

Before the
MAHARASHTRA ELECTRICITY REGULATORY COMMISSION
World Trade Centre, Centre No.1, 13th Floor, Cuffe Parade, Mumbai 400005
Tel. 022 22163964/65/69
Email: mercindia@merc.gov.in
Website: www.merc.gov.in

IA No. 49 of 2024 in Case No. 156 of 2024

Interlocutory Application (IA) of Maharashtra State Electricity Distribution Company Ltd. (MSEDCL) for urgent listing in Case No. 156 of 2024.

Case No. 156 of 2024

Petition by Maharashtra State Electricity Distribution Company Ltd. (MSEDCL) seeking approval for adoption of tariff discovered through the competitive bidding process held for procurement of 3000 MW (including 2000 MW under Green Shoe option) energy storage capacity (for 8 hours discharge with maximum 5 hours continuous discharge) for 40 years from InSTS connected Pumped Hydro Storage Plant/s.

Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL)...

Petitioner

Coram

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

For the Petitioner

: Mr. Lokesh Chandra (Rep)
Mr. Udit Gupta (Adv)

ORDER

Date: 26 September, 2024

1. Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL) has filed the present Petition being Case No. 156 of 2024 on 16 September 2024 under Section 63 of the Electricity Act, 2003 read with Regulation 21 of the MERC (Multi Year Tariff) Regulations, 2019 and Regulation 39 (c) of MERC (Transaction of Business and Fees & Charges) Regulations, 2022. In present Petition, MSEDCL is seeking adoption of tariff for 3000 MW (including 2000 MW under Green Shoe option) energy storage capacity (for 8 hours discharge with

maximum 5 hours continuous discharge) for 40 years from Intra-State Transmission System (InSTS) connected Pumped Hydro Storage Plant/s.

2. On 16 September 2024, MSEDCL filed IA No.49 of 2024 in Case No.156 of 2024 for urgent listing of matter.
3. The IA along with main matter was listed for hearing on 20 September 2024. The Representative of the Petitioner stated that Petition has been filed for approval of 1000 MW (additional 2000 MW under Green Shoe option) energy storage capacity (for 8 hours discharge with maximum 5 hours continuous discharge) through the competitive bidding process. He narrated the chronology of the events held during the competitive bidding exercise undertaken by MSEDCL. He highlighted that energy storage is necessary for integrating large scale RE power.
4. **MSEDCL’s main prayers are as under:**

“

- a) *To admit the Petition as per the provisions under Section 63 of the Electricity Act, 2003.*
- b) *To accord approval for the procurement of 3000 MW storage capacity (for 8 hours discharge with maximum 5 hours’ continuous discharge) for 40 years from intra-state connected PSP plants from the successful bidders through competitive bidding under tender CEPP/PHSP/T-01 dated 09.03.2024.*
- c) *To accord approval for adoption of tariff for procurement of total 3000 MW (1000 MW bid quantum + additional 2000 MW under green shoe option) energy storage capacity from PSP plant/s through competitive bidding under tender CEPP/PHSP/T-01 dated 09.03.2024 and enter into ESFA with the successful bidders.*

Sr. No	Bidders	Quantum Quoted in bid (MW)	Green Shoe Quantum allotted (MW)	Total Capacity Offered (MW)	Cycle loss in %	Tariff (Annual Fixed Cost in Rs/MW/Annum)
1	JSW Neo Energy Limited	500	1000	1500	24%	Rs. 84,66,129
2	Torrent Power Limited	500	1000	1500	25%	Rs. 83,98,400
	Total Quantum	1000	2000	3000		

- d) *To consider the submission made by the Petitioner and consider the same positively while deciding the Petition;*

.....”

5. **MSEDCL in its Petition has stated as follows:**

5.1. MSEDCL’s power demand is primarily catered by procuring power from the long-term contracts with generation sources such as Maharashtra State Power Generation Company Limited (MSPGCL), NTPC Limited, Nuclear Power Corporation of India Limited (NPCIL), Independent Power Producers and Renewable Energy Generators. In case of any shortfall in generation to cater for the power demand, MSEDCL procures power through short term power purchase tenders/power exchanges. Further, as per available data up to year 2029-2030, MSEDCL will be obligated to purchase power in peak hours in addition to the long-term contracts as currently in place.

