

NAM NGUM 2 POWER CO., LTD

No. 15/2020
21 February 2020

CORPORATES

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

Last Review Date: 08/02/19

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. At the same time, TRIS Rating assigns the rating of “A” to NN2PC’s proposed issue of up to Bt600 million in senior unsecured debentures. The proceeds from the proposed debenture issuances will be used to refinance part of the amortized debentures due in March 2020.

The ratings reflect the company’s solid contractual framework, reliable cash flows received from a long-term power purchase agreement (PPA) with the Electricity Generating Authority of Thailand (EGAT; rated “AAA” by TRIS Rating), and the track record of efficient plant operation. However, the ratings are constrained by the uncertain flow of water from the Nam Ngum River and the sovereign risk of the Lao People’s Democratic Republic (Lao PDR; rated “BBB/Stable” by TRIS Rating).

KEY RATING CONSIDERATIONS

Lower-than-expected performance caused by a severe drought

As a result of severe drought in the North of the Lao PDR, NN2PC’s operating performance in 2019 fell far below our expectations, with a staggering 31.6% decline in power output. NN2PC arrived at a total electricity generation of 1,679 gigawatt-hour (GWh), which comprised Primary Energy (PE) of 1,675 GWh and Secondary Energy (SE) of 4 GWh. The PE significantly trailed behind the annual supply target by 24% due to the precipitous drop of water inflows, a crucial factor for hydropower.

In 2019, water flowing into NN2PC’s reservoir amounted to only 3,639 million cubic meters (mcm), in contrast to the yearly average of 6,270 mcm. This marked the lowest water resources seen in 71 years. During the July-October period, rainfall was much lower than normal. The severe drought decimated NN2PC’s power generation in the second half of 2019. With an irregular water shortage, NN2PC incurred Bt93 million in the compensation for the shortfall of committed electricity generation in July 2019.

Risk of low water resources eased by the contractual mechanism

The contractual mechanism under the PPA helps alleviate the impact of the unprecedented drought.

The volume of water flowing into the hydroelectric plant could vary year by year. A fast-changing climate could cause a wild fluctuation. For instance, the water inflows steeply declined in 2019 while it soared to 10,535 mcm. or 70-year highs just a year earlier.

To smooth out the cash flow for the project, the PPA contains a mechanism which allows NN2PC to sell electricity in excess of the Annual Supply Target in wet years, and then receive compensation for the 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.

Contractual framework mitigates other major risks

Other major risks of the Nam Ngum 2 power project are mitigated by the contractual framework. For instance, the multi-year PPA with EGAT mitigates market risk. The PPA is on a take-or-pay basis. 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, the concession agreement with the government of Laos (GOL) mitigates the risks of money transferability and currency convertibility. The concession agreement states that NN2PC has the right to receive and hold its revenue accounts outside the Lao PDR. As a result, the revenue received from EGAT is paid to NN2PC's account in Thailand.

Proven record of efficient plant operation

Operational risk is minimal because EGAT operates the power plant. 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. NN2PC is also under contract with EGAT to provide major maintenance services. Since the date of initial operation in March 2011 to 2017, the plant availability factor has been higher than 96%. 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.

NN2PC declares a drought year in 2020

Under the term of the PPA, NN2PC has declared that 2020 will be a drought year for its operations. In the aftermath of severe drought, the water level in NN2PC's reservoir hit the lowest level since its commencement of operations. Meanwhile, NN2PC is committed to maintain minimum availability at (i) 8 hours per day in each month, and (ii) 10 hours per day in each year. Given the low water level at the beginning of 2020, NN2PC could suffer from a water shortage before the rainy season starts and the Annual Supply Target could be out of reach.

