

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 174/TT/2018**

**Coram:**

**Shri P. K. Pujari, Chairperson**

**Dr. M. K. Iyer, Member**

**Shri I. S. Jha, Member**

**Date of Order: 28.06.2019**

**In the matter of:**

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for determination of Transmission Tariff from DOCO to 31.03.2019 for assets under Conversion of Fixed Line Reactors to Switchable Line Reactors in Southern Region.

**And in the matter of:**

Power Grid Corporation of India Limited  
"Saudamini", Plot No.2,  
Sector-29, Gurgaon -122 001

**.....Petitioner**

**Vs**

1. Karnataka Power Transmission Corporation Ltd. (KPTCL),  
Kaveri Bhavan, Bangalore – 560 009.
2. Transmission Corporation of Andhra Pradesh Ltd. (APTRANSCO),  
Vidyut Soudha, Hyderabad – 500 082.
3. Kerala State Electricity Board (KSEB),  
Vaidyuthi Bhavanam, Pattom, Thiruvananthapuram – 695 004.
4. Tamil Nadu Electricity Board (TNEB),  
NPKRR Maaligai, 800, Anna Salai, Chennai – 600 002.
5. Electricity Department,  
Government of Goa, Vidyuti Bhawan, Panaji, Goa – 403 001.
6. Electricity Department,  
Govt. of Pondicherry, Pondicherry – 605 001.



7. Eastern Power Distribution Company of Andhra Pradesh Ltd. (APEPDCL), APEPDCL, P&T Colony, Seethmmadhara, Vishakhapatnam, Andhra Pradesh.
8. Southern Power Distribution Company of Andhra Pradesh Ltd. (APSPDCL), Srinivasasa Kalyana Mandapam Backside, Tiruchanoor Road, Kesavayana Gunta, Tirupati – 517 501.
9. Central Power Distribution Company of Andhra Pradesh Ltd. (APCPDCL), Corporate Office, Mint Compound, Hyderabad – 500 063.
10. Northern Power Distribution Company of Andhra Pradesh Ltd. (APNPDCL), Opp. NIT Petrol Pump, Chaitanyapuri, Kazipet, Warangal – 506 004.
11. Bangalore Electricity Supply Company Ltd. (BESCOM), Corporate Office, K.R. Circle, Bangalore – 560 001.
12. Gulbarga Electricity Supply Company Ltd. (GESCOM), Station Main Road, Gulbarga, Karnataka.
13. Hubli Electricity Supply Company Ltd. (HESCOM), Navanagar, PB Road, Hubli, Karnataka.
14. MESCOM Corporate Office, Paradigm Plaza, AB Shetty Circle, Mangalore – 575 001.
15. Chamundeswari Electricity Supply Corporation Ltd. (CESC), #927, L J Avenue, Ground Floor, New Kantharaj URS Road, Saraswatipuram, Mysore – 570 009.
16. Transmission Corporation of Telangana Ltd., Vidhyut Sudha, Khairatabad, Hyderabad – 500 082.

.....Respondents

**Parties present** : Shri S. S. Raju, PGCIL  
Shri S. K. Venkatesan, PGCIL  
Shri Amit Yadav, PGCIL  
Shri Vivek Kumar Singh, PGCIL  
Shri Zafrul Hasan, PGCIL

### **ORDER**

The petitioner, Power Grid Corporation of India Limited (hereinafter referred to as "PGCIL") has filed the instant Petition for approval of transmission tariff, from COD to 31.03.2019, for assets under conversion of Fixed Line Reactors to



Switchable Line Reactors in Southern Region (hereinafter referred to as "the instant assets") based on actual COD of Asset-I (i.e. 26.2.2018) and anticipated COD of Asset-II (i.e. 28.3.2018) & Asset-III (1.5.2018), in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations"). Subsequently, the petitioner vide affidavit dated 4.12.2018 submitted the revised COD details of Asset-II and Asset-III (a).

2. The petitioner was entrusted with the implementation of conversion of Fixed Line Reactors (hereinafter referred to as "FLR") to Switchable Line Reactors (hereinafter referred to as "SLR") in Southern Region (hereinafter referred to as "project"). The petitioner has submitted that the scheme was discussed and agreed in the 38<sup>th</sup> & 39<sup>th</sup> Meeting of Standing Committee (hereinafter referred to as "SCM") on Power System Planning in SR held on 7.3.2015 & 29.12.2015, respectively and also in 29<sup>th</sup> SRPC meetings held on 5.3.2016. Further, the Empowered Committee on Transmission during its 36<sup>th</sup> meeting held on 26.7.2016 has recommended that the present scope has to be implemented by the petitioner. Further, part of the scheme [i.e. Conversion of FLR to SLR at Hyderabad end for Malakaram-Hyderabad II (Upto LILO point)] as approved in the 39<sup>th</sup> SCM was discussed and deleted in the 42<sup>nd</sup> SCM on Power System Planning in SR held on 27.4.2018.

3. The Investment Approval (hereinafter referred to as "IA") for implementation of the project was accorded by the Competent Authority of the petitioner company on 28.2.2017 (communicated vide Memorandum Ref.: C/CP/PA 1617-03-0T-IA-018 dated 7.3.2017), at an estimated cost of ₹22.75 Crores including IDC of ₹1.08 Crores, based on August, 2016 price level. As per IA, the project was scheduled to



be commissioned within 18 months from the date of IA. Accordingly, the scheduled date of commercial operation (hereinafter referred to as "SCOD") of the project / instant assets is 27.8.2018.

