

NAM NGUM 2 POWER CO., LTD

No. 14/2021
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CORPORATES

Company Rating:	A
Issue Ratings:	
Senior unsecured	A
Outlook:	Stable

Last Review Date: 11/09/20

Company Rating History:

Date	Rating	Outlook/Alert
26/07/17	A	Stable

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RATIONALE

TRIS Rating affirms the company rating on Nam Ngum 2 Power Co., Ltd. (NN2PC) and the ratings on its outstanding senior unsecured debentures at “A” with a “stable” outlook. The ratings reflect the company’s well-built contractual framework and reliable cash flows received from a long-term power purchase agreement (PPA) with the Electricity Generating Authority of Thailand (EGAT; rated “AAA” with a “stable” outlook by TRIS Rating). The ratings also recognize NN2PC’s track record of efficient plant operation and adequate liquidity. However, the ratings are constrained by the uncertain water flow from the Nam Ngum river and the country risk of the Lao People’s Democratic Republic (Lao PDR).

KEY RATING CONSIDERATIONS

Long-term PPA with credible off-taker

Located in the central part of the Lao PDR, NN2PC’s hydropower plant has an installed capacity of 615 megawatts (MW), with annual electricity production of 2,310 gigawatt-hours (GWh). Despite its location and operation in a high-risk country, the ratings are built on reliable cash flow backed by a 25-year PPA with EGAT. The credit strength of EGAT means low counter-party risk for NN2PC.

The PPA, which is on a take-or-pay basis, largely mitigates market risk. EGAT is obliged to purchase up to 2,310 GWh (the Annual Supply Target) of power from NN2PC. The Annual Supply Target breaks down into Primary Energy (PE; 2,218 GWh) and Secondary Energy (SE; 92 GWh).

In addition to the PPA, the concession agreement with the government of Laos (GOL) mitigates the risks of money transferability and currency convertibility. The concession agreement stipulates that NN2PC has the right to receive and hold its revenue accounts outside the Lao PDR. Accordingly, payments from EGAT under the PPA are paid to NN2PC’s account in Thailand.

Proven record of efficient plant operation

Operation of a hydropower plant requires expertise in several aspects, such as water resource management, maintenance, and production planning. NN2PC holds an operation and maintenance agreement (OMA) with EGAT covering the entire term of the PPA. EGAT has extensive experience and expertise in operating hydroelectric power plants in Thailand. Moreover, NN2PC also engages EGAT to provide major maintenance services.

From initial operation in March 2011 to 2020, the plant availability factor has been higher than 96%, except for 2018 and 2019. During 2018-2019, the plant availability factor was about 92%-93% due to a partial overhaul in 2018 and a water supply shortage in 2019.

Water resource uncertainty

Hydropower output primarily hinges on water availability, which can vary significantly from year to year. High variability in water inflow can lead to variable electrical generation and result in a drop-off in revenues during certain periods of time. This could impact available cash to cover fixed costs. Although NN2PC’s reservoir storage provides some buffer from short-term fluctuations, drawn-out periods of drought could translate to less power generation and lower revenues during an affected period.

Contractual framework mitigates key risks

To mitigate the impact from the fluctuating supply of water, a contractual mechanism has been put in place in the PPA. This allows NN2PC to sell electricity in excess of the Annual Supply Target in wet years, and receive compensation for exceeding target sales in dry years. Whenever NN2PC sells an amount of electricity below the Annual Supply Target, the shortfall can be added to the Annual Supply Target in the following years.

Also, in the event that the water supply is not sufficient for NN2PC to meet the production requirements, NN2PC has the right to declare a drought year. Under the terms of PPA, NN2PC is obliged to maintain minimum availability to generate electricity at (i) eight hours per day in each month, and (ii) 10 hours per day in each year. A drought year declaration will temporarily exempt NN2PC from such obligation. NN2PC can declare a drought year twice during the 25-year period of the PPA. NN2PC exercised the first drought year declaration in 2020. Despite the merits of the scheme, a downside pressure on the ratings could arise if NN2PC encounters serious water insufficiencies repeatedly over successive years.

Impact from successive drop in water inflow

In 2020, NN2PC's performance came in below our expectation as it continued to experience low water inflow from the previous year. Total electricity generation was 916 GWh, a hefty 45% decline from 2019.

Power production plunged for a range of reasons. Firstly, the severe drought in 2019, which saw water resources at their lowest in decades, caused NN2PC to start off its operation in 2020 with the lowest-ever level of water in the reservoir. Secondly, NN2PC continued to suffer an unsatisfactory level of water inflow in 2020. The water flowing into NN2PC's reservoir totaled 3,934 million cubic meters (mcm) in 2020, suggesting an 8% increase from 2019. That said, such water inflow was far below the yearly average of 6,270 mcm. This exacerbated the level of electricity generation of NN2PC.

