

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 210/TT/2016

Coram:

Shri Gireesh B. Pradhan, Chairperson

Shri A. K. Singhal, Member

Shri A. S. Bakshi, Member

Shri M. K. Iyer, Member

Date of Order : 24.7.2017

In the matter of:

Determination of transmission tariff for Asset-I: 2 Nos. 400 kV line bays alongwith 1 x 63 MVAR (Fixed) Line Reactor at Chaibasa Sub-station, Asset-II: 1 x 63 MVAR (Fixed) Line Reactor at Chaibasa Sub-station, Asset-III: 2 Nos. 400 kV line bays alongwith 2 x 50 MVAR (Fixed) Line Reactor at Ranchi 765/400 kV Sub-station, Asset-IV: 2 Nos. 400 kV bays at Kharagpur Sub-station and Asset-V: 2 Nos. 400 kV bays at Purulia Sub-station under Eastern Region Strengthening Scheme VII (ERSS VII) in Eastern Region for tariff block 2014- 19.

And in the matter of:

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

.....Petitioner

Vs

1. Bihar State Power (Holding) Company Limited,
(Formerly Bihar State Electricity Board-BSEB),
Vidyut Bhawan, Bailey Road, Patna-800 001
2. West Bengal State Electricity Distribution Company Limited,
Bidyut Bhawan, Bidhan Nagar, Block DJ, Sector-II,
Salt Lake City, Kolkata-700 091
3. Grid Corporation of Orissa Limited,
Shahid Nagar, Bhubaneswar-751 007
4. Damodar Valley Corporation,
DVC Tower, Maniktala, Civic Centre, VIP Road,
Kolkata-700 054



5. Power Department,
Govt. of Sikkim, Gangtok-737 101
6. Jharkhand State Electricity Board,
In front of Main Secretariat,
Doranda, Ranchi-834 002
7. Sterlite Power Grid Ventures Limited,
F-1, Mira Corporate Suits, 1 & 2 Mathura Road,
Ishwar Nagar, New Delhi-110065

....Respondents

For Petitioner : Shri S.S. Raju, PGCIL
Shri S.K. Venkateshan, PGCIL
Shri M.M. Mondal, PGCIL

For Respondents : None

ORDER

The instant petition has been filed by Power Grid Corporation of India Ltd. (PGCIL) for approval of the transmission tariff for Asset-I: 2 Nos. 400 kV line bays alongwith 1x63 MVAR (Fixed) Line Reactor at Chaibasa Sub-station, Asset-II: 1x63 MVAR (Fixed) Line Reactor at Chaibasa Sub-station, Asset-III: 2 Nos. 400 kV line bays alongwith 2x50 MVAR (Fixed) Line Reactor at Ranchi 765/400 kV Sub-station, Asset-IV: 2 Nos. 400 kV bays at Kharagpur Sub-station and Asset-V: 2 Nos. 400 kV bays at Purulia Sub-station (hereinafter referred to as "transmission assets") under Eastern Region Strengthening Scheme VII (ERSS VII) in Eastern Region for the tariff block 2014-19, in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter "the 2014 Tariff Regulations").

2. The petitioner has been entrusted with the implementation of Eastern Region Strengthening Scheme VII. The scheme was discussed in the meeting of Standing



Committee in Eastern Region held on 8.2.2012 at NRPC, New Delhi and later agreed in the 21st TCC and ERPC meeting held on 20-21 April, 2012 at Rajarhat, Kolkata. This was also approved in 29th Empowered Committee meeting held on 15.6.2012.

3. The Investment Approval for the transmission project was accorded by the Board of Directors of the petitioner vide Memorandum No. C/CP/ERSS-IV dated 24.3.2015, at an estimated cost of ₹7135 lakh including an IDC of ₹396 lakh (based on December, 2014 price level). The project was scheduled to be commissioned within 24 months from the date of investment approval. Therefore, the scheduled date of commissioning of the transmission system was 23.3.2017. The scope of work covered under the "Eastern Region Strengthening Scheme VII" is broadly as follows:-

Transmission Lines:

1. 02 nos. 400 kV line bays at Purulia PSPP switchyard of West Bengal;
2. 2 nos. 400 kV line bays at Ranchi 765/400 kV Sub-station (POWERGRID);
3. 2 nos. 400 kV line bays at Kharagpur West Bengal;
4. 2 nos. 400 kV line bays at Chaibasa (POWERGRID);
5. 2x50 MVR (fixed) line reactors (with 400 ohm NGRs) at Ranchi end of Purulia; PSPP(West Bengal)-Ranchi 765/400kV (POWERGRID) 400 kV D/C line; and
6. 2x63 MVAR (fixed) line reactors (with 450 ohm NGRs) at Chaibasa end of Kharagpur (West Bengal)-Chaibasa(POWERGRID) 400 kV D/C line.