4. The broad scope of work covered under the project as per IA is as follows:

S. No.	Transmission Line	Reactor (MVAR)		Remarks
		Sending End	Receiving End	
1	Gazwel-Hyderabad II	--	50	Line Reactor at Hyderabad end to be made switchable
2	Nellore-Tiruvellam I & II	50	50	Line Reactor at both ends to be made switchable
3	Sriperumbadur-Chittoor	50	--	Line Reactor at Sriperumbadur end to be made switchable
4	Udumalpet-Salem II	63	--	Line Reactor at Udumalpet end to be made switchable
5	Madurai-Karaikudi	63	--	Line Reactor at Madurai end to be made switchable
6	Sriperumbadur-SV Chatram	50	--	Line Reactor at Sriperumbadur to be made switchable
7	Kochi-Tirunelveli - I & II	63	63	Line Reactor at Kochi end to be made switchable. Line Reactor at Tirunelveli end to be retained as FLR
8	Madurai-Trichy	50	--	Line Reactor at Madurai end to be made switchable
9	Trichy-Nagapattinam I	50	--	Line Reactor at Trichy end may be made switchable
10	Trichy-Nagapattinam II	63	--	Line Reactor at Trichy end to be made switchable
11	Salem-Hosur II	50	--	Reactor at Salem end to be made switchable
12	Malakaram-Hyderabad II (Upto LILo point)	--	50	Reactor at Hyderabad to be made switchable
13	Kurnool-Gooty	--	50	Reactor at Gooty to be made switchable

5. The instant Petition covers following assets:

Name of Assets (covered under scope of work of project)	COD
<b>Asset-I:</b> Conversion of FLR to SLR – (a) at Madurai end of Madurai-Karaikudi line, (b) at Madurai end of Madurai-Trichy line, (c) at Salem end of Salem-Hosur II line, (d) at Udumalpet end of Udumalpet-Salem II line, (e) at Thiruvallur end on both circuits of Nellore-Thiruvallur I & II, (f) at Trichy end of Trichy-Nagapattinam-I line, (g) at Trichy end of Trichy-Nagapattinam-II line, (h) at Sriperumbadur end of Sriperumbadur-Chittoor line, (i) at Sriperumbadur end of Sriperumbadur-SV Chatram line.	26.2.2018



<b>Asset-II:</b> Conversion of 63 MVAR FLR at both circuits of Kochi-Tirunelveli I & II lines into SLR.	25.6.2018
<b>Asset-III (a)</b> Conversion of FLR to SLR at – (i) Hyderabad end for Gajwel-Hyderabad II, (ii) Nellore end for Nellore-Thiruvalem I & II, (iii) Gooty end for Kurnool-Gooty line.	24.5.2018
<b>Asset-III (b)</b> Conversion of FLR to SLR at Hyderabad end for Malakaram-Hyderabad II (Upto LILO point).	*

\* Deleted from the scope of work due to unavailability of adequate electrical clearance and was discussed and agreed in the 42<sup>nd</sup> SCM on Power System Planning in SR held on 27.4.2018.

6. The details of the transmission charges (or annual fixed charges) claimed by the petitioner are as under:

(₹ in lakh)

Particulars	Asset-I		Asset-II	Asset-III
	2017-18 (pro-rata)	2018-19	2018-19 (pro-rata)	2018-19 (pro-rata)
Depreciation	3.77	48.88	8.67	16.70
Interest on Loan	3.86	47.97	8.76	16.68
Return on Equity	4.20	54.46	9.66	18.60
Interest on Working Capital	3.47	39.24	5.81	12.78
O&M Expenses	61.36	687.10	105.36	234.94
<b>Total</b>	<b>76.66</b>	<b>877.65</b>	<b>138.26</b>	<b>299.70</b>

7. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act. Reply to the petition has been filed by TANGEDCO vide its affidavit dated 13.6.2018 and the petitioner vide its affidavit dated 10.12.2018 filed its rejoinder in the matter.

8. TANGEDCO vide affidavit dated 13.6.2018 has submitted that the Planning of a transmission system should be comprehensive in all aspects including possible repercussions. In the present scheme, while going in for LILO, possibility of over compensation has not been considered at all.



9. In response, the petitioner vide affidavit dated 10.12.2018 has submitted that based on system requirements and studies, fixed line reactors are installed in transmission lines to facilitate charging and to contain Dynamic Over Voltage (hereinafter referred to as "DOV") within limits. However, due to reduction in line length of old lines with LILO at certain nodes, the reactive power compensation requirement gets changed. Low voltage conditions require the switching off of shunt reactors whereas high voltage conditions require the reactors to be brought back online which can only be possible in case of SLR. So the studies were carried out to make FLR as switchable reactor so that it can be switched off at peak load conditions. Especially for line length above 100 km, DOV studies should necessarily be performed. After detailed deliberations in various SCM meeting, DOV studies were carried out & looking into the enhanced reliability and utility as per the grid conditions, it was agreed that FLR may be converted to SLR.

10. The petition was heard on 13.12.2018 and the Commission vide Record of Proceeding (hereinafter referred to as "RoP") held as under:

*"2. The Commission observed that as per the submissions of the petitioner, the instant petition is for determination of tariff for the conversion of the fixed line reactors in the Southern Region to switchable line reactors. The tariff for the existing line reactors in various sub-stations must have already been granted in different petitions and the petitioner should have claimed the cost of the conversion from fixed to switchable line reactors in the respective tariff petitions. The Commission also observed that grant of the conversion charges in the instant petition would amount to grant of two streams of tariffs for the same reactor. The Commission directed the petitioner to give reasons for converting the line reactor to switchable line reactors and not claiming these conversion charges from fixed to switchable reactors in the concerned petitions though a separate Investment Approval was granted for the said conversions. The Commission also stated that the tariff for the instant reactors would be considered after the receipt of the above said reasons."*



