

**Before the**  
**MAHARASHTRA ELECTRICITY REGULATORY COMMISSION**  
**World Trade Centre, Centre No.1, 13<sup>th</sup> Floor, Cuffe Parade, Mumbai 400005**  
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**Case No. 135 of 2024 and IA No. 43 of 2024**

**Petition of Brihanmumbai Electric Supply and Transport Undertaking seeking approval of Agreement for procurement of power and adoption of Tariff discovered through competitive bidding for procurement of 125 MW round the clock power for medium term and Interlocutory Application for urgent listing of the Case No. 135 of 2024.**

**Coram**

**Sanjay Kumar, Chairperson**  
**Anand M. Limaye, Member**  
**Surendra J. Biyani, Member**

**Brihanmumbai Electric Supply and Transport Undertaking** : Petitioner

**Appearance**

For the Petitioner: : Shri. Anil Patkare  
Shri. S. N. Bhinge

**ORDER**

**Date: 20 September, 2024**

1. Petitioner, Brihanmumbai Electric Supply and Transport Undertaking (BEST Undertaking) has filed this Petition being Case No. 135 of 2024 on 16 August 2024 seeking the adoption of the Tariff and approval of the Power Purchase Agreement (PPA) for the procurement of 125 MW Round the Clock (RTC) power on medium term basis for a period of 7 years. Present petition has been filed under Section 63 and Section 86 (1)(b) of the Electricity Act, 2003, Clause 3 of the guidelines for procurement of electricity for medium term from power stations set up on finance, own and operate basis, 2019, Regulations 3.2, 18, 19, 20 & 21 of MERC (Multi Year Tariff) Regulations, 2019.
2. **Petitioner's main prayers are as under:**
  - a) *Admit the present petition under section 63 of Electricity Act (EA) 2003;*
  - b) *Procurement of Power from M/s SWPGPL against power presently being supplied by*

TPCG Unit 5 subject to backing down / shutdown of TPCG Unit 5.

- c) Accord approval for adoption of discovered tariff of Rs.5.56/kWh for procurement of 125 MW power on RTC basis from M/s SWPGPL (LI) by the Petitioner through the competitive bidding, for initial 5 years and from 6<sup>th</sup> and 7<sup>th</sup> year onwards tariff with escalation based on WPI as prescribed in tender considering 5<sup>th</sup> year as base year;.....”

### 3. Facts of the Petition are summarized as under:

- 3.1. In the petition for approval of Power Procurement Plan for 7 (seven) years from FY 2023-24 to FY 2029-30 in Case No. 240 of 2022, BEST Undertaking had evaluated and shared its base load and peak load forecast as per the Trend-based method, which included historical demands, anticipated new load developments and anticipated reduction in the load on account of rooftop solar, consumer migration and demand side management schemes; such demand forecast is extracted below:

Particulars	FY 2019-20	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Base Load (MW)	385	393	401	409	417	425	434	442	451
Peak Demand (MW)	888	905	925	942	961	980	999	1019	1040

- 3.2. The Commission vide Order dated 15 March 2023 in Case No. 240 of 2022 accepted the base load, peak load and energy sales as projected. As per said projections, base load of 409 MW and peak load of 942 MW for FY 2024-25, which is further projected to grow gradually in the subsequent years.
- 3.3. At the time of floating tender, existing PPA with Tata Power Company Limited – Generation Business (TPC-G) for 676.69 MW to be expired in March 2024 and with Manikaran Power Limited (MPL) for 100 MW to be expired in February 2025 and the contracted capacity available for FY 2024-25 and FY 2025-26 is as below:

Sr. No	Power Project / Agency	Type of Source	Power available for FY 2024-25 (MW)	Power available for FY 2025-26 (MW)
PPA-1	TPC-G	Hydro	0	0
	TPC-G Unit No-5	Thermal		
	TPC-G Unit No- 7	Thermal		
	TPC-G Unit No-8	Thermal		
PPA-2	Welspun Energy Maharashtra Ltd.	Solar PV	20	20
PPA-3	Manikaran Power	Thermal	100	0
PPA-4	SECI Hybrid	Solar	0	400
		Wind		
PPA-5 (In process)	SECI Solar	Solar	0	234
<b>Total Tied-up Capacity</b>			<b>120</b>	<b>654</b>

- 3.4. As RE sources are intermittent in nature, cannot depend upon the same to supply reliable power to its consumers. Therefore, it was necessary to undertake power procurement for meeting base and peak power requirement from FY 2024-25 onwards.

- 3.5. BEST Undertaking had intended to discontinue PPA with TPC-G for thermal capacities upon its expiration, as variable cost or energy charge for such units were costly and reached upto Rs. 8 to 11/kWh in recent past. However, the Commission, vide its Order dated 15 March 2023 in Case No. 240 of 2022, directed BEST Undertaking to extend the existing PPA with TPC-G by one more year i.e. till March 2025 considering the prevailing transmission constraints. While directing to extend the existing PPA with TPC-G by one more year, the Commission also granted liberty to BEST Undertaking to contract other cheaper long/medium term sources and getting it dispatched under Short Term Open Access after undertaking cost benefit analysis of the same.
- 3.6. TPC-G vide letter dated 21 April 2023 informed that the existing generating capacities of Trombay are very old and have outlived their useful life, and it would be difficult to run such units beyond 31 March 2024, unless around Rs. 900 Crore is invested by BEST Undertaking to enhance the life of such units. TPC-G also opined that investing such a significant amount and utilizing the units any less than 10 years would only prove to be an unviable solution and uneconomical for BEST Undertaking.
- 3.7. In order to ensure seamless transition and uninterrupted power supply for its consumers post expiration of the PPAs with TPC-G and MPL, BEST Undertaking initiated the bidding process in February 2023 for procurement of 200 MW power on long term basis. However, after denial from TPC-G to extend the PPA for one more year, this bidding process had to be cancelled by BEST Undertaking on 26 April 2023. Thereafter, BEST Undertaking again initiated the bidding process in May 2023 for procurement of 500 MW power on long term basis.
- 3.8. However, after analyzing base load and peak load requirement and expecting reduction in power tariff in future years considering technological changes in power generation, BEST Undertaking don't want to tie up such capacity on long term basis. In view of this, BEST Undertaking had to cancel the tender for procurement of 500 MW also on 11 July 2023.
- 3.9. Under the aforesaid circumstances, on 11 July 2023, BEST Undertaking initiated the competitive bidding process under Section 63 of the Electricity Act, 2003 and MoP Guidelines for procurement of medium term power, in particular - 350 MW RTC power for 7 (Seven) years (Project-1) and 100 MW Peak Hour power (07:00 to 24:00 Hrs) for 5 (five) years (Project-2) at Maharashtra Periphery, through e-Reverse Auction on DEEP portal.
- 3.10. BEST Undertaking adopted a two-stage bidding process as per MoP Guidelines by issuing Request For Qualification, Request For Proposal and draft PPA without any deviations in the Standard Bidding Documents under the MoP Guidelines.
- 3.11. Due date for bid submission was 11 August 2023 which was later extended to 8 September 2023. By the Bid Due Date, following five Bidders submitted bids on the DEEP portal:

<b>S. No.</b>	<b>Bidder Name</b>	<b>For Project</b>
1	M/s DB Power Limited	Project 1

S. No.	Bidder Name	For Project
2	M/s Jindal India Thermal Power Limited	Project 1
3	M/s Manikaran Power Limited	Project 2
4	M/s OPG Power Generation Pvt. Ltd.	Project 1
5	M/s Sai Wardha Power Generation Pvt. Ltd.	Project 1

3.12. After detailed technical evaluation and scrutiny of the applications, the following three bidders were found qualified for Project 1 and qualified for e-Reverse Auction, and no Bidder qualified for Project 2.

S. No.	Bidder Name	For Project
1	M/s Jindal India Thermal Power Limited	Project 1
2	M/s OPG Power Generation Pvt. Ltd.	Project 1
3	M/s Sai Wardha Power Generation Pvt. Ltd.	Project 1

3.13. Financial bids of the said three Bidders were opened as per schedule and e-Reverse Auction was conducted on 27 September 2023. Subsequently, M/s. SWPGPL emerged as the L1 in the e-Reverse Auction for Project 1 with bidding quantum of 125 MW with tariff of Rs. 5.87/kWh, followed by M/s. JITPL offering 100 MW at Rs. 6.67/kWh and M/s. OPGPL offering 150 MW at Rs. 8.26/kWh.