4. The petitioner initially claimed approval of the transmission charges on the basis of actual date of commercial operation (COD) of Asset I, i.e. 19.6.2016 and anticipated COD of Assets II to V. However, the petitioner vide affidavit dated 6.2.2017 has



submitted that Assets-II, III and IV were commissioned on 27.10.2016, 17.10.2016 and 14.11.2016 respectively and Asset- V is anticipated to be commissioned on 31.3.2017.

5. Annual Fixed Charges for the instant asset were approved by the Commission vide its order dated 23.12.2016 under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC charges. The Commission did not allow the tariff for Asset III and Asset V since the assets were not put to use on account of non-commissioning of down-stream/up-stream connected transmission system.

6. The petitioner has claimed transmission charges for the instant asset as under:-

(₹ in lakh)

Asset I			
Particulars	2016-17	2017-18	2018-19
Depreciation	57.76	104.23	130.29
Interest on Loan	62.66	107.26	126.57
Return on Equity	63.86	115.29	144.24
Interest on Working Capital	9.29	14.08	15.93
O & M Expenses	100.85	133.02	137.42
Total	294.42	473.88	554.45

(₹ in lakh)

Asset II			
Particulars	2016-17	2017-18	2018-19
Depreciation	17.41	49.08	56.48
Interest on Loan	18.76	50.30	54.03
Return on equity	19.40	54.69	62.93
Interest on Working Capital	1.21	3.36	3.78
O & M Expenses	0.00	0.00	0.00
Total	56.78	157.43	177.22

(₹ in lakh)

Asset III			
Particulars	2016-17	2017-18	2018-19
Depreciation	58.11	145.55	161.14
Interest on Loan	61.83	146.35	150.48
Return on equity	64.37	160.76	177.90
Interest on Working Capital	7.10	16.83	17.86
O & M Expenses	58.83	133.02	137.42
Total	250.24	602.51	644.80



(₹ in lakh)

Asset IV			
Particulars	2016-17	2017-18	2018-19
Depreciation	10.28	54.68	59.96
Interest on Loan	12.47	63.74	64.91
Return on equity	11.46	60.93	66.81
Interest on Working Capital	3.31	10.87	11.37
O & M Expenses	48.99	133.02	137.42
Total	86.51	323.24	340.47

(₹ in lakh)

Asset V			
Particulars	2016-17	2017-18	2018-19
Depreciation	0.38	156.74	184.75
Interest on Loan	0.41	163.12	179.49
Return on equity	0.43	174.64	205.84
Interest on Working Capital	0.04	16.73	18.57
O & M Expenses	0.30	113.68	117.46
Total	1.56	624.91	706.11

7. The details submitted by the petitioner in support of its claim for interest on working capital are given hereunder:-

(₹ in lakh)

Asset I			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	19.31	19.95	20.61
O & M expenses	10.73	11.09	11.45
Receivables	62.64	78.98	92.41
Total	92.68	110.02	124.47
Interest	9.30	14.08	15.93
Rate of Interest	12.80%	12.80%	12.80%

(₹ in lakh)

Asset II			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00
Receivables	22.00	26.24	29.54
Total	22.00	26.24	29.54
Interest	1.20	3.36	3.78
Rate of Interest	12.80%	12.80%	12.80%



(₹ in lakh)

Asset III			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	19.31	19.95	20.61
O & M expenses	10.73	11.09	11.45
Receivables	91.26	100.42	107.47
Total	121.30	131.46	139.53
Interest	7.06	16.83	17.86
Rate of Interest	12.80%	12.80%	12.80%

(₹ in lakh)

Asset IV			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	19.31	19.95	20.61
O & M expenses	10.73	11.09	11.45
Receivables	37.89	53.87	56.75
Total	67.93	84.91	88.81
Interest	3.29	10.87	11.37
Rate of Interest	12.80%	12.80%	12.80%

(₹ in lakh)

Asset V			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	16.74	17.05	17.62
O & M expenses	9.30	9.47	9.79
Receivables	96.82	104.15	117.68
Total	122.86	130.68	145.09
Interest	15.73	16.73	18.57
Rate of Interest	12.80%	12.80%	12.80%

8. 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, 2003. None of the respondents have filed their reply to the petition.