5.2. The Report on Resource Adequacy Plan for Maharashtra (MSEDCL) (2024-25 to 2033-34) is published by the Central Electricity Authority (CEA). In that plan, the peak demand projections of MSEDCL are as below:

FY	Energy Projection (MU)	Peak Demand Projection (MW)
2024-25	167746	24963
2025-26	175261	27621
2026-27	183949	30892
2027-28	192180	34298
2028-29	200590	35596
2029-30	210874	37163
2030-31	216301	38726
2031-32	221229	39000
2032-33	230034	40414
2033-34	239511	41956

5.3. CEA also mandates undertaking of ‘Resource Adequacy Studies’ of distribution utilities on an annual rolling basis considering the contracted capacity as part of the system and optimisation required for additional capacity. The Distribution Licensees are also required to demonstrate to the Commission, it’s plan to meet their peak demand and energy requirement with a mix of long-term, medium-term and short-term contracts, including through power exchanges.

5.4. On 28 June 2023, the Govt. of India has issued guidelines for Resource Adequacy Planning Framework for India with key objectives to ensure that adequate generation capacities are available, round-the-clock, to reliably serve demand under various scenarios. In line with the guidelines, the Commission has also formulated the MERC (Framework for Resource Adequacy) Regulations, 2024 (**RA Regulations-2024**).

- 5.5. The RA Regulations-2024 entails the planning of generation and transmission resources for reliably meeting the projected demand in compliance with specified reliability standards for serving the load with an optimum generation mix. The MERC RA Regulations Framework also mandates that any non-compliance in terms of the said regulations would result in non-compliance charges being applicable to the Distribution Licensee.
- 5.6. Further, the Ministry of Power, vide its notification dated 22 July 2022 has notified the Renewable Purchase Obligation, Hydro Purchase Obligation and Energy Storage Obligation trajectory till FY 2029-30. In line with the said notification, the Commission quantified RPO norms vide a notification dated 10 October 2023.
- 5.7. CEA has conducted the Resource Adequacy study for MSEDCL, and the capacity projected by CEA considering 'Loss of Load Probability' and 'Expected Energy Not Served' is as under:

	Year	Coal	Gas	Nuclear	Bagasse + Biomass	Hydro	Wind	Solar	Hybrid (wind + Solar)	STOA/OA	Storage (4 Hours) + PSP	Total
CEA	2033-34	27562	1076	1186	3439	3949	15905	30285	0	1457	2668	87528

The present contracted and consented capacity of MSEDCL is as below:

	Coal	Gas	Nuclear	Bagasse + Biomass	Hydro	Wind	Solar	Hybrid (wind + Solar)	FDRE	Storage (4 Hours) + PSP	Total
MSEDCL	22733	1077	1191	3439	4273	3905	24785	2880	1468	574	66325

Thus, capacity addition required by MSEDCL by FY 2033-34 is as under:

	Coal	Gas	Nuclear	Bagasse + Biomass	Hydro	Wind	Solar	Hybrid (wind + Solar)	DRE	Storage (4 Hours) + PSP	Total
MSEDCL	4829	0	0	0	0	12000	5500	0	12693	2094	37116

- 5.8. As per CEA RA Study report, capacity addition proposed for wind Generation will be 12000 MW which is considering the fungibility aspects in the RPO and same may be on higher side than the capacity requirement for meeting Wind RPO. Hence, MSEDCL has requested to CEA vide its letter dated 02 September 2024 to revise the study by restricting wind capacity. In response to MSEDCL letter, CEA vide email dated 02 September 2024, has intimated that MSEDCL need to contract exorbitant (Solar + storage) capacity to meet the RPO as well as demand at all instances.

5.9. In view of above, MSEDCL proposed to procure 3000 MW of power through PSP.

5.10. MSEDCL Tender and Approval of the Commission

5.10.1. In light of the requirements to boost resource adequacy and ensure stable power to its consumer, MSEDCL floated a tender for procurement of 2000 MW (additional 1000 MW under green shoe option) Energy Storage Capacity (for 8 Hours discharge with maximum 5 Hours continuous discharge) for 40 years from 'ISTS/InSTS Connected Pumped Hydro Storage Plant/s' through competitive bidding on 9 March 2024.

5.10.2. Subsequently, MSEDCL filed a Petition on 13 June 2024 (Case No. 98 of 2024) before the Commission seeking approval for the tender in respect of 'Procurement of Energy Storage Capacity for 40 Years' and bidding documents comprising of the Request for Selection and Energy Storage Facility Agreement (ESFA).

