed technical consultant within November 2018. The ability of the developers to tie-up the funding requirements and inject the balance equity in a timely manner will be key to the project being executed within the stipulated time/ cost estimates.

Credit challenges

High execution risk due to preliminary stage of project development; mitigated to an extent by promoter's experience

The required commercial operation date of the 4.70-MW Chirkhwa HEP falls in July 2020 (~20 months from now), as per the PPA signed with NEA. However, development works at the project site are yet to start. As of mid- September 2018, developers had substantially completed acquiring land for project development (~97% acquired) and are currently in the process of financial closure to tie up the debt component. Contractor selection and mobilisation is expected to follow shortly. Further, execution risk could also arise due to challenges in all-weather accessibility to the project location. The major promoters of the developer company have prior experience of hydropower development works (especially in civil construction) which provides some comfort. Nonetheless, their track record in overall development and operation of a hydroelectric plant remains limited. This could also have an impact on the execution of the project within time and cost estimates.

Evacuation risk remains high as NEA is yet to develop evacuation infrastrucure at the connection point

Energy generated by the project is to be evacuated through the proposed Khandbari substation (s/s) of NEA, which is ~10 km from the powerhouse of the project. Khandbari s/s is the end-point of the ~105 km double circuit 220- KV Koshi corridor transmission line project of NEA. Most of the NEA's transmission line projects have faced significant delays in commissioning. Hence, the evacuation risk for the 4.7-MW project remains high. The developers are likely to undertake project development in line with the progress along NEA's transmission line project.

High project cost and gearing level on a fixed tariff regime could lead to low debt coverage ratio

The 4.70-MW Upper Chirkhwa HEP is expected to be commissioned at a relatively higher project cost (~NPR 199 million per megawatt of installed capacity) with 70% debt financing. Accordingly, the debt burden on the project is expected to remain high in the initial years of operation. At the same time, the fixed tariff structure of the PPA does not factor in the (higher) capital cost incurred in project commissioning. This could result in moderate return and debt service indicators for the project. Debt coverage indicators are likely to remain relatively weak in the initial years of operation, given the high interest obligations and low cash reserves. This could necessitate equity infusion/short-term borrowings to meet the project cash flow mismatch. The ability of the developers to come up with additional equity/alternative source of funds to cover it will have a bearing on the project's debt service capacity.

Hydrological risk and absence of deemed generation clause in the PPA

As with smaller rivers in the country, long term gauge record is not available for the Chirkhwa River[2]. Hence the availability of water to sustain long-term energy generation remains a concern. This is the major risk for project earnings, since the PPA with NEA does not contain the provision for deemed generation. Hence, loss in revenue in case of fall in

2 Flow derived through correlation with the flow data captured by the nearest gauging station.

hydrology will not be compensated. In addition, the hydrology of the river is rainfall dependent with relatively small catchment area[3] which raises concerns regarding the sustainability of flow.

Analytical approach: For arriving at the ratings, ICRA Nepal has applied its rating methodology as indicated below**:**

Links to applicable criteria:
Corporate Credit Rating Methodology

About the company:

Incorporated in January 2009, Chirkhwa Hydropower Private Limited is an SPV set up to develop a 4.7 MW run-of-the-river Chirkhwa Hydroelectric Project along Chirkhwa River in the Bhojpur District of Eastern Nepal. The required commercial operation date of the project falls due in July 2020 as per the power purchase agreement signed with Nepal Electricity Authority. The company is promoted by more than 25 individual promoters with a major stake from Mr. Dambar Bahadur Karki, Mr. Kedar Nath Karki, Mr. Gelje Lama, Mr. Ang Dorji Lama and Mr. Ganesh Man Singh Karki. They are all individuals with experience in the construction sector (contractors), legal sector (advocates) and others. Mr. Ganesh Man Singh Karki is the managing director of the company at present.

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About ICRA Nepal Limited:

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3 Catchment area of ~46 sq. km. is expected to support design discharge of 2.35 cusecs.

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