In effect, the drought year declaration will temporarily exempt NN2PC from the aforementioned obligation throughout the year 2020 and; hence, stave off the risk of being penalized. As such, it allows NN2PC to replenish its reservoir for operation in 2021. This also means NN2PC can optimize electricity generation sufficiently to cover planned operating costs, interest payments, and principal payments. Based on our estimates, NN2PC is expected to incur operating costs of about Bt700-Bt800 million per year (excluding wheeling charges), and interest payments of about Bt500 million per year over the next three years. Therefore, NN2PC needs to generate only 700 GWh or 30% of Annual Supply Target in 2020.

Under the PPA, NN2PC can declare a drought year twice during the 25-year duration of the PPA. NN2PC has the right to declare a drought year once during the first 13 years starting from the initial operation date and one more declaration could be exercised after that. Hence, the downside risk could emerge in case that NN2PC encounters serious water insufficiencies repeatedly or over successive years.

Weakened financial performance

For the first nine months of 2019, NN2PC's earnings before interest, tax, depreciation, and amortization (EBITDA) decreased by 16% year-on-year to Bt2.0 billion. TRIS Rating believes that NN2PC will minimize its operations to allow time for its reservoir to return to normal levels by the end of 2020. Therefore, we forecast NN2PC's EBITDA to be in the range of Bt2.5-Bt2.6 billion in 2019 and 2020, in contrast to around Bt3.0 billion in our previous forecast.

We expect that the water inflows should return to its average. Nonetheless, our forecast for 2021 and 2022 is conservatively assuming a 10% discount on the historical average of water inflows. In our base case, EBITDA is estimated to increase to Bt3.0-Bt3.5 billion annually in 2021 and 2022. The ratio of debt to EBITDA will be in the range of 4-5 times in 2019 and 2020, and improving to 2.5-3.5 times in 2021 and 2022.

Expected improvement in capital structure

TRIS Rating expects NN2PC's debt to capitalization ratio will gradually improve to a level below 50% in 2021. 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 Bt3.12 billion. As of September 2019, the company's adjusted debt was Bt12.9 billion. The ratio of debt to capitalization stood at 54.8%.

Manageable liquidity profile

TRIS Rating believes NN2PC can manage its liquidity over the forecast period. TRIS Rating forecasts NN2PC's funds from operations (FFO) will be about Bt2.0 billion in 2020, while cash on hand stood at Bt1.5 billion as of September 2019. Cash on hand plus FFO should be sufficient to cover bond repayments of Bt2.1 billion in 2020.

NN2PC expects to refinance about Bt1.6 billion of debentures coming due in March and October 2020 by issuing new debentures. This refinancing plan does not materially affect our view regarding the company's profile as it was also partially incorporated in our previous forecast.

NN2PC has instituted a conservative internal policy to maintain cash reserves of at least Bt1.0 billion to cover the upcoming debt installments. These accounts serve as a protective cushion for the bondholders, in case operations do not reach expectations. NN2PC also intends to maintain a minimum cash on hand of about Bt700 million to cover operating expenses for about 12 months.

BASE-CASE ASSUMPTIONS

- The capacity factor is expected to be in the range of 30%-32% in 2019-2020 and 36%-40% in 2021-2022.
- Plant availability factor is expected to be higher than 96% during the forecast period.
- The energy tariff is adjusted in accordance with the terms of the PPA.
- Operation and Maintenance (O&M) expenses are expected to increase by about 3% per annum.

RATING OUTLOOK

The “stable” outlook reflects TRIS Rating’s expectation that NN2PC will continue to receive stable cash flows from its power plant, assuming that the water inflows should stay around its average over long periods. The power units and water flows into the reservoir are expected to be managed well, enabling NN2PC to achieve the Annual Supply Targets throughout the duration of the PPA.

RATING SENSITIVITIES

Any credit upside could develop if NN2PC delivers stronger performance on a sustainable basis. The downward rating pressure could emerge if cash flow deteriorates or if NN2PC makes any large investments which substantially jeopardize the company's financial profile.