3.14. M/s SWPGPL offered to supply power from the project within Maharashtra, but M/s JITPL and M/s OPGPL offered to supply power from outside Maharashtra, and hence, they were subject to inter-state transmission charges and losses. Under the bidding documents, BEST Undertaking had specified Rs. 0.63/kWh and Rs. 0.22/ kWh as inter-state transmission charges and losses, respectively, that inter-state suppliers needed to incorporate into their tariff to standardize the evaluation at the delivery point. However, upon evaluation of financial bids, it was found that M/s JITPL adhered to the transmission charges and losses prescribed by BEST Undertaking, but M/s OPGPL opted for higher transmission charges and losses. Hence, to ensure a fair comparison between tariffs offered by different bidders, uniform transmission charges and losses were considered.

3.15. As against the requisite quantum of 350 MW RTC power, M/s SWPGPL (L1) offered 125 MW only; hence, in order to fulfill the balance required quantum as stated in the tender, competitiveness of the tariff has been analysed for remaining two bidders, i.e. M/s JITPL (L2) and M/s OPGPL (L3) with quoted bid capacity of 100 MW and 150 MW, respectively.

3.16. The tariff discovered after the bidding process is applicable for the “base year”, i.e. for FY 2023-24; whereas the actual supply of power is scheduled to commence on 1 April 2024 i.e. FY 2024-25. Therefore, tariff discovered under the bidding process will be revised for FY 2024-25 as per Clauses 11.3 and 12.3.2 of the PPA.

3.17. The details of tariff discovered by BEST Undertaking after e-Reverse Auction are given as below:

Bidders	Booking Quantity (MW)	Booking Amount (Rs./kWh)	Tariff after standardizing inter-State transmission charges & losses (Rs./kWh)	Bid Status	Revised Tariff applicable in FY 2024-25 (Rs./kWh)
SWPGPL	125	5.87	5.87	L1	5.97
JITPL	100	6.67	6.67	L2	6.77
OPGPL	150	8.26	7.95	L3	8.07

*Note: Revised tariff has been worked out considering variation between WPI index number of January-22 and January-23 (latest available for year on year data).*

3.18. In the interest of the consumers, BEST Undertaking requested all bidders for a more competitive revised Tariff and extension of their validity of the bid.

3.19. In response, M/s SWPGPL (L1) vide email dated 30 January 2024 conveyed revised offer of Rs.5.60/kWh for FY 2023-24 with a validity of bid up to 17 February 2024. Whereas, M/s JITPL (L2) has submitted revised tariff of Rs.6.57/kWh with validity of up to 10 November 2023 and M/s OPGPL (L3) was not ready to revise quoted Tariff and the validity of bid. Revised Tariff post negotiations are as follows:

Bidders	Booking Quantity (MW)	Booking Amount (Rs./kWh)	Tariff after standardizing inter-State transmission charges & losses (Rs./kWh)	Bid Status	Revised tariff offered post negotiation (Rs./kWh)	Revised Tariff applicable in FY 2024-25 (Rs./kWh)
SWPGPL	125	5.87	5.87	L1	5.60	5.69
JITPL	100	6.67	6.67	L2	6.57	6.67
OPGPL	150	8.26	7.95	L3	7.95	8.07

3.20. Considering the revised quote of Rs.5.60/kWh for the base year (FY 2023-24) and comparing it with the variable charge rate of TPC-G U5, it appears that for the initial two years (FY 2024-25 and FY 2025-26), it would be beneficial for BEST to replace TPC-G U5 power with 125 MW power from SWPGPL. Consequently, BEST Undertaking has issued a provisional LoA to M/s SWPGPL for two years.

3.21. However, M/s SWPGPL has requested BEST Undertaking to enter into a PPA for 7 years. In response, BEST Undertaking conducted negotiations with M/s SWPGPL to optimize and reduce the power purchase cost for the benefit of end consumers.

3.22. M/s SWPGPL vide letter dated 6 June 2024 submitted final revised offer of Rs.5.56/kWh, with FY 2024-25 as the base year instead of FY 2023-24, which will be fixed for first 5 Years. Thereafter, the Tariff will be escalated according to the PPA provisions for the 6<sup>th</sup> and 7<sup>th</sup> year, using the 5<sup>th</sup> year as the base year.

3.23. Considering the competitiveness, BEST Undertaking issued the LOA for procurement of 125 MW for 7 years, subject to the approvals from the Commission and statutory authorities, considering grid constraints for procuring this power.

#### **Competitiveness of the Discovered Tariff:**

3.24. Due to the extension of the TPC-G PPA until 31 March 2029, the full 350 MW of RTC

power requested in the tender is no longer necessary. However, M/s. SWPGPL's final offer (Rs.5.56/kWh for 5 years, and escalation for 6th and 7th year) appears to be a viable replacement for TPC-G U5 and U8, due to their higher variable costs.

3.25. The Commission vide Order dated 31 March 2023 in Case No. 212 of 2022 (BEST Undertaking's Mid-Term Review petition) had approved the Average power purchase cost as Rs. 6.34/kWh, excluding intra-State Transmission Charges and MSLDC Charges, for FY 2024-25. Further, the weighted average of power purchase cost works out to be Rs. 6.71/kWh for FY 2024-25.

3.26. The Tariff of Rs. Rs. 5.56/kWh (L1) discovered through competitive bidding and further negotiations is well within the power procurement cost approved by the Commission for FY 2024-25 in the MTR Order. However, Tariff of L2 and L3 are beyond the average power procurement cost. Furthermore, the extension of the TPC-G PPA until 31 March 2029 eliminates the need for the full capacity specified in the tender. Consequently, there is no need to consider the L2 and L3 bidders to meet the required quantum as per the tender.

3.27. Recent Tariff discovered for medium term on DEEP portal are in the range from Rs.5.05/kWh to Rs.6.88/kWh, as shown below:

Utility Name	Period of Power Supply	Allotted Qty (MW)	Tariff discovered (Rs. kWh)	Reference
Haryana discom (500 MW)	01.08.2024 to 31.07.2029	110	5.78	114/HPPC/MTT/2024
		127	5.78	
		140	5.78	
Haryana discom (1000 MW)	01.05.2023 to 30.04.2028	100	5.79	104/HPPC/MTPP/2023
		300	5.79	
		100	5.79	
		150	5.79	
		110	5.79	
		160	7.97	
KSEBL (500 MW)	From 15.08.2023:00.00 to 14.08.2028:24.00	303	6.88	Medium/Coal from Linkage Coal/23-24/RA/56
		100	6.88	
Noida Power Company Limited (125 MW)	From 01.04.2020:00.00 to 31.03.2023:24.00	2.54	1.2	Medium/Supply from hydro-electric power station/19-20/RA/66
		47.46	5.46	

3.28. It is clearly evident that final tariff offered by M/s SWPGPL (L1) is more competitive than the tariffs discovered in the similar medium-term tenders.

3.29. Final tariff offered by M/s SWPGPL (L1) is compared with the weighted average in Day-Ahead Market (DAM) and Real-Time Market (RTM) on the Indian Energy Exchange (IEX) over the past three years, as shown below:

Annual Weighted Average Price (Rs. Per kWh)		
Year	DAM	RTM
FY 2021-22	4.791	4.544

FY 2022-23	6.030	5.671
FY 2023-24 (Apr-Sep)	5.299	5.132

3.30. Above Rates of DAM and RTM on IEX are without adding transmission charges. In view of this, M/s SWPGPL (L1) rate is close to the market rates in the last year and would aid in dealing with price fluctuations in the future, indicating a more favorable pricing scenario for the e-reverse auction.