11. In response, the petitioner vide affidavit dated 7.1.2019 has submitted as under:

*"it is submitted that the fixed line reactors, which have been converted into switchable in the subject scheme, were installed in various transmission lines of Southern Region as per reactive compensation requirement mainly dependent upon line lengths. However, over a period of time due to reduction in line lengths generally after LILO at certain nodes, various lines are being overcompensated with the existing fixed Reactors thereby necessitating conversion of such fixed line reactors to switchable line Reactors so as the same may be utilized as Bus Reactors as and when needed. Accordingly, the subject scheme for converting the fixed line reactors to switchable line reactors was discussed and agreed in the 38th & 39th Standing Committee meeting on Power System Planning in Southern Region held on 07.03.2015 & 28-29.12.2015 respectively and also discussed in 29th SRPC meeting held on 05.03.2016. Further, Empowered Committee on Transmission during its 36th meeting held on 26.07.2016 at CEA, New Delhi has recommended that the present scope of the scheme has to be implemented by POWERGRID. Accordingly, a consolidated investment approval involving work at various locations of Southern Region to be completed in similar time frame was obtained for the same.*

*The subject scope of works involves making the Fixed Line Reactors into switchable at various substations in Southern Region, by providing additional bay (Circuit Breaker etc.) as switching arrangement for the said Reactors. The said switching arrangement acts for switching (ON/ OFF) the said reactors in live line condition as per system requirement (depending upon upon the system voltage condition) by the system operator independent of line.*

*Tariff for the consolidated scheme has been claimed in the instant petition in line with investment approval corresponding to the agreed scheme in various forums i.e. SCM, RPC & Empowered Committee on Transmission. The subject scheme involves comparatively significant capital cost which needs to be recovered through tariff claimed in the instant petition ensuring petitioner's commitment towards repayment of loans as well as fulfilling other related commitments of the instant investment under the subject project."*

12. Subsequently, the petition was again heard on 28.2.2019 and the Commission while reserving the order directed the petitioner to submit the details of the Petitions where the existing FLR were allowed tariff and status of de-capitalization, if any, claimed in the corresponding petitions because of such conversion of reactors.

13. In response, the petitioner vide affidavit dated 28.3.2019 has submitted that no



asset has been replaced or re-capitalised in the instant petition. Hence, de-capitalisation is not applicable. The petitioner, further submitted the details of the petitions where the existing FLR's were allowed tariff by the Commission, as under:

<b>Assets</b>	<b>Asset Details</b>	<b>Petition No.</b>	<b>Date of order by CERC</b>
<b>Asset I</b>	Conversion of FLR to SLR at Madurai end of Madurai-Karaikudi line	533/TT/2014	28.4.2016
	Conversion of FLR to SLR at Madurai end of Madurai-Trichy line		
	Conversion of FLR to SLR at Salem end of Salem- Hosur II line	35/TT/2015	9.2.2016
	Conversion of FLR to SLR at Sriprumbudur end of Sriperumbudur-Chittoor line		
	Conversion of FLR to SLR at Udumulpet end of Udumulpet-Salem II line	499/TT/2014	7.1.2016
	Conversion of FLR to SLR at Thiruvalam end on both circuits of Nellore-Thiruvalam I & II	108/TT/2014	5.7.2016
	Conversion of FLR to SLR at Trichy end of Trichy-Nagapattinam I line	539/TT/2014	22.2.2016
	Conversion of FLR to SLR at Trichy end of Trichy-Nagapattinam II line		
	Conversion of FLR to SLR at Sriprumbudur end of Sriperumbudur-S V Chatram line	204/TT/2014	29.1.2016
<b>Asset II</b>	Conversion of 63 MVAR FLR at both circuits of Kochi Tirunelveli I & II lines into SLR	53/TT/2015	21.4.2016
<b>Asset III</b>	Conversion of FLR to SLR at Hyderabad end for Gajwel-Hyderabad II	35/TT/2015	9.2.2016
	Conversion of FLR to SLR at Hyderabad end for Malakaram-Hyderabad II (Upto LILo point)		
	Conversion of FLR to SLR at Nellore end for Nellore-Thiruvalem I & II	108/TT/2014	5.7.2016
	Conversion of FLR to SLR at Gooty end for Kurnool-Gooty line	09/TT/2015	17.12.2015

14. We have considered the submissions of the petitioner and the respondent. The instant Petition is filed for approval of transmission tariff, from COD to 31.03.2019, for assets under conversion of FLR to SLR in Southern Region. The Commission vide order dated 22.5.2019 in petition No. 38/TT/2017 held as under:

*"h) Asset-X is conversion of 2x80 MVAR Line Reactor to 2x80 MVAR switchable line reactors at Gorakhpur end for 400 kV Barh-II-Gorakhpur transmission line for which the Petitioner has submitted RLDC Charging Certificate dated 30.3.2017*





and CEA Energisation Certificate dated 23.1.2017. A similar issue has been considered by the Commission in its provisional order dated 31.12.2018 in Petition No. 259/TT/2018 where in the Commission has not granted tariff for conversion of fixed line Reactor to switchable line reactor. The relevant portion of the said order is extracted as under:

*“7.----- Asset-III is conversion of 50 MVAR Fixed Line Reactor at Subhasagram end of Sagardighi-Subhasgram 400 kV S/C line to Switchable Line Reactor. The tariff for the existing 50 MVAR Fixed Line Reactor has already been granted and the petitioner should claim the cost of the conversion of the said line reactor in the respective tariff petition”.*

*In line with above decision, the Tariff for Asset-X is not allowed and the Petitioner should claim the cost of the conversion of the said line reactor in the respective tariff Petition.”*

15. In the Petition No. 38/TT/2017, the cost of the conversion of the line reactors was allowed to be claimed only in the respective tariff Petitions. However, considering the fact that while Petition No. 38/TT/2017 was covering conversion of just two FLR into SLR, whereas the instant Petition covers conversion of fifteen FLR into SLR for which separate Investment Approval has also been accorded by the Board of PGCIL, we are inclined to allow tariff of these assets in the instant Petition.