NN2PC declared 2020 a drought year under the PPA, which in effect exempted the company from breaching its obligation of minimum electricity production. It also allowed NN2PC to gradually increase the water level in its reservoir to hit the normal level at the end of 2020. At the same time, it had to ensure that its electricity generation would be sufficient to cover planned operating costs and debt obligations. Although NN2PC's power production plummeted, the water level in its reservoir was built to 368.7 meters above sea level (masl) at the end of 2020. This level of water should be good enough for NN2PC to fulfill its obligations under the PPA in 2021.

Performance expected to recover

Although NN2PC's performance considerably deteriorated in 2020, we expect a recovery, given the water level in the reservoir to start production in 2021. In 2020, NN2PC's earnings before interest, taxes, depreciation, and amortization (EBITDA) decreased by 48% year-on-year (y-o-y) to THB1.3 billion. The lower EBITDA was due to the company minimizing electricity generation in 2020 with the aim to increase the water level. The lower EBITDA caused the ratio of debt to EBITDA to peak at about 9.1 times for 2020.

Our base-case forecast is based on the level of water at the beginning of 2021 and a conservative assumption on the volume of water inflow. We forecast NN2PC to generate electricity of about 1,700-1,800 GWh per year in 2021-2022, which will translate into EBITDA of THB2.6-THB2.7 billion per year. We expect NN2PC to repay bonds coming due in 2021 and 2022, totaling THB1.5 billion. As a result, we forecast NN2PC's debt will decrease successively. The ratio of debt to EBITDA is expected to drop to around 4 times in 2021-2022.

Expected improvement in capital structure

We expect NN2PC's debt to capitalization ratio will gradually improve to a level below 50%-55% in 2021-2022. We do not expect NN2PC to make any major investments or expenditures in the foreseeable future, other than the planned maintenances. The company's most recent investment was an upgrade of the Nabong power substation, which was completed in 2018 with an investment cost of THB3.12 billion. At the end of 2020, the company's adjusted debt was THB12.3 billion. The ratio of debt to capitalization stood at 55.6%.

Adequate cash to meet near-term debt obligations

NN2PC has maintained a conservative internal policy to maintain cash reserves of at least THB1 billion to cover the upcoming debt repayments. NN2PC also intends to maintain a minimum cash on hand of about THB700 million to cover operating expenses for about 12 months.

We believe NN2PC will prudently manage its liquidity over the forecast period. We forecast NN2PC's funds from operations (FFO) to be about THB2.2 billion in 2021. The company had THB1.3 billion in cash on hand as of December 2020. Cash on hand plus FFO should be sufficient to cover bond repayments of around THB1 billion in 2021.

Ratings determined by group profile

NN2PC is a subsidiary of CK Power PLC (CKP; rated “A” with a “stable” outlook by TRIS Rating). CKP owns 46% of NN2PC and has direct control over NN2PC’s business and financial policies. NN2PC generally contributes about 60%-70% of EBITDA to CKP’s entire power portfolio. Given its critical earnings contribution to the group, we assess NN2PC as a core subsidiary of CKP. Based on our “Group Rating Methodology”, the company rating on NN2PC is equivalent to that assigned to CKP.

BASE-CASE ASSUMPTIONS

- Amount of water inflow in 2021 and 2022 will be lower than the historical average by 25%.
- The capacity factor is expected to be in the range of 30%-35% in 2021-2022.
- Plant availability factor during the forecast period (2021-2022) is expected to be higher than 96%.
- The energy tariff will be adjusted in accordance with the terms of the PPA.
- Operation and maintenance (O&M) expenses are expected to increase by about 3% per annum during 2021-2022.

RATING OUTLOOK

The “stable” outlook reflects our expectation that NN2PC will continue to receive stable cash flows from its power plant, and that the water inflow will stay around its average over the longer horizon. We expect NN2PC to continue its efficient management of the power units and water flow into the reservoir, enabling it to achieve the Annual Supply Targets throughout the remaining period of the PPA.

RATING SENSITIVITIES

A credit upside scenario could develop if NN2PC delivers stronger performance on a sustained basis. A downward revision to the ratings could occur if NN2PC’s performance is worse than our expectation, resulting in further material deterioration of cash generation against debt obligations. This could occur from prolonged low levels of water inflow.

According to TRIS Rating’s Group Rating Methodology, any change in CKP’s rating will have direct impact on NN2PC’s ratings.