3.31. Though results of short-term tenders are not actually comparable with medium term tender, however, considering the limited tenders result available for recent medium term tender, the results of short term tender also compared in order to verify the broad market reflectiveness of the rates discovered. The comparison of recent short term tender results is provided below:

Utility Name	Period of Power Supply	Allotted Qty (MW)	Tariff discovered (Rs. kWh)	Reference
WEST BENGAL STATE ELECTRICITY DISTRIBUTION COMPANY LIMITED	From 01.04.2024:00.00 to 30.04.2024:24.00	90	7.53	Short/23-24/RA/98
		200	7.53	
		100	7.53	
		110	7.59	
	From 01.05.2024:00.00 to 31.05.2024:24.00	90	7.53	
		200	7.53	
		10	7.59	
	From 01.06.2024:00.00 to 30.06.2024:24.00	80	7.54	
	Torrent Power Limited	From 16.09.2023:00.00 to 30.09.2023:24.00	50	
From 01.10.2023:00.00 to 31.10.2023:24.00		200	8.96	
		150	8.96	
		20	8.96	
From 01.11.2023:00.00 to 30.11.2023:24.00		25	8.22	
		50	8.22	
		195	8.22	
From 01.12.2023:00.00 to 31.12.2023:24.00		100	8.02	
		50	8.02	
		50	8.02	
		45	8.02	
		25	8.02	
100		8.02		
MSEDCL	From 16.09.2023:00.00 to 30.09.2023:24.00	150	10.00	Short/23-24/RA/111
	From 01.10.2023:00.00 to 15.10.2023:24.00	50	7.70	
		60	7.70	
		100	7.70	
		100	7.80	
		100	8.05	
		50	8.30	
	From 16.10.2023:00.00 to 31.10.2023:24.00	40	8.86	
		25	7.70	
		50	7.70	

Utility Name	Period of Power Supply	Allotted Qty (MW)	Tariff discovered (Rs. kWh)	Reference
		50	7.70	
		60	7.70	
		100	7.70	
		45	7.70	
		25	7.70	
		100	7.80	
		45	8.05	
RUVNL	From 01.09.2023:00.00 to 30.09.2023:24.00	85	8.25	Short/23-24/RA/103
		50	8.99	
		50	10.00	

3.32. From the table above, the rates derived from short-term tender ranges from Rs. 7.53/kWh to Rs. 11.00/kWh. It would not be suitable to devise the competitiveness and reliability of the rates discovered in the context of medium-term tenders. However, it may be evident that in case of requirement for short term (less than 1 year), it would be expensive in comparison with rate discovered for medium term procurement for BEST Undertaking.

**Requirement of the capacity considering present scenario:**

3.33. The Commission vide Order 15 March 2023 in Case No. 240 of 2022, approved extension of existing PPA with TPC-G (Thermal + Hydro) by one more year i.e. till March 2025. TPC-G vide letter dated 21 April 2023 communicated about the constraints faced in extending the PPA and/or running the units beyond the tenure of the existing PPA.

3.34. Due to non-compliance by TPC-G, BEST Undertaking filed Case No. 189 of 2023 seeking compliance of the said Order. During proceeding of Case No. 189 of 2023, the Commission vide Order dated 28 November 2023 in Case No. 39 of 2023 (Petition filed by TPC-D for approval of power procurement plan), directed TPC-D to extend PPA with TPC-G for five years from 1 April 2024. The Commission the vide Order in Case No. 189 of 2023, clarified that said directives given in Case No. 39 of 2023 are also applicable to BEST and ruled as under:

*“6. At the time of e-hearing held on 8 December 2023, Advocate of BEST Undertaking requested the Commission to dispose of the present case in terms of the directions issued by the Commission in Order dated 28 November 2023 for extension of the PPA for five years. Advocate of TPC-G has stated that it has already conveyed it’s in-principle agreement to BEST for extending PPA for five years. He also stated that TPC-D has also agreed to extend PPA by five years.*

*7. In view of above specific submissions by concerned parties, the Commission is disposing of this Petition in terms of following ruling in its Order dated 28 November 2023 in Case No. 39 of 2023:*

*“24.10 In view of above, the Commission directs TPC-D to extend existing PPA with*



*TPC-G for 5 years from 1 April 2024 i.e. 31 March 2029. While extending such PPA for 5 more years, it is also important to prepare for gradual phase out if sufficient transmission capacity becomes ready. The Commission notes that TPC-G has different type of units i.e. Coal based, Gas based and Hydro units, life of each generating unit of is different and the Commission has been determining unit wise tariff for all units of TPC-G. However, PPA signed by TPC-G with Distribution Licensee i.e. TPC-D and BEST Undertaking is bundled PPA for all units. But considering the fact that tariff is not bundled tariff and is being determined unit wise, the Commission is of the opinion that PPA should also be signed unit wise. This will help while decided about next extension of PPA. At that point of time, based on available transmission capacity, PPA for certain costly embedded units can be discontinued. Also, PPA for cheaper Hydro units can be extended for longer period say 15/20 years based on life assessment study. Such arrangement would also enable TPC-G to undertake long term capital investment on their generating units. Hence, the Commission directs TPC-D to sign unit wise PPA with TPC-G for extended period of 5 years. While signing such PPA, existing unit wise allocation between BEST Undertaking and TPC-D shall be maintain. Based on same principles, BEST Undertaking shall also sign unit wise PPA with TPC-G.”.....”*

- 3.35. Thus, the primary concern regarding availability of firm power for base load and peak load has been resolved for BEST Undertaking for the ensuing 5 years. However, in view of the Commission’s directives to explore cheaper long term or short-term options for power procurement, the results of the present tender for RTC power can be considered for replacement of costly power tied up against extended PPA of TPC-G.
- 3.36. While approving the extension up to 31 March 2029, the Commission directed to sign unit wise PPA with TPC-G for extended period of 5 years and stated that PPA for certain costly embedded units can be discontinued. As per PPA, variable cost of unit 5 is highest among other units. Therefore, in view of replacement of the costly power of the TPC-G Unit 5, BEST Undertaking intend to accept the revised tariff of Rs.5.56/kWh of M/s SWPGPL (L1) for 125 MW of RTC power for initial 5 years and at escalated Tariff for 6<sup>th</sup> and 7<sup>th</sup> year tariff.

#### **Cost benefit analysis:**

- 3.37. The offered Tariff of Rs.5.56/kWh (for FY 2024-25) of SWPGPL is lower than the total power purchase rate of TPC- Unit 5 to 8 (Rs.7.17/kWh, Rs.6.73/kWh and Rs.7.61/kWh respectively). Further, considering only variable cost (VC) of TPC-G U5 (Rs.6.12/kWh) and U8 (Rs.6.07/kWh) for comparison, power of SWPGPL (125 MW) is replaceable against TPC-G U5 and U8.
- 3.38. Cost benefit analysis is carried out by comparing the “As is scenario” and scenario considering the SWPGPL power by backing down the power from TPC-G U5 and thereby bearing the fixed cost burden towards TPC-G U5.

3.39. PPA with TPC-G for U5 is extended upto March 2029. Consequently, regardless of the scheduling of power from TPC-G U5 and U8, BEST Undertaking is obligated to bear the fixed cost as agreed upon in the PPA. Therefore, to assess the net benefit of replacing costlier power with cheaper source, it is essential to consider the burden of fixed cost associated with the TPC-G units. It is thus appropriate to compare the offered rate from SWPGPL with the total applicable cost of TPC U5 and U8 in light of potentially backing down these units or operating them at technical minimum due to procuring power from M/s SWPGPL.

3.40. Any power shortfall is expected to be met through power purchases from the exchange. Thus, considering the actual energy purchased from IEX during FY 2023-24 (approx. 723 MU's), a ceiling limit of 750 MU's annually considered for purchase of power from exchange.

3.41. BEST Undertaking has projected energy requirement at G-T interface for FY 2024-25 of 5087.22 MU and escalated at 1% YoY upto FY 2030-31 as tabulated below.

Particulars	UoM	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31
Energy Requirement at G-T Interface	MU	5,087.22	5,138.09	5,189.47	5,241.37	5,293.78	5,346.71	5,400.18

3.42. Average power purchase cost from IEX during FY 2023-24 was Rs.4.44/kWh, the same has been considered for projection of cost for FY 2024-25 to FY 2030-31. In light of the variable cost rates considered for different sources tied up of BEST Undertaking, purchasing of power from exchange is prioritise over the procurement of power from TPC-G U5, U8 and SWPGPL power subject to ceiling of 750 MU's, followed by SWPGPL, TPC-G U5 and U8 (considering operation of unit's subject to technical minimum or backing down).

3.43. In 'As is scenario', FY 2025-26 onwards with the availability of power from SECI, BEST Undertaking would be compelled to operate TPC-G U5 and U8 at technical minimum or backing down and in case of any shortfall to be met through power from exchange with ceiling of 750 MU's. In case of any shortfall more than 750 MU's, scheduling of power from thermal units higher than its technical minimum considered.