16. Based on the documents available on record and after considering the submission of the petitioner, we dispose of the claim of the petitioner in the instant Petition in terms of the provisions of the 2014 Tariff Regulations, as stated in the subsequent paragraphs.

**Date of Commercial Operation (COD)**

17. The petitioner has submitted following documents in support of COD of assets covered under the instant Petition:

Name of Assets	COD	Document submitted	Date of affidavit
----------------	-----	--------------------	-------------------



<p><b>Asset-I:</b> Conversion of FLR to SLR –</p> <p>(a) at Madurai end of Madurai-Karaikudi line,</p> <p>(b) at Madurai end of Madurai-Trichy line,</p> <p>(c) at Salem end of Salem-Hosur II line,</p> <p>(d) at Udumulpet end of Udumulpet-Salem II line,</p> <p>(e) at Thiruvalem end on both circuits of Nellore-Thiruvalem I &amp; II,</p> <p>(f) at Trichy end of Trichy-Nagapattinam-I line,</p> <p>(g) at Trichy end of Trichy-Nagapattinam-II line,</p> <p>(h) at Sriperumbadur end of Sriperumbadur-Chitoor line,</p> <p>(i) at Sriperumbadur end of Sriperumbadur-SV Chatram line.</p>	26.2.2018	<p>(i) Self declared Notification of COD letter dated 26.2.2018.</p> <p>(ii) CEA certificate dated 1.2.2018, 2.1.2018 and 4.1.2018, as required under Regulation 43 of CEA (Measures relating to Safety and Electric Supply) Regulations, 2010.</p> <p>(iii) Notification of trial operation letter dated 18.1.2018, 19.1.2018, 20.1.2018, 22.1.2018 and 23.1.2018.</p> <p>(iv) CMD certificate as required under Grid Code – Not filed by the petitioner.</p> <p>(v) RLDC certificate – Not filed by the petitioner.</p>	<p>26.3.2018</p> <p>26.3.2018 (*)</p> <p>26.3.2018 (#)</p> <p>(\$)</p> <p>(\$)</p>
<p><b>Asset-II:</b> Conversion of 63 MVAR FLR at both circuits of Kochi-Tirunelveli I &amp; II lines into SLR</p>	25.6.2018	<p>(i) Self declared Notification of COD letter dated 25.6.2018.</p> <p>(ii) CEA certificate dated 21.6.2018, as required under Regulation 43 of CEA (Measures relating to Safety and Electric Supply) Regulations, 2010.</p> <p>(iii) Notification of trial operation letter dated 23.6.2018.</p> <p>(iv) CMD certificate as required under Grid Code.</p> <p>(v) RLDC certificate dated 26.6.2018.</p>	<p>4.12.2018</p> <p>4.12.2018</p> <p>4.12.2018</p> <p>4.12.2018</p> <p>4.12.2018</p>
<p><b>Asset-III (a):</b> Conversion of FLR to SLR at –</p> <p>(i) Hyderabad end for Gajwel-</p>	24.5.2018	<p>(i) Self declared Notification of COD letter dated 7.6.2018.</p> <p>(ii) CEA certificate dated 15.2.2018,</p>	<p>4.12.2018</p> <p>4.12.2018</p>



Hyderabad II, (ii) Nellore end for Nellore-Thiruvalem I & II, (iii) Gooty end for Kurnool-Gooty line.		20.3.2018 and 22.5.2018, as required under Regulation 43 of CEA (Measures relating to Safety and Electric Supply) Regulations, 2010.  (iii) Notification of trial operation letter – Not filed by the petitioner.  (iv) CMD certificate as required under Grid Code.  (v) RLDC certificate dated 13.4.2018 and 6.6.2018.	   (\$)  4.12.2018  4.12.2018 (&)
---	--	--	---

(\*) CEA certificate has not been furnished for item no. (e), (f) and (g), accordingly, the petitioner is directed to furnish the same at the time of truing up.

(#) Notification of trial operation letter has not been furnished for item no. (h) and (i), accordingly, the petitioner is directed to furnish the same at the time of truing up.

(&) RLDC certificate as submitted by the petitioner is not legible and is not containing any date in respect of item no. (ii) of Asset-III (a). The petitioner is directed to furnish the legible copy at the time of truing up.

(\$) The petitioner is directed to furnish CMD certificate as required under Grid Code and RLDC certificate, in respect of Asset-I and Notification of trial operation letter in respect of Asset-III (a), at the time of truing up.

18. Considering the various documents, like self declaration letter of commercial operation, CEA certificate, Notification of trial operation letter, CMD certificate and RLDC certificate, as submitted by the petitioner, the COD of the Asset-I, Asset-II and Asset-III (a) is approved as 26.2.2018, 25.6.2018 and 24.5.2018, respectively subject to filing of various documents as directed above to furnished at the time of truing up.

### **Time over-run**

19. As stated above, the SCOD of the instant assets is 27.8.2018 and COD of the Asset-I, Asset-II and Asset-III (a) is 26.2.2018, 25.6.2018 and 24.5.2018, respectively. Accordingly, there is no time over-run.

