BPDB Trapped by Expensive Rental Power Plants

Rental and Quick Power Plants must be phased out as soon as possible

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ABSTRACT

The Government of Bangladesh has extended the PPA period of RPP and QRPPs up to two and a half times more than their recommended safe operating lifetime. These old and outdated rentals will create an additional burden of BDT 2,726 crore (USD 317 million) annually, with BDT 594 crore coming from capacity charges. As a result of the Russian war on Ukraine, oil prices rose significantly to $140 per barrel on March 7. Prior to this price increase, it was estimated that the cost of electricity would increase at least 17% and 67% for DFG and HFO based power plants respectively due to their higher cost of fuel and additional capacity charges. With soaring oil prices resulting from the Russian war on Ukraine, these costs are now projected to be much higher. Obsolete Rental power plants have sought further extension of their PPA period which will create a double negative impact on the Bangladesh economy and environment.

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1. The Rental Power Plants

To address a serious electricity crisis nearly 15 years ago, the Government of Bangladesh (GOB) approved a plan to install 14 Rental Power Plants (RPP) and 18 Quick Rental Power Plants (QRPP). They were referenced in the Policy Guidelines for Enhancement of Private Participation in the Power Sector 2008 (MOPEMR 2008*b*), consistent with the 3-Year Roadmap for Power Sector Reform 2008-2011 (MOPEMR 2008*a*). Three categories of RPP and QRPPs were introduced under the new policy guidelines: (i) RPPs recommended for operation of 15 years which were cheaper than the other two categories (ii) Expensive RPP and QRPPs for a period of five years and (iii) extremely expensive RPP & QRPPs recommended for operation for only three years. Thirteen of these RPP and QRPPs currently remain in operation in Bangladesh even after 15 years.

To ensure certain implementation of the projects no matter where they were proposed for construction, the GOB passed the Quick Enhancement of Electricity and Energy Supply (Special Provision) (Amendment) Act (QEESA) in 2010. This law provided immunity to the RPPs and QRPPs from environmental laws designed to protect human health and safety (Mehedi et al.

2018). It also allowed these plants to be built and operated without adequate oversight of their financial impact on the cost of power for Bangladeshi businesses and consumers. After the initial Power Purchase Agreement (PPA) was completed they were repeatedly renewed under QEESA even though it was to facilitate the establishment of power supply facilities and not their continued operation once adequate power capacity was achieved. On average, the PPAs of the RPP and QRPPs were extended two and a half times longer than their recommended efficient operational life.

In October 2020, the GOB wisely decided not to extend the tenure of any RPP or QRPP for the economic and environmental health of the country. (Kakon 2020). But the decision was never implemented thanks to pressure from business groups who profited from the continued operation of these outdated power plants that were no longer needed to meet Bangladesh's energy demands. In March 2021, the GOB caved in under pressure from these influential business groups and extended the PPA period of RPP and QRPPs putting private profits benefiting a few wealthy operators above the economic health of the country. It did however update the PPAs to include No Electricity No Payment (NENP) provisions (Dhaka Tribune 2021) which eliminated capacity charges for some power plants sitting idle, but not all. (FE 2021*b*). This did reduce some of the negative economic impact of these old plants and was an improvement on past PPAs. However it did not eliminate the plants as originally recommended and thereby failed to harvest the full economic, environmental and health benefits that would have accrued to the people of Bangladesh. The minor changes to the PPAs were established by the Minister of State for Power, Energy and Mineral Resources (MOPEMR) in September 2021 (bdnews24 2021) and confirmed by the energy adviser to the prime minister (TBS 2021).

The GOB amended QEESA in September 2021 and inexplicably extended the act for another 5 years (Daily Star 2021*a*) even though Bangladesh had soared far beyond the power crisis of the early 2000's to a very large oversupply of power capable of meeting demand for several years into the future. Specifically, the GOB extended the PPA period of 3 RPPs and 2 QRPPs which have 207.5 Megawatt (MW) of installed capacity (NewAge 2021*d*). Two small IPPs had previously received extensions until finalisation of the deal for PPA extension. Additionally, at least 5 expensive HFO based QRPPs with 457 MW capacity got the initial nod to extend the PPA period. Another 8 power plants, which are near to expiration, are also trying to get extensions of their PPA tenure.

