

**BEFORE THE HARYANA ELECTRICITY REGULATORY COMMISSION
BAYS No. 33-36, SECTOR-4, PANCHKULA- 134112, HARYANA**

Case No. HERC/PRO – 57 of 2020

DATE OF HEARING : 15.12.2020
DATE OF ORDER : 15.12.2020

IN THE MATTER OF:

Petition under Section 86(1)(b) of the Electricity Act, 2003 read with the Haryana Electricity Regulatory Commission (Conduct of Business) Regulations, 2019 seeking approval for extension of Power Purchase Agreement (PPA) dated 17.03.2005, for a further period of 15 years, entered between Haryana Vidyut Prasaran Nigam Limited (HVPNL) and Nuclear Power Corporation of India Limited (NPCIL), for procurement of power from its Units- Narora Atomic Power Station (NAPS) 1 & 2 and Rajasthan Atomic Power Station (RAPS) 3 & 4 as per the allocation by the Ministry of Power, Government of India.

Petitioner

Haryana Power Purchase Centre, Panchkula (HPPC)

Present On behalf of the Petitioner, through Vidyo App

Smt. Sonia Madan, Advocate for, HPPC

Quorum

Shri Pravindra Singh Chauhan Member (in chair)
Shri Naresh Sardana Member

ORDER

Brief Background of the case

1. HPPC has filed the petition seeking extension of Power Purchase Agreement dated 17.03.2005 entered into between HVPNL and NPCIL, for procurement of power from its Units- NAPS 1 & 2 and RAPS 3 & 4 as per the allocation by the Ministry of Power, Government of India, for a further period of 15 years, upon the expiry of existing PPA on 16.03.2020.
2. HPPC has submitted as under:-
 - a) That a Power Purchase Agreement (for brevity 'PPA') was executed between Haryana Vidyut Prasaran Nigam Limited (for brevity 'HVPNL') and the Nuclear Power Corporation of India

Limited (for brevity 'NPCIL') on 17.03.2005 for procurement of power from the following power stations, which are a subject matter of the present petition:

- i) Unit 1 & 2 of the Narora Atomic Power Station set up at Narora, Bulandhshar, Uttar Pradesh.
- ii) Unit 3 & 4 of the Rajasthan Atomic Power Station set up at Kota, Rajasthan.

Each of the above mentioned units having an installed capacity of 220 MW each.

- b) That as per Clause 9 of the PPA, the agreement was for a period of 15 years. Further, as per the said Clause, in case HVPNL continues to get power from the power station after the expiry of the PPA without any renewal or extension thereof, all the provisions of PPA shall continue to operate till the agreement is formally renewed. Clause 9 of the PPA is reproduced below for ready reference:

"9.0 PERIOD OF AGREEMENT

*The Agreement shall come into effect from the date of signing of the Agreement and shall continue to remain in force **for a period of 15 years thereafter**. In case HVPN continues to get power from the Power Stations after expiry of this agreement without further renewal or formal extension thereof, all the provisions of this Agreement shall continue to operate till this Agreement is formally renewed, extended or replaced."*

HPPC has further submitted that the period of 15 years stands expired on 16.03.2020. After, the expiry of the said period, NPCIL vide its letter dated 09.06.2020 and vide e-mail dated 11.06.2020 had requested for renewal of the PPA for RAPS Unit 3 & 4 and NAPS Unit 1 & 2 respectively, for another period of 15 years.

- c) That another email dated 15.06.2020 was received by NPCIL, wherein it was stated that the estimated life of the plant is 40 years which will be completed in FY 2031. It has also been informed that the plant shall continue to run and meet the requirement of the beneficiary after necessary overhauling and maintenance. Thus, the PPA can be extended for a period of 15 years. A table showing the commercial operation date (COD) and the expected life of the plant is given below:

Name of the Plant & Unit	Commercial Operation Date (COD)	Expected Life of the Unit
NAPS (Unit -1)	01.01.1991	31.12.2031
NAPS (Unit -2)	01.07.1992	30.06.2032
RAPS (Unit -3)	01.06.2000	31.05.2040
RAPS (Unit -4)	23.12.2000	22.12.2040

- d) That the details of allocation of power as per the Ministry of Power (for brevity 'MOP') from the projects as indicated by MOP order No. 5/NR/CSA/GM/2004/3057 dated 21.09.2004 and NREB/SE(O)/Allocations /2004 dated 21.09.2004 is as below:

Sr. No.	Northern Region States	Allocation (in MW)	
		NAPS 1 & 2	RAPS 3 & 4
1	Haryana	28	48
2	Chandigarh	5	0
3	Delhi	47	0
4	Himachal Pradesh	14	0
5	J & K	33	35
6	Punjab	51	100
7	Rajasthan	44	125
8	U.P	138	66
9	Uttarakhand	16	0
10	Unallocated	64	66
	Total	440	440

Further, the power scheduled from the said plants during the last three financial years is detailed as under:

Name of Plant	Contracted Capacity (in MW)	Annual Contracted Energy (Lus) (after Aux. Cons @ 11.75%)	2017-18		2018-19		2019-20		Average PLF (in %)
			Scheduled Energy (in Lus)	%PL F	Scheduled Energy (in Lus)	%PL F	Scheduled Energy (in Lus)	%PL F	
RAPS - 3 & 4	48	3711	3784	101 %	3729	100 %	3693	99%	100%
NAPS 1 & 2	28	2165	2039	94%	1804	83%	2176	100 %	93 %

- e) That Nuclear Power Plants are exempted from "Free Governor Mode of Operations" and are never instructed by RLDC's for backing down or ramping up/down. A letter dated 22.06.2020, received from NPCIL is stated as under:

"As per Indian Electricity Grid Code (IEGC), the nuclear units are exempted from "Free Governing Mode of Operation" under section 4.8 (c), 4.8 (d), 5.2 (e), 5.2 (f) and 5.2 (h) of IEGC and are operated as base load stations at fixed power & never instructed by RLDCs for backing down or ramping up/ramping down".

The above mentioned statement of NPCIL refers to relevant provisions Indian Electricity Grid Code (IEGC), 2006 notified on 14.03.2006, which has now been repealed. However, even as per amended IEGC, the nuclear units are exempted from Free Governing Mode of

Operation. The relevant sections of Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010, are reproduced hereunder:

“ 5.2

xxxxx

(f) All thermal generating units of 200 MW and above and all hydro units of 10 MW and above, which are synchronized with the grid, irrespective of their ownership, shall have their governors in operation at all times in accordance with the following provisions:

Governor Action

i) Following Thermal and hydro (except those with upto three hours pondage) generating units shall be operated under restricted governor mode of operation with effect from the date given below:

a) Thermal generating units of 200 MW and above,

1) Software based Electro Hydraulic Governor (EHG) system : 01.08.2010

2) Hardware based EHG system 01.08.2010

b) Hydro units of 10 MW and above 01.08.2010

ii) The restricted governor mode of operation shall essentially have the following features:

a) There should not be any reduction in generation in case of improvement in grid frequency below 50.2 Hz. (for example if grid frequency changes from 49.3 to 49.4 Hz. then there shall not be any reduction in generation).

Whereas for any fall in grid frequency, generation from the unit should increase by 5% limited to 105 % of the MCR of the unit subject to machine capability.

b) Ripple filter of +/- 0.03 Hz. shall be provided so that small changes in frequency are ignored for load correction, in order to prevent governor hunting.

c) If any of these generating units is required to be operated without its governor in operation as specified above, the RLDC shall be immediately advised about the reason and duration of such operation. All governors shall have a droop setting of between 3% and 6%.

d) After stabilisation of frequency around 50 Hz, the CERC may review the above provision regarding the restricted governor mode of operation and free governor mode of operation may be introduced.

iii) All other generating units including the pondage upto 3 hours Gas turbine/Combined Cycle Power Plants, wind and solar generators and Nuclear Power

Stations shall be exempted from Sections 5.2 (f) ,5.2 (g), 5.2 (h) and ,5.2(i) till the Commission reviews the situation.

(g) Facilities available with/in load limiters, Automatic Turbine Runup System (ATRS), Turbine supervisory control, coordinated control system, etc., shall not be used to suppress the normal governor action in any manner and no dead bands and/or time delays shall be deliberately introduced except as specified in para 5.2(f) above.

(h) All thermal generating units of 200 MW and above and all hydro units of 10 MW and above operating at or up to 100% of their Maximum Continuous Rating (MCR) shall normally be capable of (and shall not in any way be prevented from) instantaneously picking up to 105% and 110% of their MCR , respectively, when frequency falls suddenly. After an increase in generation as above, a generating unit may ramp back to the original level at a rate of about one percent (1%) per minute, in case continued operation at the increased level is not sustainable. Any generating unit not complying with the above requirements, shall be kept in operation (synchronized with the Regional grid) only after obtaining the permission of RLDC.