### **Capital Cost**



20. The details of capital cost claimed by the petitioner in terms of the Auditor's certificate dated 19.3.2018 (for Asset-I), 11.7.2018 (for Asset-II) and 10.8.2018 [for Asset-III (a)] as on COD along with the estimated additional capital expenditure incurred / to be incurred for the instant asset is summarized below:

Asset	Apportioned approved cost	Expenditure up to COD	Estimated expenditure		Estimated completion cost
			2017-18	2018-19	
Asset-I	1295.45	762.77	40.00	254.53	1057.30
Asset-II	306.02	172.07	--	86.88	258.95
Asset-III (a)	464.06	324.99	--	96.51	421.50
Asset-III (b)	209.47	--	--	--	--
<b>Total</b>	<b>2275.00</b>	<b>1259.83</b>	<b>40.00</b>	<b>437.92</b>	<b>1737.75</b>
Less: Asset-III (b), deleted from the scope	209.47	0.00	0.00	0.00	0.00
<b>Net Total</b>	<b>2065.53</b>	<b>1259.83</b>	<b>40.00</b>	<b>437.92</b>	<b>1737.75</b>

21. According to the Auditor's certificate pertaining to Asset-II and Asset-III (a), the expenditure upto 31.3.2018 is verified based on audited books of accounts of PGCIL and the expenditure for the period from 1.4.2018 to COD of Asset-II and Asset-III (a), is in accordance with the unaudited books of accounts of SR-II. In this regard the petitioner is hereby directed to furnish a revised Auditor certificate in respect of its capital cost claim, strictly in accordance with the audited books of accounts of PGCIL, as on COD, at the time of truing up.

22. The break-up of the capital cost claimed by the petitioner for various assets is as under:

Asset-I			
Particulars	Capital cost claimed (on accrual basis) (A)	Un-discharged Liabilities (B)	Capital cost claimed (on cash basis) (C = A-B)
Hard Cost	964.31	294.53	669.78
IDC	8.61	8.61	0.00
IEDC	84.38	0.00	84.38
<b>Total</b>	<b>1057.30</b>	<b>303.14</b>	<b>754.16</b>
Asset-II			



Particulars	Capital cost claimed (on accrual basis) (A)	Un-discharged Liabilities (B)	Capital cost claimed (on cash basis) (C = A-B)
Hard Cost	227.13	86.88	140.25
IDC	3.33	2.75	0.58
IEDC	28.49	0.00	28.49
<b>Total</b>	<b>258.95</b>	<b>89.63</b>	<b>169.32</b>
<b>Asset-III (a)</b>			
Particulars	Capital cost claimed (on accrual basis) (A)	Un-discharged Liabilities (B)	Capital cost claimed (on cash basis) (C = A-B)
Hard Cost	370.72	96.51	274.21
IDC	6.57	6.57	0.00
IEDC	44.21	0.00	44.21
<b>Total</b>	<b>421.50</b>	<b>103.08</b>	<b>318.42</b>

23. The petitioner has not furnished Form-4A pertaining to Asset-I and is accordingly, directed to furnish the same at the time of truing up.

24. Further, on scrutiny of Form-4A, submitted vide affidavit dated 10.12.2018, pertaining to Asset-II, following position as on COD of the said asset is observed:

(₹ in lakh)

Particulars	Capital cost claimed (on accrual basis) (A)	Un-discharged Liabilities (B)	Capital cost claimed (on cash basis) (C = A-B)
Hard Cost	156.01	15.76	140.25
IDC	3.33	2.75	0.58
IEDC	28.49	0.00	28.49
<b>Total</b>	<b>187.83</b>	<b>18.51</b>	<b>169.32</b>

25. The aforesaid Form-4A (pertaining to Asset-II) further shows that there will be physical addition amounting to ₹71.12 lakh during the year 2018-19 and entire un-discharged liabilities were discharged during 2018-19, itself.

26. In view of above, it is clear that the claimed capital cost as on COD of Asset-II is in excess of the capital cost (Gross Block) as per Form-4A by ₹71.12 lakh on accrual basis (however, there is no variance in the capital cost on cash basis). Accordingly, the petitioner's claim on cash basis as on COD of Asset-II has been



considered, subject to truing up, and the petitioner is directed to furnish detailed clarification in respect of variance in capital cost on accrual basis at the time of truing up. Further, the petitioner is also directed to clarify reason for stating additional capital expenditure (ACE) amounting to ₹71.12 lakh as balance & retention payment in its claim though the same as per Form-4A is addition towards unexecuted work. Since, in terms of provisions contained in 2014 Tariff Regulations, expenditure under both these heads is admissible to the petitioner upto cut-off date, for the present ACE of ₹71.12 lakh has been allowed as pertaining to physical addition of assets, subject to truing up.

27. Further also, on scrutiny of Form-4A, submitted vide affidavit dated 10.12.2018, pertaining to Asset-III (a), following position as on COD of the said asset is observed:

(₹ in lakh)

<b>Particulars</b>	<b>Capital cost claimed (on accrual basis) (A)</b>	<b>Un-discharged Liabilities (B)</b>	<b>Capital cost claimed (on cash basis) (C = A-B)</b>
Hard Cost	269.12	61.56	207.56
IDC	6.57	6.57	0.00
IEDC	44.21	0.00	44.21
<b>Total</b>	<b>319.90</b>	<b>68.13</b>	<b>251.77</b>

28. The aforesaid Form-4A further shows that there will be physical addition amounting to ₹101.60 lakh during the year 2019-20 and entire un-discharged liabilities amounting to ₹68.13 lakh were discharged during 2018-19 itself.

29. In view of above, it is clear that the claimed capital cost as on COD of Asset-III (a) is in excess of the capital cost (Gross Block) as per Form-4A by ₹101.60 lakh on accrual basis and ₹66.65 lakh on cash basis. The petitioner is directed to furnish detailed clarification in respect of this variance at the time of truing up. Further, for



the present, keeping in view the interest of consumers, the capital cost as per Form-4A, being on lower side, has been considered as petitioner's claim for the purpose of tariff, subject to truing up.

30. Thus, the claimed capital cost before IDC and IEDC works out to ₹669.78 lakh, ₹140.25 lakh and ₹207.56 for Asset-I, Asset-II and Asset-III (a), respectively on cash basis.

**Cost over-run**

31. The total estimated completed costs of the instant assets are well within the corresponding apportioned approved cost of respective assets. Hence, there is no cost over-run in the commissioning of the instant assets.