9. After perusing the material available on record we proceed to dispose of the petition.

Date of Commercial Operation (COD)

10. The petitioner has claimed the date of the commercial operation of Asset-I, II, III and IV as 19.6.2016, 27.10.2016, 17.10.2016, 14.11.2016 respectively and Asset-V was



anticipated to be commissioned on 31.3.2017. The petitioner submitted that the entire scope of ERSS-VII of the project is covered in the instant petition. Further, the assets are corresponding to the following transmission lines being constructed by Sterlite Limited under the TBCB route:

- (i) 400 kV D/C Purulia (WB)-Ranchi (PG) line (corresponding to Assets III and V – yet to be commissioned)
- (ii) 400 kV D/C Kharagpur (WBSETCL)-Chaibasa (PG) line (corresponding to Assets I, II and IV – commissioned on 19.6.2016)

11. The petitioner has submitted that commissioning of the TBCB lines, corresponding to the instant assets, is being done through the following interim arrangement, which was agreed in the 18th Standing Committee Meeting of power system planning held on 13.6.2016 at Kolkata:-

- (a) PKTCL (Purulia & Kharagpur Transmission Company Ltd.) would interconnect 400 kV D/C Kharagpur (WB)-Chaibasa (PG) line by LILLOing one circuit of existing 400 kV D/C Kharagpur (WB)-line near Kharagpur end, till the commissioning of the associated 02 nos. 400 kV bays at Kharagpur (WB) (SLD at Annexure-I).
- (b) The 400 kV D/C Kharagpur (WB)-Chiabasa (PG) line has been reconfigured and commissioned on 19.6.2016 as 400 kV Chaibasa-Kharagpur line and 400 kV Chaibasa-Kolaghat line by opening of one circuit (Ckt-I) of 400 kV D/C Kolaghat-Kharagpur and using the bay at both ends (SLD at Annexure-I).



(c) Interconnecting 400 kV D/C Ranchi (New)-Purulia line by LILLOing one circuit of existing Purulia PSP-Arambagh 400 kV D/C line near Purulia end (by opening of one circuit of 400 kV D/C Purulia-Arambagh line), till the commissioning of the associated 02 nos. 400 kV bays at Purulia (WB), so as to form 400 kV Ranchi (New)-Purulia line and 400 kV Ranchi (New)-Arambagh line and using bays at both ends (SLD at Annexure-2).

12. The petitioner has submitted that PKTCL vide its letter dated 13.5.2016 had declared the commercial operation of 400 kV D/C Chaibasa-Kharagpur line from 13.5.2016 (deemed COD). The petitioner has submitted that PKTCL while constructing the said transmission line as per scheme of interim arrangement had requested for shutdown of Ckt-I of 400 kV Khargapur-Kolaghat Line on 24.5.2016 and 25.5.2016 for the purpose of LILLOing to form the two lines (i.e. 400 kV Chaibasa-Kharagpur line and 400 kV Chaibasa-Kolaghat line) through 400 kV D/C Kharagpur-Chaibasa line. However, the requisite shutdown was not granted by WBSETCL. PKTCL vide its letter dated 27.5.2016 again requested for shut down. Further, as per the letter dated 13.6.2016, PKTCL informed after all the corrective action and precautionary measures that they are ready for successful charging of Ckt-2 and PKTCL requested PGCIL to grant permission and allow them to initiate the process for charging of Ckt-2. On 18.6.2016, ERLDC issued trial run certificate after completion of successful trial run operation of Asset I. Hence, it is clearly established that the line was not ready for commercial operation before 19.6.2016 as declared by PKTCL.

13. The petitioner has submitted that the 400 kV D/C Purulia (WB)-Ranchi (PG) line under scope of Sterlite Ltd. and associated 02 Nos 400 kV line bays at Ranchi Sub-



station under scope of Powergrid was issued NIT and subsequently the check survey and forest proposal was submitted by Sterlite Limited with a completion schedule of April, 2016. Keeping in view the progress of the associated transmission line, the petitioner placed LOA in April, 2015 to commission the associated Bays with the completion schedule of June, 2016. However, the line was delayed due to force majeure event and it was not possible to further delay the associated bays. The petitioner completed the work in time schedule and commissioned the bays on 17.10.2016. With the delay in the commissioning of the 400 kV D/C Purulia (WB) - Ranchi (PG) line, the 02 nos. of 400 kV bays at Ranchi Sub-station was not utilized and the same was beyond the control of the petitioner. Therefore, the petitioner has prayed for approval of COD of 02 nos. of 400 kV line bays w.e.f 17.10.2016 under proviso 4(3)(ii) of the 2014 Tariff Regulations.