2. Overcapacity & Economic Risks

As of 28 February 2022, total grid connected installed capacity was 20,985 MW with a total demand of only 10,000 MW. Overcapacity reached 52.3% with only 48.7% of installed capacity being used across all sectors of Bangladesh society. There are so many power plants now that only 38% of total generation capacity - 191.3 million kilowatt (kWh) - was generated.

In FY 2020-21, the installed capacity was 22,031 MW with a maximum demand of only 13,792 MW. This massive oversupply obligated Bangladesh Power Development Board (BPDB) to pay BDT 13,155.21 crore (USD 1.55 billion) in capacity charges for the idle power plants.

According to BPDB power generation construction progress reports up to February 2022, nineteen power plants with an installed capacity of 7,374 will begin commercial operation in 2022. This will further increase estimated installed capacity to 26,851 MW with maximum demand projected to reach 15,800 MW by the end of the year. It is important to note however that projected demand forecasts have greatly overestimated power demand growth, resulting in an ever increasing gap between capacity and utilisation. Assuming that the forecasted maximum demand has not been once again grossly overestimated and the projected demand does reach an unlikely 15,800 MW, by the end of 2022 there will be a whopping 11,051 MW of installed capacity that will sit idle. As a result, BPDB will have to pay BDT around 26,533 crore (USD 3.12 billion) in capacity charges for idle power plants - an all new record high. If the forecasted maximum demand does not reach 15,800 MW next year, the capacity charges will be even higher.

The bottom line is that the failure to retire RPPs and QRPPs and the extensions of their PPA's far beyond their recommended operational lifetime will pile on even more capacity charges to be paid by the people of Bangladesh in FY 2021-22. According to the new agreements extending PPA's of IPP, RPP and QRPPs, BPDB will have to pay minimum BDT around 321 crore (USD 37.33 million) annually to purchase electricity from these power plants. In addition to that, BDT around 1,522 crore will be paid for 5 Heavy Fuel Oil (HFO) based power plants which are committed to be extended.

It is important to note that HFO is 393% more expensive than DFG. Unless a NENP Provision is adopted equally and fairly for all power plants operating in Bangladesh regardless of which wealthy influential business owns and operates them, BPDB will have to pay around BDT 567 crore annually in capacity charges for these HFO based power plants. An additional BDT 27 crore will have to be paid as capacity charge of SIPPs.

The economic life of most of the reciprocating engines and generators were finished before installation as RPPs and QRPPs in Bangladesh (Chintaa 2010). As a result they inefficiently consume more fuel than regular power plants. According to the Petrobangla report, on average, small RPPs and QRPPs required 0.265 Million Cubic Feet Domestic Fossil Gas per Day (Mmscfd) per MW which is 57.4% higher than the requirement of combined cycle power plants (0.168 MMscfd).

When economic life of RPPs and QRPPs were reached, they became more costly to operate from the aspect of energy efficiency. As a result, the RPPs and QRPPs emerged as high emitting infrastructures in the power sector. So, the citizens are getting the most polluting and highly expensive electricity under unjust deals between BPDB and private companies.

In addition to the power plants that received approvals for extension, there are 8 power plants, with capacity of 517 MW, currently lobbying the GOB to extend their PPA period for 2-5 years. If the GOB caves into this pressure again, the estimated increased costs for capacity payments and power generation will be even higher than forecast.

3. Life of Rentals already extended

Bhola 34.5 MW Domestic Fossil Gas (DFG) based RPP started its commercial operation on 12 July 2009 with an initial PPA for three years/ After 13 years of operation and multiple extensions the current PPA was supposed to expire in July 2022 . But on 5 January 2022, the Cabinet Committee on Government Purchase (CCGP) extended the PPA period of the power plant for another four years till July 2026. The Plant is sponsored by Venture Energy Resources Limited (VERL) under Sinha Group (Dhaka Tribune 2022). The power plant will cost BDT around 90 crore annually for electricity of which BDT 32 crore is capacity charge.

Earlier on 29 December 2021, the CCGP further extended the PPA period of two RPPs and two QRPPs which have a capacity of 173 MW. The period of these power plants expired at least 5 years earlier (Sajid & Kashem 2021). The new extension was permitted under NENP policy.

Ashuganj 53 MW DFG based QRPP, sponsored by United Energy Limited (UEL) under United Group, started its commercial operation on 22 June 2011 with an initial PPA for three years. After additional extensions the current PPA was supposed to expire in June 2021 after 10 years of operation. But the CCGP further extended its PPA period for another five years till June 2026 at a rate of 2.43 per kWh. BPDB will pay BDT around 91 crore annually and 452 crore over five years to offtake electricity from the power plant.