(i) The recommended rate for changing the governor setting, i.e., supplementary control for increasing or decreasing the output (generation level) for all generating units, irrespective of their type and size, would be one (1.0) per cent per minute or as per manufacturer's limits. However, if frequency falls below 49.7Hz, all partly loaded generating units shall pick up additional load at a faster rate, according to their capability."

(Emphasis Supplied)

- f) That in so far as the tariff rate is concerned, the charges for energy generated and supplied would be as per the tariff notification issued by Department of Atomic Energy (for brevity 'DAE'), Government of India from time to time, in accordance with Section 22(1)(b) of the Atomic Energy Act, 1962 (amended upto date). The tariff rate so fixed shall be subject to the adjustment charges as notified by DAE from time to time. Further, as per DAE's office memorandum dated 18.02.2020, there is a reduction in the fuel charges from FY 2009-10 to FY 2016-17. Accordingly, the fuel charges for FY 2017-18 to FY 2019-20 have been taken on the base rate for fuel for FY 2016-17. Hence, there is a reduction in the Energy Charge Rate (for brevity 'ECR') of around 0.20/Kwh. However, fuel charges for FY 2017-18 to FY 2019-20 are yet to be notified. The ECR of the energy scheduled from the said plants in the past 3 financial years is given below:

<u>RAPS- 3 &4</u>			
Charges	2017-18	2018-19	2019-20

Fixed Charges	0	0	0
ECR (Rs./kwh)	3.58	3.54	3.49*
Impact of Fuel Adjustment charges as per DEA circular dated 18.02.2020 notified rates for the period 2009-10 to 2016-17	-0.19	-0.20	-0.20
ECR after Fuel Adjustment Charges	3.39	3.34	3.29
<u>NAPS- 1 & 2</u>			
Charges	2017-18	2018-19	2019-20
Fixed Charges	0	0	0
ECR (Rs./kwh)	3.24	3.22	3.21*
Impact of Fuel Adjustment charges as per DEA circular dated 18.02.2020 notified rates for the period 2009-10 to 2016-17	-0.20	-0.20	-0.20
ECR after Fuel Adjustment Charges	3.04	3.02	3.01
* This excludes tax on ROE as the bill for the same has not been issued by NPCIL as yet.			

HPPC has further submitted that apart from low ECR, the fixed charges of the power stations are Nil. Thus, owing to the zero capital cost of the power plants, it is highly feasible to continue to procure the power from these plants.

- g) That *Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019*, Clause 55, Note 2 states that:

“The beneficiaries may propose surrendering part of their allocated firm share to other States within or outside the region. In such cases, depending upon the technical feasibility of power transfer and specific agreements reached by the generating company with other States within or outside the region for such transfers, the shares of the beneficiaries may be re-allocated by the Central Government for a specific period (in complete months) from the beginning of a calendar month. When such reallocations are made, the beneficiaries who surrender the share shall not be liable to pay capacity charges for the surrendered share. The capacity charges for the capacity surrendered and reallocated as above shall be paid by the State(s) to whom the surrendered capacity is allocated. Except for the period of reallocation of capacity as above, the beneficiaries of the generating station shall continue to pay the full capacity charges as per allocated capacity shares. Any such reallocation and its reversion shall be communicated to all concerned by the Member Secretary, Regional Power Committee in advance, at least three days prior to such reallocation or reversion taking effect.”

- h) That out of the total installed/contracted capacity of 11,958.4 MW, the share of generation through thermal is 8493 MW (71.02%), Hydro is 2297.9 MW (19.22%), Gas is 673 MW (5.63%), RES is 394 MW (3.29%) and Nuclear is 101 MW (0.84%).

Further, SCPP under the Chairmanship of ACS/Power, GoH in its 56th meeting held on 10.08.2020 considered the agenda and decided to extend the PPA with NPCIL for RAPS Unit 3 & 4 and NAPS Unit 1 & 2. Further, the power from said plants is also well placed on the Merit Order Dispatch (MOD) prepared by HPPC.