COMPANY OVERVIEW

NN2PC is one of the flagship companies of the power segment under the CH. Karnchang Group (the CK Group). NN2PC was incorporated in 2007, under the laws of the Lao PDR, to own and operate the Nam Ngum 2 hydroelectric power plant in the Lao PDR. The major shareholders of NN2PC comprise CKP (with a 46% stake), Ratchaburi Electricity Generating Holding PLC (RATCH; 25%), and EDL-Generation PLC (EDL-Gen; 25%).

The Nam Ngum 2 hydroelectric power plant has an installed capacity of 615 MW. The technology used in the hydroelectric power plant is proven, and this technology helps enhance the reliability of the plant. NN2PC’s plant contains three Francis turbines, manufactured by Toshiba. Each turbine is connected to a 205-MW synchronous generator.

The power plant is located on the Nam Ngum river, 35 kilometers (km) upstream from the 150-MW Nam Ngum 1 hydroelectric power plant. The Annual Supply Target is derived from a water inflow of 6,270 mcm, the yearly average calculated from historical records kept during 1949-2003. The construction of the power plant was completed on time within the budget of about THB31 billion. The plant commenced initial operations in March 2011 and commercial operations in January 2013.

KEY OPERATING PERFORMANCE

Table 1: Performance Statistics of Nam Ngum 2 Hydroelectric Power Plant

Plant Performance	2020	2019	2018	2017	2016
Electricity generation (GWh)	920	1,685	2,454	1,857	2,109
Total availability (%)	97.1	92.0	93.0	98.1	97.6
Planned outage (GWh)	96.3	77.7	347.7	20.1	106.4
Maintenance outage (GWh)	29.9	202.1	7.1	19.7	19.8
Short notice and forced outage (GWh)	0.3	7.9	1.0	5.9	1.0
Reservoir Management					
Water level at the end of period (masl)	368.7	355.2	368.4	364.1	371.1
Water inflow (mcm)	3,934	3,639	10,535	5,104	5,360
Reservoir stock at the end of period (mcm)	4,240	2,841	4,209	3,749	4,481

Notes: Electricity generation = PE + SE + EE + Test Energy
 GWh = gigawatt-hours
 masl = meter above sea level
 mcm = million cubic meters

Source: NN2PC

FINANCIAL STATISTICS AND KEY FINANCIAL RATIOS

Unit: Mil. THB

	-----Year Ended 31 December -----				
	2020	2019	2018	2017	2016
Total operating revenues	2,095	3,486	3,949	3,319	3,833
Earnings before interest and taxes (EBIT)	263	1,438	2,124	1,423	1,864
Earnings before interest, taxes, depreciation, and amortization (EBITDA)	1,348	2,573	3,218	2,505	2,946
Funds from operations (FFO)	806	1,886	2,405	1,522	2,077
Adjusted interest expense	563	675	768	967	855
Capital expenditures	15	43	662	1,577	915
Total assets	24,272	25,692	27,779	27,629	27,138
Adjusted debt	12,313	12,599	13,423	14,732	14,299
Adjusted equity	9,845	10,788	11,002	10,228	10,301
Adjusted Ratios					
EBITDA margin (%)	64.35	73.80	81.47	75.48	76.86
Pretax return on permanent capital (%)	1.07	5.47	7.78	5.27	6.77
EBITDA interest coverage (times)	2.40	3.81	4.19	2.59	3.44
Debt to EBITDA (times)	9.13	4.90	4.17	5.88	4.85
FFO to debt (%)	6.54	14.97	17.92	10.33	14.53
Debt to capitalization (%)	55.57	53.87	54.96	59.02	58.13

RELATED CRITERIA

- Group Rating Methodology, 13 January 2021
- Rating Methodology – Corporate, 26 July 2019
- Key Financial Ratios and Adjustments, 5 September 2018

Nam Ngum 2 Power Co., Ltd. (NN2PC)

Company Rating:	A
Issue Ratings:	
NNPC223A: THB3,200 million senior unsecured debentures due 2022	A
NNPC233A: THB800 million senior unsecured debentures due 2023	A
NNPC239A: THB400 million senior unsecured debentures due 2023	A
NNPC240A: THB1,400 million senior unsecured debentures due 2024	A
NNPC253A: THB600 million senior unsecured debentures due 2025	A
NNPC259A: THB600 million senior unsecured debentures due 2025	A
NNPC273A: THB2,000 million senior unsecured debentures due 2027	A
NNPC270A: THB3,600 million senior unsecured debentures due 2027	A
NNPC303A: THB3,000 million senior unsecured debentures due 2030	A
Rating Outlook:	Stable

TRIS Rating Co., Ltd.

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