5.10.3. The Commission vide its Order dated 12 July 2024 accorded its approval to:

- Initiating process for procurement of 2000 MW (including additional 1000 MW under Green Shoe Option) Pumped Storage Capacities on long term basis through competitive bidding; and
- the RfS and ESFA for Pumped Hydro Storage projects.

5.10.4. Subsequently, MSEDCL proposed to procure additional 1000 MW of power under the green shoe option (i.e., a total 2000 MW under green shoe option) from Pump Storage Project to add to firm resources to fulfil the shortfall of 2418 MW. This additional 1000 MW under green shoe option was proposed for achieving cost economics.

5.10.5. In view of the above, MSEDCL proceeded to file a Petition in Case No.109 of 2024 on 18 July 2024 for approval of an additional capacity of 1000 MW energy storage capacity under the green shoe option such that the total capacity that may be procured under such green shoe option is 2000 MW.

5.10.6. The Commission vide its order dated 24 July 2024 approved the additional green shoe quantum proposed by MSEDCL such that total power procured from the PSP would be up to 4000 MW (2000 MW + 2000 MW under green shoe option). The Commission was of the view that such PSP capacity will not only help MSEDCL in complying with storage obligations under the MERC (Renewable Purchase Obligation, Its Compliance and Implementation of Renewable Energy Certificate Framework) Regulations, 2019 but

will also help in providing storage facility for its upcoming renewable energy projects being contracted through competitive bidding process.

5.11. Events of Bid Opening and Reverse Auction for Discovery of Tariff

5.11.1. MSEDCL proceeded with the competitive bidding process and opened the technical bid in terms of the RfS on 29 July 2024. On the said date, the following five (5) bidders submitted their bids:

Sr. No.	Bidder Name	BG Amt (in Rs Crs)	Capacity Offered	
			MW	MWh
1	Adani Saur Urja (KA)Limited	25	500	4000
2	Rithwik Projects Pvt Ltd	40	800	6400
3	Greenko MH 01 IREP Pvt. Ltd	60	1200	9600
4	Torrent Power Ltd.	75	500	4000
5	JSW Neo Energy Ltd.	75	500	4000
	Total		3500	28000

5.11.2. The technical evaluation of the bid submission was carried out as per the terms and conditions of the RfS and all the bidders were found to be technically qualified.

5.11.3. The financial bids of the bidders were opened on 2 August 2024. The rates quoted by bidders were as below:

Name of the Bidder	Quoted Capacity in MW	Quoted Tariff Annual Fixed Charges (AFC) in Rs/MW/annum	Cycle Loss in %	Total Storage Cost =AFC + (AFC *% Cycle Loss) in Rs/MW/annum (Evaluation criteria)	Position of Bidders as per Evaluation criteria
JSW Neo Energy Limited	500	Rs. 1,32,00,000	24.00%	Rs. 1,63,68,000	L1
Rithwik Projects Private Limited	800	Rs. 1,35,00,000	21.80%	Rs. 1,64,43,000	L2
Adani Saur Urja (KA) Limited	500	Rs. 1,33,67,000	25.00%	Rs. 1,67,08,750	L3
Greenko MH01 IREP Private Limited	1200	Rs. 1,38,00,000	21.85%	Rs. 1,68,15,300	L4
Torrent Power Limited	500	Rs. 1,35,75,000	25.00%	Rs. 1,69,68,750	L5

- 5.11.4. The rates discovered in terms of the bids submitted was in the range of Rs. 1,63,68,000/MW/Annum to Rs. 1,69,68,750/MW/Annum in accordance with the tender specifications. After considering cost of input power at the rate of Rs. 2.70 - 2.90 per unit, the effective cost in respect of the above discovered storage cost will in the range of Rs. 8.58 to Rs 8.77 per unit. MSEDCL found that Annual Fixed Charges quoted by the bidders are on the higher side.
- 5.11.5. Further, the rates in the power exchanges for the peak hours are up to Rs. 6.52/kWh and also in respect of short-term tenders is around Rs. 7.83/kWh. Therefore, in order to have an effective cost from PSP, it was determined that the storage cost per unit should be in the range of Rs. 6.75 to Rs 7.00 / kWh so that the power from the PSP can replace the power procured from exchanges/ short term contracts. Accordingly, MSEDCL decided to fix a ceiling price of Rs. 1,05,00,000/MW/annum for the Storage Cost and conducted the e-RA to discover economical rates. With the Ceiling Price, the effective power procurement cost from the PSP would be in the range of Rs. 6.73 to 6.80/kWh.
- 5.11.6. As per tender terms and conditions, only annual fixed charges are to be paid to the bidders and there is no escalation like thermal capacity. Therefore, no change in law is applicable to such projects and further considering the flexibility in utilization of power from such PSPs, the procurement of power from PSPs on a long-term basis is beneficial.
- 5.11.7. Two bidder's M/s. Torrent Power Limited and M/s. JSW Neo Energy Limited have offered a tariff below the Ceiling Price in the e-RA. The results of the e-RA are as follows:

Name of the Bidders	Quoted Capacity in MW	Quoted Tariff Annual Fixed Charges (AFC) in Rs/MW/annum	Cycle Loss in %	Total Storage Cost =AFC + (AFC *% Cycle Loss) in Rs/MW/annum (Evaluation criteria)	Position of Bidders as per Evaluation criteria
JSW Neo Energy Limited	500	Rs. 84,66,129	24.00%	Rs. 1,04,98,000	L1
Torrent Power Limited	500	Rs. 83,98,400	25.00%	Rs. 1,04,98,000	L2
Adani Saur Urja (KA) Limited	500	Rs. 1,10,03,200	25.00%	Rs. 1,37,54,000	L3
Rithwik Projects Private Limited	800	Rs. 1,35,00,000	21.80%	Rs. 1,64,43,000	L4

Name of the Bidders	Quoted Capacity in MW	Quoted Tariff Annual Fixed Charges (AFC) in Rs/MW/annum	Cycle Loss in %	Total Storage Cost =AFC + (AFC *% Cycle Loss) in Rs/MW/annum (Evaluation criteria)	Position of Bidders as per Evaluation criteria
Greenko MH01 IREP Private Limited	1200	Rs. 1,37,91,792	21.85%	Rs. 1,68,05,299	L5

5.12. Effective Cost of Power Procurement from Pumped Hydro Storage System with Discovered Tariff

5.12.1. MSEDCL has considered following:

- Input energy for pumping (charging) would be in the range of Rs. 2.70/kWh to Rs. 2.90/ kWh during the solar hours,
- Total 8 hours discharge,
- Availability of 90% of storage facility, and
- Lowest discovered tariff.

Taking into consideration all such factors, the effective cost of power procurement from the successful bidders for the PSPs works out as below:

Particular	ETS-IN-2021- RS0000180 (JSW Neo Energy Limited)	ETS-IN-2020- RS0000192 (Torrent Power Limited)
Quoted Capacity in MW (A)	500	500
Annual Fixed Charges (AFC) in Rs/MW/Annum as per quoted tariff (B)	Rs. 84,66,129	Rs. 83,98,400
Quoted Cycle Loss in % (maximum 2 digit after decimal) (C)	24%	25%
As per evaluation criteria Quoted total Storage Cost Rs/MW/Annum (Quoted in second e-RA) (considering Cycle loss) (D= A+ (B* C)	Rs. 1,04,98,000	Rs. 1,04,98,000
Annual Generation MUs for 8 hrs discharge with 90% Availability of storage system (E = A* 8* 0.90)	1314	1314
Annual Fixed cost (in Rs) F = A*B	Rs. 4,23,30,64,516	Rs. 4,19,92,00,000
Pumping MUs requirement by considering quoted cycle loss G = E /(1- C)	1729	1752
Annual Pumping Cost by considering pumping power at Rs. 2.70 per unit (in Rs) (H= C * 2.70 * 10 ⁶)	Rs. 4,66,81,57,895	Rs. 4,73,04,00,000
Total cost (Pumping + Generation) (in RS) (I = H + F)	Rs. 8,90,12,22,411	Rs. 8,92,96,00,000
Effective Per Unit Cost (Rs/Unit) (J = I/E)	Rs. 6.77	Rs. 6.80
Fixed Cost (Rs/unit) (K = F/E)	Rs. 3.22	Rs. 3.20

5.12.2. MSEDCL has received offers from following projects:

- Tehri Pumped Storage Plant (1000 MW) at the rate of Rs. 9.70/kWh;
- Naitwar Mori Hydro Electric Power Projects (NMHEP) of SJVN Ltd. at the rate of Rs. 9.51/kWh.