**Treatment of IDC and IEDC**

32. The IDC for various assets as claimed by the petitioner is as under:

Asset	IDC as per Auditor certificate	IDC discharged		
		upto COD	2017-18	2018-19
Asset-I	8.61	0.00	0.00	8.61
Asset-II	3.33	0.58	--	2.75
Asset-III (a)	6.57	0.00	--	6.57

33. The petitioner's claim for IDC has been examined. It is observed that the details of loans as submitted by the petitioner in the "Statement showing IDC Discharged upto DOCO" are not adequate to check/re-workout the admissible IDC, corresponding to loans carrying floating rate of interest, like SBI and ICICI loans utilised for Asset-II and Asset-III (a), for the purpose of tariff. Further, it is already noted in order dated 7.5.2019 in Petition No. 170/TT/2018 that SBI loans utilised by the petitioner are working capital loans and accordingly cannot be considered for the



purpose of tariff. Accordingly, loans carrying floating rate of interest / working capital loans i.e. SBI and ICICI loans have not been considered for the purpose of tariff for the present.

34. In view of above, admissible IDC to be considered as on COD of respective assets, subject to truing up, is as under:

(₹ in lakh)

Asset	IDC (on accrual basis)	IDC discharged		
		upto COD	2017-18	2018-19
Asset-I	8.61	0.00	0.00	8.61
Asset-II	2.50	0.00	--	2.50
Asset-III (a)	6.57	0.00	--	6.57

35. The IEDC claimed by petitioner for respective assets is as under:

(₹ in lakh)

Asset-I	Asset-II	Asset-III (a)
84.38	28.49	44.21

36. However, as per the statement showing "Abstract of Cost" corresponding to IA, IEDC as a percentage of accorded capital cost (before IDC, IEDC and FERV) is 10.75%, in line with the prevailing practice, the same has been considered as ceiling limit for working out the admissible IEDC. Accordingly, the admissible IEDC to be considered as on COD of respective assets, subject to truing up, is as under:

(₹ in lakh)

Asset-I	Asset-II	Asset-III (a)
84.38	16.77	28.93

### **Treatment of initial spares**

37. The petitioner has claimed initial spares amounting to ₹45.80 lakh, "nil" and ₹12.21 lakh upto COD of Asset-I, Asset-II and Asset-III (a), respectively. The initial spares claimed are well within the ceiling limit of 6%, of the admissible plant and





machinery cost upto 31.3.2019, as specified under the 2014 Tariff Regulations. Accordingly, initial spares as claimed in the Petition have been considered for the purpose of tariff.

### **Capital cost as on COD**

38. The details of the capital cost considered as on COD of respective assets after adjustment of IDC, IEDC, cost over-run and initial spares are as under:

(₹ in lakh)

Asset	Capital cost as on COD (on accrual basis) (A)	Items disallowed (B)				Items corresponding to admitted capital cost as on COD (C)		Capital cost allowed as on COD (D=A-B-C)
		IDC #	IEDC	Cost over-run	Initial Spares	Un-discharged IDC	Balance & retention payments	
Asset-I	1057.30	0.00	0.00	0.00	0.00	8.61	294.53	754.16
Asset-II	187.83	0.83	11.72	0.00	0.00	2.50	15.76	157.02
Asset-III (a)	319.90	0.00	15.28	0.00	0.00	6.57	61.56	236.49

### **Additional capital expenditure**

39. The details of additional capital expenditure (hereinafter referred to as "ACE") on actual / projected basis as claimed by the petitioner under Regulation 14(1) of 2014 Tariff Regulations are as under:

(₹ in lakh)

Particulars	Asset-I		Asset-II	Asset-III (a)
	2017-18	2018-19	2018-19	2018-19
ACE to the extent of unexecuted work	0.00	0.00	0.00	0.00
Discharges of un-discharged IDC as on COD	0.00	8.61	2.75	6.57
Discharges towards balance & retention payments	40.00	254.53	* 86.88	# 96.51
<b>ACE claimed</b>	<b>40.00</b>	<b>263.14</b>	<b>89.63</b>	<b>103.08</b>

\* The petitioner in its affidavit dated 7.1.2019, has stated it as balance and retention payment. However, on scrutiny of Form-7, Form-4A and Form-5, it is observed that out of ₹86.88 lakh only ₹15.76 lakh is pertaining to discharges towards balance & retention payments and balance ₹71.12 lakh is on account of unexecuted work.

# The petitioner in its affidavit dated 7.1.2019, stated it as balance and retention payment. However, on scrutiny of Form-4A, it is observed that the discharges towards balance & retention payments are only ₹61.56 lakh as against ₹96.51 lakh being claimed as discharges towards balance & retention payments.



40. The ACE claimed by the petitioner for the instant assets are on the account of balance and retention payments and discharges of un-discharged liabilities corresponding to IDC and are well within the approved apportioned cost as well as the cut-off date. However, considering the fact that admissible un-discharged liabilities pertaining to IDC corresponding to Asset-II as on COD is only ₹2.50 lakh, the discharges of un-discharged IDC corresponding to Asset-II during the FY 2018-19 has been restricted to ₹2.50 lakh. Further, as noted at paragraph no. 26 above, out of ₹89.63 lakh being claimed as discharges towards balance & retention payments, pertaining to Asset-II, only ₹15.76 lakh is allowed and the balance ₹71.12 lakh is allowed as ACE to the extent of unexecuted work. Further, as per Form-4A pertaining to Asset-III (a), the physical addition to the gross block during FY 2018-19 is "nil" and entire un-discharged liabilities of ₹68.13 lakh pertaining to un-discharged IDC and balance & retention payments have been discharged during FY 2018-19, itself. Accordingly, for the present, out of ₹96.51 lakh being claimed as discharges towards balance & retention payments, pertaining to Asset-III (a), only ₹68.13 lakh is allowed the ACE, subject to truing up. The physical addition of ₹101.60 lakh during the year 2019-20, as per Form-4A, being beyond the scope of 2014 Tariff Regulations has been ignored for the purpose of tariff.