3.44. TPC-G U7 is gas-based unit and its operation is linked to availability of gas. Hence, available power from TPC-G U7 is considered at 494 MU's as per actual power purchased during FY 2023-24. Power purchase units from TPC-G Hydro units have been considered for 797 MU's as per actual units purchased during FY 2023-24. Other sources of RE power are must-run, hence it is considered entirely as per PPA

3.45. The Following are the assumptions considered regarding cost of different sources of power from FY 2024-25 to FY 2030-31.

Stations	Cost Assumptions	
	Fixed Cost	Variable Cost
TPC-G U5	FY 24-25: As per BEST' MTR Order	Actual rate of FY 23-24

Stations	Cost Assumptions	
	Fixed Cost	Variable Cost
	FY 25-26 onwards: escalated FY 24-25 cost at 8.34% (esc rate of FY 24-25 cost over FY 23-24 approved by MERC in MTR Order) for FY 25-26 and considered same for subsequent years	escalated at 1.38% YoY (as per variation in rate for FY 23-24 actuals and FY 2024-25 as approved by the Commission)
TPC-G U7	FY 24-25: As per BEST MTR Order FY 25-26 onwards: No escalation considered [esc rate of FY 24-25 cost over FY 23-24 approved by MERC in MTR Order is negative, i.e. (-)7% ] for FY 25-26 and onwards	Actual rate of FY 23-24 escalated at 1.38% YoY
TPC-G U8	FY 24-25: As per BEST MTR Order FY 25-26 onwards: No escalation [esc rate of FY 24-25 cost over FY 23-24 approved by MERC in MTR Order is negative, i.e. (-)7% ] for FY 25-26 and onwards	Actual rate of FY 23-24 escalated at 1.38% YoY
TPC-G Hydro	FY 24-25: As per BEST MTR Order FY 25-26 onwards: escalated FY 24-25 cost at 2.57% (esc rate of FY 24-25 cost over FY 23-24 approved by MERC in MTR Order) for FY 25-26 and considered same for subsequent years	Actual rate of FY 23-24 escalated at 1.38% YoY
Walwhan Solar MH Ltd	N.A.	No escalation
Solar - SECI 400 MW hybrid (Solar+Wind)	N.A.	No escalation
Wind - SECI 400 MW hybrid (Solar+Wind)	N.A.	No escalation
SECI 234 MW Solar	N.A.	No escalation
Manikaran	Worked out as per variation in WPI values (Contract valid upto March-25	
SWPGPL	Rs. 258.75 Cr annually (Rs.2.78/kWh for normative units at 85% PLF) up to FY 28-29. Subsequently escalated at 0.40% and 0.40% as per variation in WPI values considering base value of WPI dated 31.01.2028 for FY 29-30 and FY 30-31 respectively	Rs.2.78/kWh up to FY 28-29 and subsequently escalation as per variation in WPI values (0.40% and 0.40% esc considered annually based on variation in values of 31.01.2028 for FY 29-30 and FY 30-31 respectively)
Traders (To meet balance requirement)	N.A.	Rs. 4.44/kWh as per actual rate during FY 23-24 with no escalation

3.46. In view of above assumptions, power purchase cost of BEST Undertaking as per ‘As is scenario’ and scenario considering SWPGPL power would be as under:

Scenario	Stations	for FY 24-25								FY 2025-26							
		PP units		FC		VC		Total Cost		PP units		FC		VC		Total cost	
		MU	Rs. Cr	Rs. kWh	Rs. Cr	Rs. kWh	Rs. Crore	Rs. kWh	MU	Rs. Cr	Rs. kWh	Rs. Cr	Rs. kWh	Rs. Crore	Rs. kWh		
As is scenario	TPC-G U5	1,478.64	169.34	1.15	916.84	6.20	1,086.18	7.35	985.11	183.46	1.86	619.25	6.29	802.71	8.15		
	TPC-G U7	494.00	77.25	1.56	252.77	5.12	330.03	6.68	494.00	77.25	1.56	256.26	5.19	333.52	6.75		
	TPC-G U8	697.60	86.78	1.24	428.29	6.14	515.07	7.38	374.53	86.78	2.32	233.12	6.22	319.89	8.54		
	<b>Total TPC-G Thermal</b>	<b>2,670.24</b>	<b>333.37</b>	<b>1.25</b>	<b>1,597.91</b>	<b>5.98</b>	<b>1,931.28</b>	<b>7.23</b>	<b>1,853.64</b>	<b>347.49</b>	<b>1.87</b>	<b>1,108.63</b>	<b>5.98</b>	<b>1,456.12</b>	<b>7.86</b>		
	TPC-G Hydro	797.63	90.46	1.13	118.38	1.48	208.84	2.62	797.63	92.79	1.16	120.01	1.50	212.80	2.67		
	Walwhan Solar MH Ltd	31.50	-	-	26.96	8.56	26.96	8.56	31.50	-	-	26.96	8.56	26.96	8.56		
	Solar power from SECI 400 MW hybrid (Solar+Wind)	-	-	-	-	-	-	-	853.85	-	-	211.75	2.48	211.75	2.48		
	Wind power from SECI 400 MW hybrid (Solar+Wind)	-	-	-	-	-	-	-	378.52	-	-	93.87	2.48	93.87	2.48		
	SECI 234 MW Solar	-	-	-	-	-	-	-	488.00	-	-	132.25	2.71	132.25	2.71		
	Manikaran	744.60	157.16	2.11	172.88	2.32	330.05	4.43	-	-	-	-	-	-	-		
	Traders (To meet balance requirement)	843.26	-	-	374.41	4.44	374.41	4.44	734.95	-	-	326.33	4.44	326.33	4.44		
	<b>Total cost</b>	<b>5,087.22</b>	<b>581.00</b>	<b>1.14</b>	<b>2,290.54</b>	<b>4.50</b>	<b>2,871.54</b>	<b>5.64</b>	<b>5,138.09</b>	<b>440.28</b>	<b>0.86</b>	<b>2,019.81</b>	<b>3.93</b>	<b>2,460.09</b>	<b>4.79</b>		

  

Scenario	Stations	FY 2026-27								FY 2027-28							
		PP units		FC		VC		Total Cost		PP units		FC		VC		Total cost	
		MU	Rs. Cr	Rs. kWh	Rs. Cr	Rs. kWh	Rs. Crore	Rs. kWh	MU	Rs. Cr	Rs. kWh	Rs. Cr	Rs. kWh	Rs. Crore	Rs. kWh		
Power Purchase with SWPGL (125 MW) Power	TPC-G U5	985.11	169.34	1.72	610.82	6.20	780.17	7.92	-	183.46	-	-	6.29	183.46	-		
	TPC-G U7	494.00	77.25	1.56	252.77	5.12	330.03	6.68	494.00	77.25	1.56	256.26	5.19	333.52	6.75		
	TPC-G U8	374.53	86.78	2.32	229.95	6.14	316.72	8.46	413.84	86.78	2.10	257.59	6.22	344.36	8.32		
	<b>Total TPC-G Thermal</b>	<b>1,853.64</b>	<b>333.37</b>	<b>1.80</b>	<b>1,093.54</b>	<b>5.90</b>	<b>1,426.91</b>	<b>7.70</b>	<b>907.84</b>	<b>347.49</b>	<b>3.83</b>	<b>513.85</b>	<b>5.66</b>	<b>861.34</b>	<b>9.49</b>		
	TPC-G Hydro	797.63	90.46	1.13	118.38	1.48	208.84	2.62	797.63	92.79	1.16	120.01	1.50	212.80	2.67		
	Walwhan Solar MH Ltd	31.50	-	-	26.96	8.56	26.96	8.56	31.50	-	-	26.96	8.56	26.96	8.56		
	Solar power from SECI 400 MW hybrid (Solar+Wind)	-	-	-	-	-	-	-	853.85	-	-	211.75	2.48	211.75	2.48		
	Wind power from SECI 400 MW hybrid (Solar+Wind)	-	-	-	-	-	-	-	378.52	-	-	93.87	2.48	93.87	2.48		
	SECI 234 MW Solar	-	-	-	-	-	-	-	488.00	-	-	132.25	2.71	132.25	2.71		
	Manikaran	744.60	157.16	2.11	172.88	2.32	330.05	4.43	-	-	-	-	-	-	-		
	SWPGL	930.75	258.75	2.78	258.75	2.78	517.50	5.56	930.75	258.75	2.78	258.75	2.78	517.50	5.56		
	Traders (To meet balance requirement)	729.10	-	-	323.73	4.44	323.73	4.44	750.00	-	-	333.01	4.44	333.01	4.44		
	<b>Total Cost including SWPGL</b>	<b>5,087.22</b>	<b>839.74</b>	<b>1.65</b>	<b>1,994.24</b>	<b>3.92</b>	<b>2,833.99</b>	<b>5.57</b>	<b>5,138.09</b>	<b>699.03</b>	<b>1.36</b>	<b>1,690.46</b>	<b>3.29</b>	<b>2,389.48</b>	<b>4.65</b>		
	<b>(Burden)/Saving (Rs. kWh)</b>							<b>0.07</b>							<b>0.14</b>		
	<b>(Burden)/Saving (Rs. Crore)</b>							<b>37.55</b>							<b>70.61</b>		