Bogura 20 MW DFG based RPP, sponsored by Energyprima Limited (EPL) under Hosaf Group, started its commercial operation on 13 November 2011 with an initial PPA for five years. After several extensions the current PPA was supposed to expire in November 2021 after 10 years of operation. However, CCGP further extended its PPA period for three more years until November 2024 at a rate of BDT 2.03 per kWh. BPDB will pay approximately BDT 18 crore annually and a total of BDT 54 crore for the next three years to offtake electricity from the power plant.

Fenchuganj 50 MW DFG based RPP, also sponsored by EPL, started its commercial operation on 15 February 2012 with an initial PPA for five years. After an extension the current PPA was supposed to expire in February 2022 after 10 years of operation. But the CCGP further extended its period for another three years until February 2025 at a rate of BDT 2.12 per kWh. BPDB will have to pay BDT around 47 crore annually and a total of BDT 141 crore for the next f three years to offtake electricity from the power plant.

Kumargaon 50 MW DFG based QRPP, also sponsored by EPL, started its commercial operation on 23 July 2008 with an initial PPA for three years. After multiple extensions the current PPA was supposed to expire in July 2021 after 13 years of operation. However, CCGP further extended its PPA period for one year till 16 December 2022 at a rate of BDT 1.97 per kWh. BPDB will have to pay BDT 43 crore in the period of one year to offtake electricity from the power plant.

4. The Voracious HFO based Rentals

Three major power producers of Bangladesh – Orion Group, Summit Group and United Group – have been pushing for a five-year PPA period extension for five liquid fuel based QRPPs with 457 MW of installed capacity (Tuhin 2021). They also applied to the Bangladesh Securities and Exchange Commission (BSEC) to recommend for extension as they are listed in Dhaka Stock Exchange (DSE) and Chattagram Stock Exchange (CSE) claiming that individual shareholders may face loss as a consequence of imminent retirement (Rahman 2021*a*). The BSEC also supported their position (NewAge 2021*a*).

In response, GOB proposed to extend the PPA period under NENP policy (FE 2021*a*) and sent the proposal to Bangladesh Energy Regulatory Commission (BERC) which cancelled the proposal as the power plants are based on liquid fuel and demanded capacity charge (Rahman 2021*b*). But the sponsors are still negotiating by using political influence to include capacity charges in the extended period. Earlier in December 2021, BPDB agreed to pay USD 0.0173 (BDT 1.49) against USD 0.0278 (BDT 2.39) demanded by the sponsors as capacity charge per kWh. But, as of February 2022, BPDB agreed to pay the capacity charge as per sponsors' demand (Ali 2022).

Khulna 115 MW HFO based Quick Rental Power Plant (QRPP), also known as KPCL-II, sponsored by Khulna Power Company Limited (KPCL) and is equally owned by Summit Group and United Group, started its commercial operation on 1 June 2011 with an initial PPA of five years. The PPA expired in May 2021 after 10 years of operation after an expiration notification was sent by BPDB (NewAge 2021*b*). BPDB paid around BDT 354 crore per year for electricity from the plant in which BDT 158 crore were capacity charges.

Madanganj 102 MW HFO-based QRPP, operated by Summit Narayanganj Power Limited (SNPL) under Summit Group, started its commercial operation on 1 April 2011 with an initial PPA for five years. The extended PPA expired in March 2021 after 10 years of operation. BPDB paid BDT around 332 crore per year for electricity from the plant f in which BDT 92 crore were capacity charges.

Meghnaghat 100 MW HFO-based Quick Rental Power Plant (QRPP), operated by Orion Power Meghnaghat Limited (OPML) — formally known as IEL Consortium Limited under Orion Group, started its commercial operation on 8 May 2011 with an initial PPA for five years. After an extension the current PPA expired in May 2021 after 10 years of operation. BPDB paid BDT 334 crore per year for electricity from the plant in which BDT 93 crore were capacity charges.

Nawapara 40 MW HFO based QRPP is also sponsored by KPCL. It is also known as Khanjahan Ali Power Company Limited and KPCL-III. The power plant started its commercial operation on 29 May 2011 with an initial PPA of five years. After an extension the PPA expired in May 2021 after 10 years of operation when an expiration notice was sent by BPDB (NewAge 2021*b*). BPDB paid approximately BDT around 153 crore per year for electricity from the plant in which BDT 60 crore was capacity charges.