41. In view of above, the ACE allowed, subject to truing up, for the tariff period 2014-19 is as under:

(₹ in lakh)

Particulars	Asset-I		Asset-II	Asset-III (a)
	2017-18	2018-19	2018-19	2018-19
ACE to the extent of unexecuted work	0.00	0.00	71.12	0.00
Discharges of un-discharged IDC as on COD	0.00	8.61	2.50	6.57
Discharges towards balance & retention payments	40.00	254.53	15.76	61.56
<b>ACE claimed</b>	<b>40.00</b>	<b>263.14</b>	<b>89.38</b>	<b>68.13</b>



### Capital cost for the tariff period 2014-19

42. Accordingly, the capital cost considered for the tariff period 2014-19, subject to truing up, is as under:

(₹ in lakh)

Particulars	Asset-I		Asset-II	Asset-III (a)
	2017-18	2018-19	2018-19	2018-19
Opening Capital Cost	754.16	794.16	157.02	236.49
Add: ACE	40.00	263.14	89.38	68.13
<b>Closing Capital Cost</b>	<b>794.16</b>	<b>1057.30</b>	<b>246.40</b>	<b>304.62</b>
Average Capital Cost	774.16	925.73	201.71	270.55

### Debt-Equity Ratio

43. The petitioner has claimed debt-equity ratio of 70:30 for the instant assets for the tariff period 2014-19. However, considering the details of debt as has been used for calculation of IDC the debt-equity ratio as on COD works out to 70.80:29.20, 71.14:28.86 and 70:30 for Asset-I, Asset-II and Asset-III (a), respectively. The same is allowed subject to truing up. Further, for the purpose of ACE, debt-equity of 70:30 has been considered, subject to truing up. The details of (gross) debt and equity considered, subject to truing up, is as under:

(₹ in lakh)

Asset-I			
Particulars	%	As on COD	As on 31.03.2019
Debt	70.80	533.94	746.14
Equity	29.20	220.22	311.16
<b>Total</b>	<b>100.00</b>	<b>754.16</b>	<b>1057.30</b>
Asset-II			
Particulars	%	As on COD	As on 31.03.2019
Debt	71.14	111.70	174.27
Equity	28.86	45.32	72.13
<b>Total</b>	<b>100.00</b>	<b>157.02</b>	<b>246.40</b>
Asset-III (a)			
Particulars	%	As on COD	As on 31.03.2019
Debt	70.00	165.54	213.23



Equity	30.00	70.95	91.39
<b>Total</b>	<b>100.00</b>	<b>236.49</b>	<b>304.62</b>

**Return on equity**

44. The petitioner has claimed RoE considering rate of 19.61% after grossing up the RoE of 15.5% with MAT rate of 20.961%, for the instant assets. The petitioner also submitted that the grossed up RoE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

45. The petitioner has further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of the tax including interest received from IT authorities shall be recoverable / adjustable after completion of income tax assessment of the financial year.

46. We have considered the submission of the petitioner. ROE has been computed at the rate of 19.610% for the period 2014-19 after grossing up the ROE with MAT rate in terms of the provisions contained in the 2014 Tariff Regulations. Regulation 24 read with Regulation 25 in the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The



petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity. This is however subject to truing up based on the actual tax rate in accordance with Regulation 25 (3) in the 2014 Tariff Regulations. Accordingly, ROE has been allowed, subject to truing up, as under:

(₹ in lakh)

Particulars	Asset-I		Asset-II	Asset-III (a)
	2017-18 *	2018-19	2018-19 *	2018-19 *
Opening Equity	220.22	232.22	45.32	70.95
Addition due to ACE	12.00	78.94	26.81	20.44
<b>Closing Equity</b>	<b>232.22</b>	<b>311.16</b>	<b>72.13</b>	<b>91.39</b>
Average Equity	226.22	271.69	58.73	81.17
<b>Return on Equity (Pre-tax)</b>	<b>4.13</b>	<b>53.28</b>	<b>8.83</b>	<b>13.61</b>

\* pro-rata

### Interest on loan

47. In terms of the provisions of Regulation 26 in the 2014 Tariff Regulations, the petitioner's entitlement to interest on loan has been calculated on the following basis:

- (i) Gross normative loan of ₹533.94 lakh, ₹111.70 lakh and ₹165.54 lakh have been considered as on COD of Asset-I, Asset-II and Asset-III (a), respectively.
- (ii) The gross opening loan as on COD as stated at Form-9C is at variance with the amount of loan used for computing the IDC as shown at "Statement showing IDC Discharged upto DOCO". Accordingly, for the present the weighted average rate of interest as claimed by the petitioner has been considered, subject to truing up, for the purpose of tariff.
- (iii) The normative repayment for the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for that period.

48. Based on the above, interest on loan has been calculated, subject to truing up, as under:

(₹ in lakh)

Particulars	Asset-I	Asset-II	Asset-III (a)
-------------	---------	----------	---------------



	2017-18 *	2018-19	2018-19 *	2018-19 *
Gross Normative Loan	533.94	561.94	111.70	165.54
Cumulative Repayment upto previous Year	0.00	3.81	0.00	0.00
<b>Net Loan-Opening</b>	<b>533.94</b>	<b>558.13</b>	<b>111.70</b>	<b>165.54</b>
Addition due to ACE	28.00	184.20	62.57	47.69
Repayment during the year	3.81	48.88	8.17	12.21
<b>Net Loan-Closing</b>	<b>558.13</b>	<b>693.45</b>	<b>166.10</b>	<b>201.02</b>
Average Loan	546.04	625.79	138.90	183.28
Weighted Average Rate of Interest	7.740%	7.740%	7.850%	7.790%
<b>Interest on Loan</b>	<b>3.94</b>	<b>48.44</b>	<b>8.36</b>	<b>12.20</b>