3.47. From the above table it is evident that during FY 2024-25, power from SWPGL may replace by operating TPC-G U5 at technical minimum. For FY 2025-26 onwards due to available power from SECI, it would be possible to back down the TPC-G U5 completely and bearing the fixed cost burden. Consequently, TPC-G U8 would be required to operate slightly higher than its technical minimum. This would result in saving of Rs.0.07/kWh and Rs.0.14/kWh, equivalent to saving of Rs.37.55 Cr and Rs.70.61 Crore for FY 2024-25 and FY 2025-26 respectively.

Scenario	Stations	FY 2026-27								FY 2027-28							
		PP units		FC		VC		Total cost		PP units		FC		VC		Total cost	
		MU	Rs. Cr	Rs. kWh	Rs. Cr	Rs. kWh	Rs. Crore	Rs. kWh	MU	Rs. Cr	Rs. kWh	Rs. Cr	Rs. kWh	Rs. Crore	Rs. kWh		
As is scenario	TPC-G U5	985.11	183.46	1.86	627.80	6.37	811.26	8.24	985.11	183.46	1.86	636.46	6.46	819.92	8.32		
	TPC-G U7	494.00	77.25	1.56	259.80	5.26	337.05	6.82	494.00	77.25	1.56	263.38	5.33	340.64	6.90		
	TPC-G U8	410.86	86.78	2.11	259.26	6.31	346.04	8.42	462.76	86.78	1.88	296.04	6.40	382.82	8.27		
	<b>Total TPC-G Thermal</b>	<b>1,889.97</b>	<b>347.49</b>	<b>1.84</b>	<b>1,146.86</b>	<b>6.07</b>	<b>1,494.34</b>	<b>7.91</b>	<b>1,941.87</b>	<b>347.49</b>	<b>1.79</b>	<b>1,195.89</b>	<b>6.16</b>	<b>1,543.37</b>	<b>7.95</b>		
	TPC-G Hydro	797.63	92.79	1.16	121.67	1.53	214.46	2.69	797.63	92.79	1.16	123.35	1.55	216.13	2.71		
	Walwhan Solar MH Ltd	31.50	-	-	26.96	8.56	26.96	8.56	31.50	-	-	26.96	8.56	26.96	8.56		
	Solar power from SECI 400 MW hybrid (Solar+Wind)	853.85	-	-	211.75	2.48	211.75	2.48	853.85	-	-	211.75	2.48	211.75	2.48		
	Wind power from SECI 400 MW hybrid (Solar+Wind)	378.52	-	-	93.87	2.48	93.87	2.48	378.52	-	-	93.87	2.48	93.87	2.48		
	SECI 234 MW Solar	488.00	-	-	132.25	2.71	132.25	2.71	488.00	-	-	132.25	2.71	132.25	2.71		
	Manikaran	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Traders (To meet balance requirement)	750.00	-	-	333.01	4.44	333.01	4.44	750.00	-	-	333.01	4.44	333.01	4.44		
	<b>Total cost</b>	<b>5,189.47</b>	<b>440.28</b>	<b>0.85</b>	<b>2,066.37</b>	<b>3.98</b>	<b>2,506.65</b>	<b>4.83</b>	<b>5,241.37</b>	<b>440.28</b>	<b>0.84</b>	<b>2,117.08</b>	<b>4.04</b>	<b>2,557.36</b>	<b>4.88</b>		

  

Scenario	Stations	FY 2026-27								FY 2027-28							
		PP units		FC		VC		Total cost		PP units		FC		VC		Total cost	
		MU	Rs. Cr	Rs. kWh	Rs. Cr	Rs. kWh	Rs. Crore	Rs. kWh	MU	Rs. Cr	Rs. kWh	Rs. Cr	Rs. kWh	Rs. Crore	Rs. kWh		
Power Purchase with SWPGL (125 MW) Power	TPC-G U5	-	183.46	-	-	6.37	183.46	-	-	183.46	-	-	6.46	183.46	-		
	TPC-G U7	494.00	77.25	1.56	259.80	5.26	337.05	6.82	494.00	77.25	1.56	263.38	5.33	340.64	6.90		
	TPC-G U8	465.22	86.78	1.87	293.56	6.31	380.34	8.18	517.12	86.78	1.68	330.82	6.40	417.59	8.08		
	<b>Total TPC-G Thermal</b>	<b>959.22</b>	<b>347.49</b>	<b>3.62</b>	<b>553.36</b>	<b>5.77</b>	<b>900.85</b>	<b>9.39</b>	<b>1,011.12</b>	<b>347.49</b>	<b>3.44</b>	<b>594.20</b>	<b>5.88</b>	<b>941.69</b>	<b>9.31</b>		
	TPC-G Hydro	797.63	92.79	1.16	121.67	1.53	214.46	2.69	797.63	92.79	1.16	123.35	1.55	216.13	2.71		
	Walwhan Solar MH Ltd	31.50	-	-	26.96	8.56	26.96	8.56	31.50	-	-	26.96	8.56	26.96	8.56		
	Solar power from SECI 400 MW hybrid (Solar+Wind)	853.85	-	-	211.75	2.48	211.75	2.48	853.85	-	-	211.75	2.48	211.75	2.48		
	Wind power from SECI 400 MW hybrid (Solar+Wind)	378.52	-	-	93.87	2.48	93.87	2.48	378.52	-	-	93.87	2.48	93.87	2.48		
	SECI 234 MW Solar	488.00	-	-	132.25	2.71	132.25	2.71	488.00	-	-	132.25	2.71	132.25	2.71		
	Manikaran	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	SWPGL	930.75	258.75	2.78	258.75	2.78	517.50	5.56	930.75	258.75	2.78	258.75	2.78	517.50	5.56		
	Traders (To meet balance requirement)	750.00	-	-	333.01	4.44	333.01	4.44	750.00	-	-	333.01	4.44	333.01	4.44		
	<b>Total Cost including SWPGL</b>	<b>5,189.47</b>	<b>699.03</b>	<b>1.35</b>	<b>1,731.62</b>	<b>3.34</b>	<b>2,430.65</b>	<b>4.68</b>	<b>5,241.37</b>	<b>699.03</b>	<b>1.33</b>	<b>1,774.14</b>	<b>3.38</b>	<b>2,473.17</b>	<b>4.72</b>		
	<b>(Burden)/Saving (Rs. kWh)</b>							<b>0.15</b>							<b>0.16</b>		
	<b>(Burden)/Saving (Rs. Crore)</b>							<b>76.00</b>							<b>84.19</b>		