Siddhirganj 100 MW HFO-based QRPP, operated by Dutch Bangla Power & Associates Limited (DBPAL) under Orion Group, started its commercial operation on 21 July 2011 with an initial PPA for five years. After an extension the PPA expired in July 2021 after 10 years of operation. BPDB paid approximately BDT 319 crore per year for electricity from the plant in which BDT 131 crore was capacity charges.

5. Even the IPPs got Extension

Summit Power Limited (SPL), a subsidiary of Summit Group, applied for a PPA extension for the **Madhabdi 24 MW** DFG based small IPP (Unit-II) in February 2021 before shutting it down in December 2021 after 15 years of operation (Daily Star 2021*b*). On the same date, the sponsor also applied for a PPA extension for the **Chandina 14 MW** Small IPP (Unit-II) which expired on 15 November 2021 after 15 years of operation (NewAge 2021*c*). In response to the application, Bangladesh Rural Electrification Board (BREB) allowed SPL to restart both of the power plants on 7 February 2022 and continue generation for an unspecified time period until the application for the renewal of PPA (TBS 2022) can be finalised.

6. The Long Queue of Greed

Several private power producers are also in the queue of applications to extend their PPA period from two to five years. Most of them have already enjoyed two or three extensions in the last 10 years. Some of them are:

Ghorashal 78 MW DFG based QRPP, sponsored by Max Power Limited under Max Group, started its commercial operation on 27 May 2011 with an initial PPA three years. The last extension expired on 8 January 2021 after 10 years of operation. The sponsor company has already applied for yet another extension even though there is more than 40% unutilized generation capacity in Bangladesh now and power from this plant is NOT needed.

Amnura 50 MW HFO based QRPP, sponsored by Sinha Power Generation Company Limited under Sinha Group, started its commercial operation on 12 January 2012 with an initial PPA of three years. The extended PPA expired on 11 January 2022 after 10 years of operation. The sponsor company has already applied for further extension even though excess capacity means power is not needed from this plant..

Bhola 95 MW DFG based QRPP, sponsored by Aggreko Energy Solution Limited under UK-based Aggreko International, started its commercial operation on 31 May 2011 with an initial PPA of three years. The extended PPA will expire on 17 March 2022 after 11 years of operation. Due to excess capacity further extension of this plant is not needed.

Juldha 100 MW HFO based QRPP, sponsored by Acorn Infrastructure Service Limited under Bangla Trac Limited, started its commercial operation on 26 March 2012 with an initial PPA of five years. The extended PPA will expire on 25 March 2022 after 10 years of operation. The sponsor company has already applied for further extension even though its power is not needed..

Keraniganj 100 MW HFO based QRPP, owned by PowerPac-Mutiara Keraniganj Power Limited under PowerPac Holdings Limited of Sikder Group, started its commercial operation on 27 March 2012 with an initial PPA of 5 years. The extended PPA is set to expire on 26 March 2022 after 10 years of operation. The sponsor company also applied for further extension of its PPA period even though power is no longer needed from this highly polluting power plant.

Katakhali 50 MW HFO based QRPP, sponsored by Northern Power Solution Limited under ENA Group, started its commercial operation on 22 May 2012 with an initial PPA of 5 years. The extended PPA will expire on 21 May 2022 after 10 years of operation. The sponsor company is seeking further extension of the PPA period from GOB even though this is yet another polluting plant whose power is not needed.

Unit 2 of the Ashulia 33 MW DFG based small IPP , also sponsored by SPL, started its commercial operation on 4 December 2007 with PPA extensions spanning 15 years. The current PPA will expire in December 2022. The PPA for the smaller 11 MW Unit 1 of the Ashulia small IPP will expire on 31 August 2023 after operating for 20 years.

Chandina 11 MW DFG based small IPP (Unit-I), also sponsored by SPL, started its commercial operation on 1 September 2003 with a PPA for 15 years. The PPA period of the power plant will expire on 31 August 2023 after 20 years of operation.

7. Conclusion

As the country is experiencing serious overcapacity, the rental and quick rental power plants must be phased out as soon as possible without any exceptions in order to reduce the unsustainably large and rising operating losses. Given the record setting high oil prices caused by the Russia war on Ukraine, oil based liquid fuels HFO and HSD power plants will have to retire on the due date. The PPAs weren't calculated with oil prices that are now more than $140 per barrel (Aljazeera 2022).