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 ultimate major shareholders of NN2PC comprise CK Power PLC (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-megawatt (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 Bt31 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 | 2019 | 2018 | 2017 | 2016 | 2015 |
|--|-------------|-------------|-------------|-------------|-------------|
| Electricity generation (GWh) | 1,685 | 2,454 | 1,857 | 2,109 | 2,104 |
| Total availability (%) | 92.0 | 93.0 | 98.1 | 97.6 | 96.5 |
| Planned outage (GWh) | 77.7 | 347.7 | 20.1 | 106.4 | 60.3 |
| Maintenance outage (GWh) | 202.1 | 7.1 | 19.7 | 19.8 | 57.2 |
| Short notice and forced outage (GWh) | 7.9 | 1.0 | 5.9 | 1.0 | 8.4 |
| Reservoir Management | | | | | |
| Water level at the end of period (masl) | 355.2 | 368.4 | 364.1 | 371.1 | 372.4 |
| Water inflow (mcm) | 3,639 | 10,535 | 5,104 | 5,360 | 5,806 |
| Reservoir stock at the end of period (mcm) | 2,841 | 4,209 | 3,749 | 4,481 | 4,779 |

*Note: 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: Bt million

| | Jan-Sep 2019 | -----Year Ended 31 December ----- | | | |
|--|-------------------------|--|-------------|-------------|-------------|
| | | 2018 | 2017 | 2016 | 2015 |
| Total operating revenues | 2,806 | 3,949 | 3,319 | 3,833 | 3,903 |
| Earnings before interest and taxes (EBIT) | 1,158 | 2,124 | 1,423 | 1,864 | 1,910 |
| Earnings before interest, taxes, depreciation, and amortization (EBITDA) | 2,055 | 3,218 | 2,505 | 2,946 | 2,997 |
| Funds from operations (FFO) | 1,509 | 2,405 | 1,522 | 2,077 | 2,101 |
| Adjusted interest expense | 535 | 768 | 967 | 855 | 896 |
| Capital expenditures | 40 | 662 | 1,577 | 915 | 24 |
| Total assets | 25,632 | 27,779 | 27,629 | 27,138 | 28,876 |
| Adjusted debt | 12,907 | 13,423 | 14,732 | 14,299 | 13,109 |
| Adjusted equity | 10,648 | 11,002 | 10,228 | 10,301 | 12,141 |
| Adjusted Ratios | | | | | |
| EBITDA margin (%) | 73.23 | 81.47 | 75.48 | 76.86 | 76.80 |
| Pretax return on permanent capital (%) | 6.32 * | 7.78 | 5.27 | 6.77 | 6.61 |
| EBITDA interest coverage (times) | 3.84 | 4.19 | 2.59 | 3.44 | 3.34 |
| Debt to EBITDA (times) | 4.58 * | 4.17 | 5.88 | 4.85 | 4.37 |
| FFO to debt (%) | 16.07 * | 17.92 | 10.33 | 14.53 | 16.03 |
| Debt to capitalization (%) | 54.80 | 54.96 | 59.02 | 58.13 | 51.92 |

* Annualized with trailing 12 months

RELATED CRITERIA

- Rating Methodology – Corporate, 26 July 2019
- Key Financial Ratios and Adjustments, 5 September 2018
- Group Rating Methodology, 10 July 2015
- Sovereign Credit Rating, 8 October 2013

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

| | |
|--|--------|
| Company Rating: | A |
| Issue Ratings: | |
| NNPC200A: Bt1,000 million senior unsecured debentures due 2020 | A |
| NNPC223A: Bt3,200 million senior unsecured debentures due 2022 | A |
| NNPC233A: Bt800 million senior unsecured debentures due 2023 | A |
| NNPC240A: Bt1,400 million senior unsecured debentures due 2024 | A |
| NNPC273A: Bt2,000 million senior unsecured debentures due 2027 | A |
| NNPC270A: Bt3,600 million senior unsecured debentures due 2027 | A |
| NNPC303A: Bt3,000 million senior unsecured debentures due 2030 | A |
| Up to Bt600 million senior unsecured debentures due within 5 years | A |
| Rating Outlook: | Stable |

TRIS Rating Co., Ltd.

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