\* pro-rata

### Depreciation

49. The depreciation has been calculated annually based on Straight Line Method at the rates specified in **Appendix-II** in the 2014 Tariff Regulations. Based on the above, the depreciation has been considered and allowed, subject to truing up, as under:

(₹ in lakh)

Particulars	Asset-I		Asset-II	Asset-III (a)
	2017-18 *	2018-19	2018-19 *	2018-19 *
Average Capital Cost	774.16	925.73	201.71	270.55
Rate of Depreciation	5.28%	5.28%	5.28%	5.28%
Depreciable Value	696.74	833.16	181.54	243.50
Remaining Depreciable Value	696.74	829.35	181.54	243.50
<b>Depreciation</b>	<b>3.81</b>	<b>48.88</b>	<b>8.17</b>	<b>12.21</b>

\* pro-rata

### Operation and Maintenance Expenses (O&M Expenses)

50. The petitioner has claimed O&M Expenses as under:

(₹ in lakh)

Particulars	Asset-I		Asset-II	Asset-III (a)
	2017-18 *	2018-19	2018-19 *	2018-19 *
O&M Expenses	61.36	687.10	105.36	234.94

\* pro-rata

51. The O&M norms for a 400 kV bay as specified in Sub-clause (a) of Clause (4)



of Regulation 29 in the 2014 Tariff Regulations is ₹66.51 lakh per bay for FY 2017-18 and ₹68.71 lakh per bay for FY 2018-19. Accordingly, the petitioner's entitlement to O&M Expenses have been worked out as under:

(₹ in lakh)

Particulars	Asset-I		Asset-II	Asset-III (a)
	10 nos. 400 kV bay		2 nos. 400 kV bay	4 nos. 400 kV bay
	2017-18 *	2018-19	2018-19 *	2018-19 *
O&M Expenses	61.95	687.10	105.42	234.93

\* pro-rata

### **Interest on Working Capital (IWC)**

52. The petitioner is entitled to claim interest on working capital as per the 2014 Tariff Regulations. The components of the working capital and the petitioner's entitlement to interest thereon are discussed hereunder:

#### **(i) Receivables**

Receivables as a component of working capital will be equivalent to two months fixed cost. In the tariff being allowed, receivables have been worked out on the basis of 2 months transmission charges.

#### **(ii) Maintenance spares**

Regulation 28 of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M expenses. The value of maintenance spares has accordingly been worked out.

#### **(iii) O & M expenses**

O&M expenses have been considered for one month as a component of working capital.

#### **(iv) Rate of interest on working capital**



The petitioner has considered 12.80% (i.e. SBI Base Rate of 9.30% as on 5.10.2015 + 350 bps) as the rate of interest on working capital for Asset-I and 12.20% (i.e. SBI Base Rate of 8.70% as on 1.4.2018 + 350 bps) as the rate of interest on working capital for Asset-II & Asset-III (a). However, in accordance with the provisions contained in Regulation 28 of the 2014 Tariff Regulations the rate of interest on working capital works out to 12.60% (i.e. SBI Base Rate of 9.10% as on 1.4.2017 + 350 bps) for Asset-I and 12.20% (i.e. SBI Base Rate of 8.70% as on 1.4.2018 + 350 bps) for Asset-II & Asset-III (a), the same is considered for the purpose of tariff.

53. The interest on working capital, subject to truing up, has been worked out and allowed as under:

(₹ in lakh)

Particulars	Asset-I		Asset-II	Asset-III (a)
	2017-18 *	2018-19	2018-19 *	2018-19 *
Maintenance Spares	9.29	103.07	15.81	35.24
O&M expenses	5.16	57.26	8.78	19.58
Receivables	12.88	146.05	22.76	47.57
<b>Total</b>	<b>27.34</b>	<b>306.37</b>	<b>47.36</b>	<b>102.39</b>
<b>Interest on Working Capital</b>	<b>3.44</b>	<b>38.60</b>	<b>5.78</b>	<b>12.49</b>

\* pro-rata

### Annual Transmission charges

54. In view of the above, the transmission charges allowed for the instant asset is as under:

(₹ in lakh)

Particulars	Asset-I		Asset-II	Asset-III (a)
	2017-18 (pro-rata)	2018-19	2018-19 (pro-rata)	2018-19 (pro-rata)
Depreciation	3.81	48.88	8.17	12.21
Interest on Loan	3.94	48.44	8.36	12.20
Return on Equity	4.13	53.28	8.83	13.61
Interest on Working Capital	3.44	38.60	5.78	12.49





O&M Expenses	61.95	687.10	105.42	234.93
<b>Total</b>	<b>77.28</b>	<b>876.30</b>	<b>136.56</b>	<b>285.44</b>

### **Filing fee and the publication expenses**

55. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 in the 2014 Tariff Regulations. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 in the 2014 Tariff Regulations.

### **License fee and RLDC Fees and Charges**

56. The petitioner has prayed to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. We are of the view that the petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a) of Regulation 52 in the 2014 Tariff Regulations.

### **Goods and Services Tax**

57. The petitioner has prayed for reimbursement of tax, if any, on account of proposed implementation of GST. The petitioner has submitted that the Commission should allow recovering GST from the beneficiaries, if imposed on transmission charges under the proposed GST when implemented by Government of India. We are of the view that petitioner's prayer is premature.

### **Sharing of Transmission Charges**



58. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time, as provided in Regulation 43 of the 2014 Tariff Regulations.

59. This order disposes of Petition No. 174/TT/2018.

**Sd/-**  
**(I. S. Jha)**  
**Member**

**Sd/-**  
**(Dr. M. K. Iyer)**  
**Member**

**Sd/-**  
**(P. K. Pujari)**  
**Chairperson**