- i) That in addition to low cost, the stability and reliability of Nuclear power is well-known. It is the largest source of clean power which protects air quality by producing massive amounts of carbon-free electricity. Moreover, Nuclear power plants run 24 hours a day, 7 days a week. They are designed to operate for longer stretches and refuelling does not require any shutdown. Considering all these advantages, it is favourable to extend the PPA with NPCIL for NAPS Unit 1 & 2 and RAPS Unit 3 & 4, thereby encouraging generation of nuclear power and economic development.
- j) That, in view of the expiry of the term of the PPA dated 17.03.2005; the subsequent emails received from NPCIL seeking extension of PPA; and also in view of the low ECR of the power plants, the present petition is being filed by HPPC seeking extension of PPA entered between HVPNL and NPCIL, for procurement of power in the interest of the consumers of the State. It is pertinent to mention here that earlier the PPA was entered into between HVPNL and NPCIL, however, at present, since HPPC acts as single buyer model for performing the function of arranging Short Term and Long Term Power on behalf of Discoms, the PPA would be entered into between HPPC and NPCIL.
- k) That the filing of the instant petition has got delayed on account of reasons beyond the control of the Petitioner owing to the COVID-19 pandemic situation. Such delay was neither intentional nor deliberate and was caused due to *bonafide* reasons.
- l) The following prayers have been made:-
 - i) Allow extension of Power Purchase Agreement dated 17.03.2005, entered between HVPNL and NPCIL, for procurement of power from its Units- NAPS 1 & 2 and RAPS 3 & 4 as per the allocation by the Ministry of Power, Government of India, for a further period of 15 years;
 - ii) Pass any other order(s) and or direction(s), which the Commission may deem fit and proper in the facts and circumstances of the case.

Proceedings in the Case

3. The matter was heard through Video Conferencing on 15th December, 2020 as scheduled, in view of COVID-19 pandemic. Smt. Sonia Madan, Advocate, appeared for the Petitioner.

Commission's Analysis and Order

4. The Commission heard the arguments of the Petitioner as well as perused the petition filed in the matter. The Commission finds merit in the submissions of the Petitioner that the DISCOMs should be allowed to procure the cheapest power in the interest of the electricity consumers of Haryana. Further, the Commission perused clause no. 9 of the PPA executed on 17.03.2005, executed between HVPNL and NPCIL, which is reproduced below for ready reference:-

"9.0 PERIOD OF AGREEMENT

The Agreement shall come into effect from the date of signing of the Agreement and shall continue to remain in force for a period of 15 years thereafter. In case HVPNL continues to get power from the Power Stations after expiry of this agreement without further renewal or formal extension thereof, all the provisions of this Agreement shall continue to operate till this Agreement is formally renewed, extended or replaced."

The Commission observes that the existing PPA has expired on 16.03.2020. After, the expiry of the said period, NPCIL vide its letter dated 09.06.2020 and vide e-mail dated 11.06.2020 had requested for renewal of the PPA for RAPS Unit 3 & 4 and NAPS Unit 1 & 2 respectively, for another period of 15 years. The PPA shall be executed between HPPC and NPCIL, on the existing terms & conditions.

The Commission further observes that share of Haryana out of 440 MW NAPS 1 & 2 Power plant & 440 MW RAPS 3 & 4 is 28 MW & 48 MW, respectively (Total 76 MW). Thus, out of total Nuclear power of 101 MW tied up by Haryana, 76 MW power comes from ibid sources, which is 76% of total Nuclear Power tied up by Haryana. Bucket of Nuclear power out of total installed/contracted capacity of 11,958.4 MW is just 101 MNW (0.84%), which is very less. Nuclear power not only economical source of power but also reliable and clean power which produce carbon free electricity. The Commission has taken note of the observation of HPPC that power is expected to cost @ Rs. 3.29/unit (RAPS) & @ Rs. 3.01/unit (NAPS), which although covered under "Must Run Status", falls under Merit Order of HPPC and has been scheduled in the range of 83% to 101% during last three years.

5. In terms of the above observations, the Commission grants extension of Power Purchase Agreement dated 17.03.2005, entered between HVPNL and NPCIL, for procurement of power

from its Units- NAPS 1 & 2 and RAPS 3 & 4 as per the allocation by the Ministry of Power, Government of India, for a further period of 15 years, as sought by the Petitioner.

6. The Petition is disposed of accordingly.

This order is signed, dated and issued by the Haryana Electricity Regulatory Commission on 15.12.2020.

Date: 15.12.2020
Place: Panchkula

(Naresh Sardana)
Member

(Pravindra Singh Chauhan)
Member

HEERC