Further, the levelized tariff of some of the upcoming PSPs i.e., Kurukutti PSH (1200 MW) and MP30 Gandhi Sagar PSH is up to Rs 7.85 per unit.

5.12.3. The energy rates in the open market for the last three years for the period from 06:00 to 08:00 hrs and 18:00 to 22:00 hrs are around Rs 6.52 per unit. Escalating these rates with 3% per annum up to 2029-30, these rates will be around Rs 7.56 per unit.

5.12.4. In light of above rates for PSP, the effective per unit cost of bidders i.e., JSW Neo Energy Limited and Torrent Power Limited will be beneficial to MSEDCL. Further as

both the projects are within the state of Maharashtra, there will not be any burden of transmission charges and losses on MSEDCL.

5.13. Quantum offered by bidders with Green Shoe Option

5.13.1. The current tender for PSP is for procurement of 2000 MW with additional green shoe of 2000 MW of power. The total capacity offered and capacity under green shoe option by the successful bidders are as follows:

Bidder	Quantum offered in bid (MW)	Green Shoe Quantum offered MW	Total Capacity Offered (MW)	Rank
JSW Neo Energy Limited	500	1000+1000*	2500	L1
Torrent Power Limited	500	1000	1500	L2
Total Quantum	1000	3000	4000	

* M/s JSW Neo Energy Limited has offered additional 1000 MW under green shoe from Pane PHSP project in Raigad district. For this it is requested for extension in SCOD by 12 months.

5.13.2. As per the offer submitted by the successful bidder under Green Shoe, MSEDCL proposed to allocate the Green Shoe quantum as below:

Bidder	Quantum offered in bid (MW)	Green Shoe Quantum allotted MW	Total Capacity Offered (MW)	Rank
JSW Neo Energy Limited	500	1000	1500	L1
Torrent Power Limited	500	1000	1500	L2
Total Quantum	1000	2000	3000	

Commission’s Analysis and Rulings:

6. The Commission notes that MSEDCL has filed this Petition under Section 63 of the Electricity Act, 2003 read with Regulation 21 of the MERC MYT Regulations 2019 and Regulation 39 (c) of MERC (Transaction of Business and Fees & Charges) Regulations, 2022. In present Petition, MSEDCL is seeking adoption of tariff for procurement of total 3000 MW (1000 MW bid quantum + additional 2000 MW under green shoe option) energy storage capacity from PSP plant/s through competitive bidding. Discovered Annual Fixed Cost and Cycle Loss (%) is as follows:

Sr. No	Bidders	Quantum Quoted in bid (MW)	Green Shoe Quantum allotted (MW)	Total Capacity Offered (MW)	Cycle loss (%)	Tariff (Annual Fixed Cost in Rs/MW/Annum)
1	JSW Neo Energy Limited	500	1000	1500	24%	Rs. 84,66,129
2	Torrent Power Limited	500	1000	1500	25%	Rs. 83,98,400
	Total Quantum	1000	2000	3000		

7. Before delving into merits of the matter, it would be appropriate to highlight previous proceedings in the matter as tabulated below:

Date	Particulars
13.06.2024	- MSEDCL approached the Commission by way of Petition in Case No. 98 of 2024 wherein it sought the Commission's approval for procurement of 2000 MW (additional 1000 MW under Green shoe arrangement) through competitive bidding process.
12.07.2024	- The Commission vide its Order in Case No.98 of 2024 accorded its approval to Request for Selection (RfS) & Energy Storage Facility Agreement (ESFA) documents and concurred to initiate the competitive bidding process.
19.07.2024	- MSEDCL filed Petition in Case No.109 of 2024 seeking directions and clarifications in respect of the Commission's Order dated 12 July 2024 in Case No.98 of 2024. - MSEDCL pointed out that the Commission in its Order dated 12 July 2024 mentioned minimum annual availability of the project as 95% instead of 90%. - Further, MSEDCL informed that it has received a good response to bids and intends to increase the Green Shoe option by 1000 MW. It means that if Green Shoe option is exercised then MSEDCL will be able to contract total 4000 MW PSP capacity
24.07.2024	- The Commission vide its Order in Case No.109 of 2024 corrected typographical error in annual availability from 90% instead of 95%. - Further, the Commission approved additional quantum of 1000 MW under Green shoe option.

8. Considering the above background and submissions on record, the Commission frames following issues for its consideration:

(A) Whether fair Competitive bidding process has been followed or not?