Scenario	Stations	FY 2028-29						FY 2029-30									
		PP units		FC		VC		Total cost		PP units		FC		VC		Total cost	
		MU	Rs. Cr	Rs. kWh	Rs. Cr	Rs. kWh	Rs.Crore	Rs. kWh	MU	Rs. Cr	Rs. kWh	Rs. Cr	Rs. kWh	Rs.Crore	Rs. kWh		
As is scenario	TPC-G U5	985.11	183.46	1.86	645.24	6.55	828.70	8.41	985.11	183.46	1.86	654.15	6.64	837.61	8.50		
	TPC-G U7	494.00	77.25	1.56	267.02	5.41	344.27	6.97	494.00	77.25	1.56	270.70	5.48	347.96	7.04		
	TPC-G U8	515.17	86.78	1.68	334.12	6.49	420.89	8.17	515.17	86.78	1.68	338.73	6.57	425.50	8.26		
	<b>Total TPC-G Thermal</b>	<b>1,994.28</b>	<b>347.49</b>	<b>1.74</b>	<b>1,246.38</b>	<b>6.25</b>	<b>1,593.87</b>	<b>7.99</b>	<b>1,994.28</b>	<b>347.49</b>	<b>1.74</b>	<b>1,263.58</b>	<b>6.34</b>	<b>1,611.07</b>	<b>8.08</b>		
	TPC-G Hydro	797.63	92.79	1.16	125.05	1.57	217.84	2.73	797.63	92.79	1.16	126.77	1.59	219.56	2.75		
	Walwhan Solar MH Ltd	31.50	-	-	26.96	8.56	26.96	8.56	31.50	-	-	26.96	8.56	26.96	8.56		
	Solar power from SECI 400 MW hybrid (Solar+Wind)	853.85	-	-	211.75	2.48	211.75	2.48	853.85	-	-	211.75	2.48	211.75	2.48		
	Wind power from SECI 400 MW hybrid (Solar+Wind)	378.52	-	-	93.87	2.48	93.87	2.48	378.52	-	-	93.87	2.48	93.87	2.48		
	SECI 234 MW Solar	488.00	-	-	132.25	2.71	132.25	2.71	488.00	-	-	132.25	2.71	132.25	2.71		
	Manikaran	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Traders (To meet balance requirement)	750.00	-	-	333.01	4.44	333.01	4.44	750.00	-	-	333.01	4.44	333.01	4.44		
	<b>Total cost</b>	<b>5,293.78</b>	<b>440.28</b>	<b>0.83</b>	<b>2,169.28</b>	<b>4.10</b>	<b>2,609.55</b>	<b>4.93</b>	<b>5,293.78</b>	<b>440.28</b>	<b>0.83</b>	<b>2,188.20</b>	<b>4.13</b>	<b>2,628.48</b>	<b>4.97</b>		
	Scenario	Stations	PP units		FC		VC		Total cost		PP units		FC		VC		Total cost
MU			Rs. Cr	Rs. kWh	Rs. Cr	Rs. kWh	Rs.Crore	Rs. kWh	MU	Rs. Cr	Rs. kWh	Rs. Cr	Rs. kWh	Rs.Crore	Rs. kWh		
Power Purchase with SWPGL (125 MW) Power	TPC-G U5	-	183.46	-	-	6.55	183.46	-	-	183.46	-	-	6.64	183.46	-		
	TPC-G U7	494.00	77.25	1.56	267.02	5.41	344.27	6.97	494.00	77.25	1.56	270.70	5.48	347.96	7.04		
	TPC-G U8	569.53	86.78	1.52	369.37	6.49	456.15	8.01	569.53	86.78	1.52	374.47	6.57	461.24	8.10		
	<b>Total TPC-G Thermal</b>	<b>1,063.53</b>	<b>347.49</b>	<b>3.27</b>	<b>636.39</b>	<b>5.98</b>	<b>983.88</b>	<b>9.25</b>	<b>1,063.53</b>	<b>347.49</b>	<b>3.27</b>	<b>645.17</b>	<b>6.07</b>	<b>992.66</b>	<b>9.33</b>		
	TPC-G Hydro	797.63	92.79	1.16	125.05	1.57	217.84	2.73	797.63	92.79	1.16	126.77	1.59	219.56	2.75		
	Walwhan Solar MH Ltd	31.50	-	-	26.96	8.56	26.96	8.56	31.50	-	-	26.96	8.56	26.96	8.56		
	Solar power from SECI 400 MW hybrid (Solar+Wind)	853.85	-	-	211.75	2.48	211.75	2.48	853.85	-	-	211.75	2.48	211.75	2.48		
	Wind power from SECI 400 MW hybrid (Solar+Wind)	378.52	-	-	93.87	2.48	93.87	2.48	378.52	-	-	93.87	2.48	93.87	2.48		
	SECI 234 MW Solar	488.00	-	-	132.25	2.71	132.25	2.71	488.00	-	-	132.25	2.71	132.25	2.71		
	Manikaran	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	SWPGL	930.75	258.75	2.78	258.75	2.78	517.50	5.56	930.75	258.95	2.78	259.26	2.79	518.22	5.57		
	Traders (To meet balance requirement)	750.00	-	-	333.01	4.44	333.01	4.44	750.00	-	-	333.01	4.44	333.01	4.44		
	<b>Total Cost including SWPGCL</b>	<b>5,293.78</b>	<b>699.03</b>	<b>1.32</b>	<b>1,818.03</b>	<b>3.43</b>	<b>2,517.06</b>	<b>4.75</b>	<b>5,293.78</b>	<b>699.23</b>	<b>1.32</b>	<b>1,829.06</b>	<b>3.46</b>	<b>2,528.29</b>	<b>4.78</b>		
(Burden)/Saving (Rs. kWh)							0.17							0.19			
(Burden)/Saving (Rs. Crore)							92.49							100.19			

Scenario	Stations	FY 2030-31							
		PP units		FC		VC		Total cost	
		MU	Rs. Cr	Rs. kWh	Rs. Cr	Rs. kWh	Rs.Crore	Rs. kWh	
As is scenario	TPC-G U5	985.11	183.46	1.86	663.17	6.73	846.63	8.59	
	TPC-G U7	494.00	77.25	1.56	274.44	5.56	351.69	7.12	
	TPC-G U8	515.17	86.78	1.68	343.40	6.67	430.18	8.35	
	<b>Total TPC-G Thermal</b>	<b>1,994.28</b>	<b>347.49</b>	<b>1.74</b>	<b>1,281.02</b>	<b>6.42</b>	<b>1,628.50</b>	<b>8.17</b>	
	TPC-G Hydro	797.63	92.79	1.16	128.52	1.61	221.31	2.77	
	Walwhan Solar MH Ltd	31.50	-	-	26.96	8.56	26.96	8.56	
	Solar power from SECI 400 MW hybrid (Solar+Wind)	853.85	-	-	211.75	2.48	211.75	2.48	
	Wind power from SECI 400 MW hybrid (Solar+Wind)	378.52	-	-	93.87	2.48	93.87	2.48	
	SECI 234 MW Solar	488.00	-	-	132.25	2.71	132.25	2.71	
	Manikaran	-	-	-	-	-	-	-	
	Traders (To meet balance requirement)	750.00	-	-	333.01	4.44	333.01	4.44	
	<b>Total cost</b>	<b>5,293.78</b>	<b>440.28</b>	<b>0.83</b>	<b>2,207.39</b>	<b>4.17</b>	<b>2,647.66</b>	<b>5.00</b>	

Scenario	Stations	PP units		FC		VC		Total cost	
		MU	Rs. Cr	Rs. kWh	Rs. Cr	Rs. kWh	Rs.Crore	Rs. kWh	
Power Purchase with SWPGL (125 MW) Power	TPC-G U5	-	183.46	-	-	6.73	183.46	-	
	TPC-G U7	494.00	77.25	1.56	274.44	5.56	351.69	7.12	
	TPC-G U8	569.53	86.78	1.52	379.64	6.67	466.41	8.19	
	<b>Total TPC-G Thermal</b>	<b>1,063.53</b>	<b>347.49</b>	<b>3.27</b>	<b>654.08</b>	<b>6.15</b>	<b>1,001.56</b>	<b>9.42</b>	
	TPC-G Hydro	797.63	92.79	1.16	128.52	1.61	221.31	2.77	
	Walwhan Solar MH Ltd	31.50	-	-	26.96	8.56	26.96	8.56	
	Solar power from SECI 400 MW hybrid (Solar+Wind)	853.85	-	-	211.75	2.48	211.75	2.48	
	Wind power from SECI 400 MW hybrid (Solar+Wind)	378.52	-	-	93.87	2.48	93.87	2.48	
	SECI 234 MW Solar	488.00	-	-	132.25	2.71	132.25	2.71	
	Manikaran	-	-	-	-	-	-	-	
	SWPGL	930.75	258.95	2.78	259.26	2.79	518.22	5.57	
	Traders (To meet balance requirement)	750.00	-	-	333.01	4.44	333.01	4.44	
	<b>Total Cost including SWPGCL</b>	<b>5,293.78</b>	<b>699.23</b>	<b>1.32</b>	<b>1,839.71</b>	<b>3.48</b>	<b>2,538.94</b>	<b>4.80</b>	
(Burden)/Saving (Rs. kWh)							0.21		
(Burden)/Saving (Rs. Crore)							108.72		

3.48. For the FY 2026-27 and FY 2027-28, with SWPGPL 125 MW power, backing down the costlier power of TPC-G Unit 5 and purchasing power from TPC-G U8 higher than technical minimum, would result in saving of Rs.0.15/kWh and Rs.0.16/kWh, equivalent

to saving of Rs.76.00 Cr and Rs.84.19 Crore for FY 2026-27 and FY 2027-28 respectively. Similarly, it would provide a saving of Rs.0.17/kWh and Rs.0.19/kWh, equivalent to saving of Rs.92.49 Cr and Rs.100.19 Crore for FY 2028-29 and FY 2029-30 respectively.