It is appreciable that the ministry has taken the NENP policy. But this policy will not help now because other existing power plants will have to be kept idle if RPP & QRPPs generate electricity. However the NENP policy must be followed in extending the tenure of any power plant.

A Clean Air Act must be endorsed with the option of imposing Green Tax to control emissions and penalise the power plants which emit excessive CO_2, SO_x and NO_x to reduce emission from the power sector.

Immediate implementation and rapid installation of distributed and utility scale RE Projects on unused lands is required to reduce pressure on economy and environment. To fulfil this target, significant allocation for RE should be made in the Annual Development Programme (ADP).

References

Ali, Ismail (2022). "প্রয়োজন না থাকলেও ৫ রেন্টাল বিদ্যুৎকেন্দ্রের চুক্তি নবায়ন". The Share Biz: 15 February 2022

Aljazeera (2022). Oil prices soar, stocks tank as Russia-Ukraine war rages. The Aljazeera: 7 March 2022

Bdnews24.com (2021). "Bangladesh will 'retire' quick rental power plants, keep them 'on standby'". The bdnews24.com: 14 September 2021

BPDB (2021). Annual Report 2020-2021. Bangladesh Power Development Board (BPDB): 14 October 2021

Chintaa (2010). "অস্বাভাবিক তাড়াহুড়ায় ভাড়াভিত্তিক বিদ্যুৎ কেন্দ্র". The Chintaa: 24 July 2010

Daily Star (2021*a*). "Parliament passes Bill to extend quick rental power plant law". The Daily Star: 16 September 2021

Daily Star (2021*b*). "Summit shuts another power plant". The Daily Star: 20 December 2021

Dhaka Tribune (2021). "Government to shut down rental, quick rental power plants by 2024". The Dhaka Tribune: 11 March 2021

Dhaka Tribune (2022). "Another gas-fired rental power plant gets an extension". The Dhaka Tribune: 5 January 2022

FE (2021*a*). "Tariff tangle troubles five quick-rental power plants' tenure extension". The Financial Express (FE): 19 October 2021

FE (2021*b*). "Govt extends tenure of four rental power plants". The Financial Express (FE): 29 December 2021

Mehedi, H., Tuhin, S.H. & Prince, M.H. (2018). Bhola IPP and its Impact on Local Communities: Voices from the Ground: A Civil Society Study Report. CLEAN (Coastal Livelihood and Environmental Action Network) and Bangladesh Working Group on External Debt (BWGED), Khulna: September 2018

MOPEMR (2008*a*). 3-Year Roadmap for Power Sector Reform (2008-2010). Power Division, Ministry of Power, Energy and Mineral Resources (MOPEMR): May 2008

MOPEMR (2008*b*). Policy Guidelines for Enhancement of Private Participation in the Power Sector 2008. Power Division, Ministry of Power, Energy and Mineral Resources (MOPEMR): Undated

NewAge (2021*a*). "BSEC worried about listed power cos as tenure of PPAs ends soon". The NewAge: 24 April 2021

NewAge (2021*b*). "Govt asks KPCL to shut production by May". The NewAge: 22 May 2021

NewAge (2021*c*). "Summit shuts 13.5 MW power plant in Chandina". The NewAge: 15 November 2021

NewAge (2021*d*). "Bangladesh govt extends tenure of four rental power plants". The NewAge: 29 December 2021

Rahman, M Azizuer (2021*a*). "Five oil-fired quick rental power plants may be given extension of tenure again". The Financial Express (FE): 3 July 2021

Rahman, M Azizur (2021*b*). "BERC's no to term extension of five oil-fired quick rental power plants". The Financial Express (FE): 2 August 2021

Sajid, Eyamin & Kashem, Abul (2021). " Four rental power plants given new lease of life". The Business Standard (TBS): 29 December 2021

TBS (2021). "Govt switching to on demand use of quick rental power". The Business Standard (TBS): 28 September 2021

TBS (2022). "Summit Power allowed reopening its two plants". The Business Standard (TBS): 8 February 2022

Tuhin, Ahsan Habib (2021). " Meet over extending tenure of 5 private power plants Tuesday". The Business Standard (TBS): 20 September 202

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