(B) Bid evaluation parameters.

(C) Whether tariff discovered through competitive bidding is in accordance with market condition.

9. **Issue (A): Whether fair Competitive bidding process has been followed or not?**

9.1. The Commission notes that Ministry of Power vide its notification dated 10 April 2023 issued 'Guidelines to promote development of Pumped Storage Projects'. It is evident that these guidelines are broad guidelines which covers projects awarded in following manner:

(a) On nomination basis to CPSUs and State PSUs;

(b) Allotment through competitive bidding;

(c) Allotment through TBCB;

(d) Self-identified off-stream Pumped Storage projects.

Although award of project through TBCB has been mentioned in Guidelines but competitive bidding guidelines under Section 63 of the Electricity Act 2003 has not been stipulated. In absence of which, MSEDCL has designed the bidding document. The Commission in its Order dated 12 July 2024 in Case No.98 of 2024 dealt with RfS major conditionalities and accorded its approval to the same.

9.2. The Commission notes that for power procurement, MSEDCL has circulated the following documents:

a. Request for Selection (RfS)

b. Energy Storage Facility Agreement (ESFA)

9.3. MSEDCL floated the tender on 9 March 2024 for procurement of 2000 MW (additional 1000 MW under Green Shoe option) energy storage capacity (for 8 hours discharge with maximum 5 hours continuous discharge). Subsequently, tendered capacity has been increased.

In response, (5) bids of cumulative capacity of 3500 MW (28000 MWh) were received. All bids were found technically qualified and hence financial bids were opened on 2 August 2024. The rates discovered in terms of the bids submitted was in the range of Rs. 1,63,68,000/MW/Annum to Rs. 1,69,68,750/MW/Annum.

Considering high rates, MSEDCL decided to fix the ceiling price to Rs.1,05,00,000/- for total storage cost. With the ceiling rate, MSEDCL conducted e-Reverse Auction process. The bidders have not objected to specification of ceiling rates. It is evident that only (2) bidders i.e. M/s Torrent Power Ltd. and M/s. JSW Neo Energy Ltd. have offered a tariff below the ceiling price.

9.4. **The Commission notes that MSEDCL has conducted transparent process of competitive bidding. Further (5) bids with 3500 MW capacity have been received which represent the competition amongst the bidders. Hence, the Commission concludes that fair competitive bidding process has been followed.**

10. **Issue (B)- Bid evaluation parameters**

10.1. As per RfS document following are the bidding components:

- a. Selection of bidders shall be through a competitive bidding process, based on the lowest quoted Total Storage Cost discovered (expressed in INR/MW/annum) during E-Reverse Auction.
- b. Bidder shall quote the combination of the following:
Component A: Annual Fixed Charges (AFC) (expressed in INR/MW/annum) and
Component B: Cycle Loss (CL) (expressed in %)
- c. The selection of Bidder/s is based on Total Storage Cost discovered through E-Reverse Auction process as per this Tender.
Total Storage Cost = Component A+ (Component A x Component B)

10.2. For successful bidders, Total Stage Cost is as below:

Particular	JSW Neo Energy Limited	Torrent Power Limited
Quoted Capacity in MW	500	500
Component A- Annual Fixed Charges (AFC) in Rs/MW/Annum	Rs. 84,66,129	Rs. 83,98,400
Component B- Quoted Cycle Loss in %	24%	25%
Total Storage Cost = Component A+ (Component A x Component B) (Quoted in second e-RA)	Rs. 1,04,98,000	Rs. 1,04,98,000

The discovered Total Storage cost is well within the ceiling specified by MSEDCL.

10.3. **The Commission further notes that cycle loss quoted by the bidders is 24 to 25%, which is in consonance with minimum cycle efficiency of 75% stipulated for PSP in MERC (Multi Year Tariff) Regulations 2024.**

11. **Issue (C)- Whether tariff discovered through competitive bidding is in accordance with market condition.**

11.1. Generally, market reflectiveness of proposed/discovered tariff is tested by comparing it with similarly placed projects. After considering cost of pumping, MSEDCL has worked out following effective per unit cost:

Sr. No.	Bidder	Effective Tariff (Rs./kWh)
1	JSW Neo Energy Ltd.	6.77
2	Torrent Power Ltd.	6.80

To justify the Annual Fixed Cost, MSEDCL has referred to offers received from following projects:

Particulars	Capacity	Tariff (Rs/ kWh)
Tehri Pumped Storage Plant (TPSP)	1000	9.70
Naitwar Mori Hydro Electric Power Project	60	9.51
Upcoming Projects		
Kurukutti PSH	1200	~7.75
MP 30 Gandhi Sagar PSH	1440	

11.2. The Commission notes that tariff discovered by MSEDCL are lower than tariff stated above. However, it is pertinent to note that Annual Fixed Cost of a typical PSP is different for Open loop and close loop projects. From documents on record, the location of above stated projects are not known, and its type is also not categorically mentioned. In such a

scenario, it is not correct to just compare the tariffs offered by these projects. Further, important information such as discharge cycle duration, availability (%) and pumping power conditions are also not known.

- 11.3. **As the PSP contracted power will displace short term procurement during peak season, the Commission finds it appropriate to compare the effective tariff (derived from Annual Fixed cost + Pumping cost of PSP) with MSEDCL’s short term procurement.**

The Commission in following Orders has approved short term procurement for peak season months i.e. October and March to May of the calendar year. The below mentioned short term power procurement has been done through DEEP portal:

Sr. No.	MERC Order	Period of procurement	Tariff
1	Case No.190 of 2023 dated 22 November 2023	1 October 2023 to 31 October 2023 and 1 March 2024 to 31 May 2024	Rs.7.52 to 7.90/ kWh
2	Case No.148 of 2022 dated 30 August 2022	1 October 2022 to 31 October 2022 and 1 March 2023 to 31 May 2023	Rs.7.44 to 7.85/ kWh

Thus, effective tariff of RE stored in PSP (Rs. 6.77 to 6.80 / kWh) will be lower than above short-term power procurement rate of MSEDCL.

- 11.4. Further, such PSP will act as storage facility for energy generated from RE sources which cannot be consumed at the time of generation. RE being must run, it cannot be backdown and if not consumed it will be required to sell in market at whatever available rate (may be below the cost of procurement of such RE) for avoiding underdrawl deviation scenario of Discom. Under such scenario, PSP will provide much needed storage facility and help to optimize its power purchase cost. Further as per MERC RPO (First Amendment) Regulations 2024, MSEDCL is bound to fulfill its Energy Storage Obligation. Hence, long term procurement from PSP proposed in the present petition would help in meeting such Energy Storage Obligations.
- 11.5. Also, 40 years PPA term proposed in present Petition is consistent with 40 years life of PSP considered in MERC (Multi Year Tariff) Regulations, 2024.
- 11.6. **Considering the above, the Annual Fixed Cost quoted by M/s. JSW Neo Energy Ltd. and M/s. Torrent Power Ltd. is analogous to market conditions. Accordingly, the present discovered tariff seems reasonable and reflective of the current market situation. Section 63 of the Electricity Act, 2003 mandates the Commission to adopt**

the Tariff if such tariff has been discovered through transparent process of competitive bidding. In view of the foregoing, the Commission notes that tariff discovered by MSEDCL fulfills mandate and requirements for adoption as set out in Section 63 of the EA, 2003. Accordingly, the Commission adopts the following tariff for MSEDCL:

Sr. No	Bidders	Quantum Quoted in bid (MW)	Green Shoe Quantum allotted (MW)	Total Capacity Offered (MW)	Cycle loss (%)	Tariff (Annual Fixed Cost in Rs/MW/Annum)
1	JSW Neo Energy Limited	500	1000	1500	24%	Rs. 84,66,129
2	Torrent Power Limited	500	1000	1500	25%	Rs. 83,98,400
	Total Quantum	1000	2000	3000		

12. Hence, the following Order:

ORDER

1. Petition in Case No. 156 of 2024 is allowed and IA No.49 of 2024 is disposed of accordingly.
2. As stated in Para (11.6) above, the Commission adopts tariff discovered through competitive bidding under Section 63 of the Electricity Act 2003 for procurement of 3000 MW (including 2000 MW under Green Shoe option) energy storage capacity for 40 years from Pumped Hydro Storage Plant/s.
3. MSEDCL shall file signed copies of Energy Storage Facility Agreements (ESFAs) for record of the Commission.

Sd/-
(Surendra J. Biyani)
Member

Sd/-
(Anand M. Limaye)
Member

Sd/-
(Sanjay Kumar)
Chairperson


 (Dr. Prafulla Varhade)
 I/c Secretary