3.49. For FY 2030-31, replacement of TPC-U5 power with SWPGPL power would provide saving of Rs.0.21/kWh, equivalent to saving of Rs.108.72

3.50. Summary of the potential saving of ~ Rs.569 Crore during tenure of 7 years with the replacement of TPC-G Unit 5 with SWPGPL 125 MW power is shown as below:

Paticulars	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 30-31	Total saving
Saving (Rs. kWh)	0.07	0.14	0.15	0.16	0.17	0.19	0.20	
Saving (Rs. Crore)	37.55	70.61	76.00	84.19	92.49	100.19	108.72	569.75

3.51. In view of above potential cost saving, procuring power from SWPGPL (L1) is beneficial than the procuring power from TPC-G against unit 5 and unit 8.

3.52. Further to reduce the TPCG Unit 5 fixed cost burden of BEST consumers, BEST Undertaking will shortly submit a separate petition for the approval to revoke the PPA signed between BEST and TPCG for TPCG Unit 5(Thermal).

#### **Availability of Transmission Corridor**

3.53. Procuring power from outside Mumbai and State is challenge due to transmission corridor constraint. However, as reported in the media and noted in the Commission’s Order in Case No. 205 of 2023, Adani Energy Solutions Limited has commissioned 400 KV Kharghar-Vikhroli transmission line, which will enable the evacuation of an additional 1,000 MW of power from outside the city.

3.54. With the commissioning of KVTL, Mumbai gets a 400 KV grid within its municipal geography, enhancing import capability within its electricity grid, improving reliability and stability, and providing much-needed redundancy. In light of this development, there may be no transmission constraint in importing power of SWPGPL (outside from Mumbai) to BEST Undertaking, provided that out of the 1000 MW transmission capacity due to Commissioning of KVTL is available to import SWPGPL’s 125 MW power.

3.55. The Commission in its Order in Case No. 240 of 2022 has stated that if BEST Undertaking is able to discover cheaper power, although there would be issue in granting Long Term Access on account of transmission constraint, power can flow through STOA.

3.56. Furthermore, PPA with M/s Manikaran for 100 MW power is valid upto February 2025, which will also be extended by mutual understanding to get cheaper power.

3.57. Given the recent enhancements in transmission capacity due to the commissioning of KVTL and the potential savings outlined in the previous sections of this Petition for FY 2024-25 to FY 2030-31, BEST Undertaking requests the Commission to adopt the tariff of

Rs.5.56/kWh offered by SWPGPL (L1) up to FY 2028-29 (for initial 5 years) and the tariff for FY 2029-30 and FY 2030-31 with escalation based on WPI numbers, considering the 5<sup>th</sup> year as the base year and approval of PPA with SWPGPL for 125 MW RTC Power.

- 3.58. BEST Undertaking further requested the Commission to direct STU to assess the technical feasibility of procuring power from outside Mumbai from SWPGPL plant and to direct STU/MSLDC to accord necessary approvals and schedule power from SWPGPL to BEST.
4. The Petitioner through IA No. 43 of 2024 in this Case, filed on 21 August 2024, requested for early hearing in the matter to ensure the commencement of power supply from M/s. SWPGPL for 125 MW of RTC Power immediately after the Commission's approval, in view of potential savings in power purchase costs by replacing power from TPC-G Unit 5.
5. At the e-hearing held on 23 August 2024, the Petitioner reiterated its submission as made in its petition along with the IA. The Commission reserved the matter for final Orders.

#### **Commission's Analysis and Ruling:**

6. The present Petition has been filed by BEST Undertaking seeking approval for adoption of the Tariff discovered through the competitive bidding under Section 63 of the Electricity Act 2003 and approval of the Power Purchase Agreement (PPA) for the procurement of 125 MW Round the Clock (RTC) power on medium term basis for a period of 7 years.
7. The Commission vide Order dated 15 March 2023 in Case No. 240 of 2022 (BEST Petition for approval of Power procurement plan) has accepted the proposal of base load demand of 409 MW and peak load of 942 MW for FY 2024-25 and subsequent projections of base load demand of 451 MW and peak load of 1040 MW for FY 2029-30 after considering the gradual increase in demand on year-on-year basis. In the same order, while directing extension of PPA with TPC-G by one year i.e. up to March 2024, the Commission allows BEST Undertaking to continue its efforts to contract cheaper power through long term PPA. Relevant part of the Order is reproduced below:

*“16.15 The Commission also notes that although BEST in its Petition has proposed extension of PPA with Manikaran Power Ltd and entering into additional 100 MW PPA with Sai Wardha on same terms and condition, during the hearing in present matter, BEST has clearly stated that they are not pressing for the same and if required would approach separately. During pendency of present Petition, BEST has already initiated bidding process under Section 63 of the Electricity Act 2003 for procurement of 200 MW power on long term basis. In this regard, the Commission notes that although the Commission has directed for extension of existing PPA with TPC-G, in the past TPC-G's thermal units have not been used upto full capacity. **Beneficiaries of TPC-G i.e. BEST and TPCD tried to procure cheaper power under short-term contract to replace costly generation of TPC-G thermal sources. Such short-term power is being allowed without any curtailment. If BEST is able to discover cheaper tariff in its ongoing long term bidding process, then such power can***

*replace BEST's existing short-term sources. Although there would be issue of granting Long Term Access on account of transmission constraint, with conditional NoC from STU said power can flow under short term Open Access, with the remote possibility of curtailment due to system constraints. Hence, although the Commission has directed BEST to extend PPA with TPC-G for a year, it should continue its bidding process for long term power procurement. At the time of tariff adoption, BEST in its Petition shall factor in possible financial and the power availability impact due to transmission constraint and its implication on net power purchase cost of BEST.”*

8. Considering above Order of the Commission, and after annulling two competitive bidding process initiated earlier, BEST Undertaking on 11 July 2023, initiated the competitive bidding process under Section 63 of the Electricity Act, 2003 and MoP Guidelines for procurement of medium term power of 350 MW RTC power for 7 (Seven) years and 100 MW Peak Hour power (07:00 to 24:00 Hrs) for 5 (five) years. No bidder was qualified for peak power bid. For medium term bid, post e-reverse auction and subsequent negotiation, following offers were received:

Bidder Name	Capacity (MW)	Location of the Project	Quoted Tariff (Rs./kWh)	Revised tariff offered post negotiation (Rs./kWh)	Revised Tariff applicable in FY 2024-25 (Rs./kWh) as per PPA Clause
M/s Sai Wardha Power Generation Pvt. Ltd.	125	Intra State	5.87	5.60	5.69
M/s Jindal India Thermal Power Ltd.	100	Inter State	6.67	6.57	6.67
M/s OPG Power Generation Pvt. Ltd.	150	Inter State	8.26	7.95	8.07

9. Meanwhile, in view of prevailing transmission constraints, the Commission vide Order dated 28 November 2023 in Case No. 39 of 2023 has directed TPC-G to extend PPA with TPC-D and BEST Undertaking by 5 more years i.e. up to March 2029.
10. With such extended PPA with TPC-G, BEST Undertaking has decided to procure power from only lowest bidder in base load bidding process. Accordingly, subsequent to further negotiation, M/s SWPGPL (L1 in bidding process) vide letter dated 6 June 2024 submitted final revised offer of Rs.5.56/kWh, with FY 2024-25 as the base year, which will be fixed for first 5 Years. Thereafter, the Tariff will be escalated according to the PPA provisions for the 6<sup>th</sup> and 7<sup>th</sup> year, using the 5<sup>th</sup> year as the base year. BEST Undertaking is seeking approval for such power procurement from M/s SWPGPL under Section 63 of the EA 2003.
11. Considering the submission made in the matter, the Commission frames following issues for its considerations:
- Transmission constraints
  - Whether the Medium-term power procurement proposed by the Petitioner is justified?
  - Whether the discovered tariff is consistent with the market trend?
  - Other issues



The Commission is addressing these issues in the following paragraphs.

## **12. Issue A: Transmission Constraints**

- 12.1. The Commission notes the submission of BEST Undertaking that procuring power from outside Mumbai is challenge due to transmission corridor constraint. However, as 400 kV Kharghar-Vikhroli transmission line has been commissioned recently there might not be any transmission constraint to draw 125 MW power from M/s SWPGPL. BEST also requested the Commission to direct STU to undertake fresh study on transmission constraint considering newly commissioned lines and other upcoming projects.
- 12.2. The Commission notes that Mumbai' consumer demand is met partly through generation plants embedded in Mumbai transmission system and partly through importing power from outside Mumbai. The issue of transmission constraints arises because tie-line connecting Mumbai to Maharashtra system has limited power transfer capacity. Therefore, when there is proposal of reducing generation from embedded power plants and importing more power from outside Mumbai system, issue of whether such power can be sourced within limited transmission capacity needs to be analyzed before approval of such power procurement.
- 12.3. In the present case, BEST has not proposed any reduction in PPA with embedded generation (TPC-G). It has submitted a separate Petition (Case No. 134 of 2024) for terminating PPA with TPC-Unit 5 which will be dealt with separately as per Law. In the present case, BEST Undertaking has considered all embedded generation and then by applying Merit Order Despatch Principles has stated that proposed power procurement of 125 MW from M/S SWPGPL will reduce its power purchase expenses.
- 12.4. As BEST in present case has not proposed to reduce any PPA with embedded generation all these capacities will be available with SLDC for managing any transmission constraints issues and hence the Commission is of the opinion that procuring such additional 125 MW would not create any transmission constraints. In fact, in its Order dated 15 March 2023 in Case No. 240 of 2022 quoted above, the Commission has clearly ruled that power procured through competitive bidding process can flow under short term Open Access (if long term Open Access cannot be granted due to capacity constraints), with the remote possibility of curtailment due to system constraints.
- 12.5. In view of the above observations, the Commission notes that the issue of transmission constraints would not be applicable in present matter for procurement of 125 MW power from outside Mumbai. The Commission will deal with updated position of transmission capacity in separate Petition filed by BEST Undertaking in Case No. 134 of 2024 wherein STU and other Distribution Licensees are parties.

## **13. Whether the Medium-term power procurement proposed by the Petitioner is justified?**

- 13.1. The Commission notes that in its Order dated 15 March 2023 in Case No. 240 of 2022, it

has approved demand projections for BEST Undertaking as follows:

Particulars	FY 2019-20	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
Base Load (MW)	385	393	401	409	417	425	434	442	451
Peak Demand (MW)	888	905	925	942	961	980	999	1019	1040

- 13.2. As can be seen from above, base load of BEST Undertaking is ranging from 385 to 451 MW and peak load is ranging from 888 to 1040 MW. With extension of PPA with TPC-G till March 2029, 677 MW generating capacity becomes available with BEST Undertaking for meeting its base load and part of peak load. However, whenever cheaper power is available and subject to transmission constraints, thermal units of TPC-G are being backed down to optimise power purchase cost.
- 13.3. BEST Undertaking in its submission has submitted cost benefit analysis of procuring power from M/s SWPGPL by backing down costly thermal units. It has projected savings of Rs. 0.07/kWh (Rs. 37.55 Crore) in FY 2024-24 to Rs.0.20/kWh (Rs. 108.72 Crore) in FY 2030-31. Although the extent of saving in power purchase expenses is subject to Merit Order Dispatch on real time situations, there would be definite saving in power purchase expenses as total tariff proposed in present matter is lower than variable cost of thermal units of TPC-G.
- 13.4. Further proposed medium term power procurement will also reduce the dependence of BEST Undertaking on short term power procurement. Also, in case of surplus situation, BEST can easily sale such power in power market and reduce the impact as variable cost of proposed power procurement is just Rs. 2.78/kWh.
- 13.5. In view of the above analysis, the Commission is of the opinion that BEST's proposal to procure 125 MW power on medium term basis (7 years) will be in the overall interest of consumers and hence the Commission is considering the same.

#### 14. Issue C: Whether the discovered tariff is consistent with the market trend?

- 14.1. The Commission notes that the Petitioner has undertaken the Medium-term power procurement as per the competitive bidding guidelines of MoP dated 30 January 2019 by floating the bids on DEEP portal.
- 14.2. In order to assess the competitiveness of the tariff discovered by the Petitioner in the bidding and further post negotiations, the Commission has referred to recent discovered tariff on DEEP Portal by other buyers and same is tabulated below:

Utility Name	Period of Power Supply	Allotted Qty (MW)	Tariff discovered (Rs. kWh)	Reference
Haryana discom (500 MW)	01.08.2024 to 31.07.2029	110	5.78	114/HPPC/MTT/2024
		127	5.78	
		140	5.78	
Haryana discom (1000 MW)	01.05.2023 to 30.04.2028	100	5.79	104/HPPC/MTPP/2023
		300	5.79	

Utility Name	Period of Power Supply	Allotted Qty (MW)	Tariff discovered (Rs. kWh)	Reference
		100	5.79	
		150	5.79	
		110	5.79	
		160	7.97	
KSEBL (500 MW)	From 15.08.2023:00.00 to 14.08.2028:24.00	303	6.88	Medium/Coal from Linkage Coal/23-24/RA/56
		100	6.88	
Noida Power Company Limited (125 MW)	From 01.04.2020:00.00 to 31.03.2023:24.00	2.54	1.2	Medium/Supply from hydro-electric power station/19-20/RA/66
		47.46	5.46	
GRIDCO Ltd	From 01.07.2024:00.00 to 30.06.2028:24.00	25	6.50	Medium/Lumpsum Tariff/24-25/RA/39
		25	6.50	
		50	6.50	
		100	6.78	

14.3. Considering the recently discovered tariff summarised in the above Table and power exchange rates, the present discovered tariff of Rs. 5.56/kWh seems reasonable and reflective of the current market situation.

14.4. Section 63 of the Electricity Act, 2003 mandates the Commission to adopt the Tariff if such tariff has been discovered through transparent process of bidding in accordance with the guidelines issued by the Central Government.

14.5. In view of the foregoing, the Commission notes that tariff discovered by BEST Undertaking fulfills mandate and requirements for adoption as set out in Section 63 of the EA, 2003. Accordingly, the Commission adopts the following tariff for BEST Undertaking for the period of 7 years i.e., from FY 2024-25 to FY 2030-31.

Name of Bider	Source	Capacity	Tariff (Rs/kWh)
M/s. Sai Wardha Power Generation Pvt. Ltd.	Chandrapur, Maharashtra	125 MW (RTC)	5.56

#### 15. Issue D: Other Issues

15.1. The Commission notes that bidding documents have envisaged power flow from 1 April 2024. However, post bidding negotiations have taken considerable time and the present Petition for adoption of time has been filed only on 16 August 2024 i.e. after the date envisaged for start of power flow in bidding process.

15.2. Further considering possibilities of saving in power purchase cost, BEST Undertaking has also filed IA No. 43 of 2024 requesting urgent hearing of the matter so that post approval of the Commission power flow can be started immediately.

15.3. Considering analysis in earlier part of the Order which demonstrate possibility of saving in power purchase expenses by entering such PPA, the Commission directs BEST Undertaking to sign PPA with M/s SWPGPL on priority and start scheduling the power immediately

thereafter. Copy of the signed PPA be filed within 15 days for records of the Commission.

15.4. In case of non-availability of medium-term Open Access for bringing such power into Mumbai, BEST Undertaking may schedule such power under short term Open Access.

16. Hence, following Order:

**ORDER**

1. **The Petition in Case No. 135 of 2024 is allowed and IA No. 43 of 2024 is disposed of accordingly.**
2. **Under Section 63 of the Electricity Act, 2003, the Commission adopts Medium Term Power Procurement for 7 years by BEST Undertaking as stated in para 14 above.**
3. **BEST Undertaking to schedule power through such PPA under short term Open Access in case of non-availability of Transmission corridor for medium term Open Access.**
4. **BEST Undertaking, to submit copies of Final PPA to the office of the Commission for records, within 15 days.**

Sd/-  
**(Surendra J. Biyani)**  
Member

Sd/-  
**(Anand M. Limaye)**  
Member

Sd/-  
**(Sanjay Kumar)**  
Chairperson

  
**(Dr. Prafulla Varhade)**  
I/c Secretary