14. The petitioner was directed to submit RLDC certificate for completion of trial operation of Assets II to V and to clarify reasons for submitting scheduled date of commissioning as 1.4.2017 instead of 23.3.2017, CEA certificate under Regulation 43 of CEA (Measures Related to Safety & Electricity Supply) Regulations, 2010, actual COD of Asset IV and Asset V and to clarify whether the transmission assets are in use or not. In response, the petitioner vide affidavit dated 6.2.2017 has submitted the CEA certificate in case of Asset I to IV and RLDC certificate on no load condition for Asset III. He has further submitted that in the petition the schedule date of commissioning of the scheme is inadvertently shown as 1.4.2017 instead of 23.3.2017. However, no document has been submitted w.r.t. Asset V and it has been stated that Asset V has not been commissioned. The petitioner has further submitted that Asset I to IV are in use. It was further submitted that the Ranchi-Purulia line was commissioned on 7.1.2017.



15. We have considered the submissions of the petitioner. We have also perused the approval for the interim arrangements for Purulia-Ranchi line and Kharagpur-Chaibasa Line. It is observed that the meeting was held in CEA on 29.3.2016 to discuss the interim arrangement, whereby it was decided that as regards interim arrangement for Purulia-Ranchi line, the petitioner was required to submit line charging studies and other studies to ascertain that the interim arrangement is workable. Further, as regards Kharagpur-Chaibasa line, it was indicated that since the bays at Kharagpur end under the scope of the petitioner are not ready, PKTCL may interconnect Kharagpur-Chaibasa by LILoing one circuit of Kharagpur-Kolaghat line so that line does not remain unutilized. It was also indicated that the same will be formalized in the next Standing Committee Meeting. In the Standing Committee Meeting held on 30.6.2016, the detailed system line studies w.r.t. Purulia-Ranchi line was discussed and agreed, but there is no mention of system studies for Kharagpur-Chaibasa line. It was only indicated that since the bays at Kharagpur end are not ready and the line is ready, interim arrangement should be done.

16. We are of the considered view that any interim arrangement should be done with appropriate system studies to ensure safety and security of the grid. Further, a specific timeline must be decided when the interim arrangement shall be removed and final arrangement will be in place. In the instant case, petitioner should obtain the system study for the interim arrangement for the Kharagpur-Chaibasa line and submit to the Commission alongwith the truing up petition. Further, the petitioner has indicated that Kharagpur-Chaibasa line was declared deemed COD on 13.5.2016 by PKTCL, however, the line actually achieved COD only on 19.6.2016.



17. Though PKTCL is impleaded as a respondent in the matter, it has not filed any reply. Taking into consideration the submissions made by the petitioner, the CEA and the RLDC certificates submitted by the petitioner, we approve the COD for Asset I, II and IV as 19.6.2016, 27.10.2016 and 14.11.2016 respectively. As regards Asset-III, the petitioner, vide affidavit dated 10.11.2016, has submitted the RLDC Certificate. On perusal of RLDC Certificate, it is observed that petitioner has charged the line reactor as bus reactor and declared COD as 17.10.2016. However, the petitioner has not submitted RPC approval for the use of line reactor as bus reactor and for charging the line reactor as bus reactor from 17.10.2016 to 6.1.2017. Therefore, we are not inclined to approve the COD of Asset-III as 17.10.2016 under Regulation 4(3)(iii) as prayed by the petitioner. Accordingly, the COD of Asset-III is considered as 7.1.2017. i.e. the date from which Ranchi-Purulia line was commissioned. As regards Asset-V, the petitioner has submitted that it has not been commissioned. Therefore, we are not inclined either to approve the COD or to allow tariff for Asset-V. The petitioner is directed to file a fresh petition claiming tariff after the actual commissioning of the Asset- V. Taking into consideration the submissions made by the petitioner and the CEA and RLDC certificates submitted by the petitioner in support of trial operation, the following COD is approved for the instant assets:-

ASSETS	ACTUAL COD
Asset I	19.6.2016
Asset II	27.10.2016
Asset III	7.1.2017
Asset IV	14.11.2016



Capital Cost

18. Clause (1) and (2) of Regulation 9 of the 2014 Tariff Regulations provide as follows:-

“(1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects.”

(2) "The Capital Cost of a new project shall include the following:

- (a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- (b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;
- (c) Increase in cost in contract packages as approved by the Commission;
- (d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;
- (e) Capitalised Initial spares subject to the ceiling rates specified in Regulation of these regulations;
- (f) Expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;
- (g) Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and
- (h) Adjustment of any revenue earned by the transmission licensee by using the assets before COD."

19. The petitioner has submitted Auditor's Certificate dated 24.11.2016 in case of Asset I, II and III and dated 31.1.2017 in case of Asset IV, in support of the capital cost claimed as on actual COD and estimated additional capital expenditure projected to be incurred from COD to 31.3.2019. The petitioner vide affidavit dated 6.2.2017 has submitted revised tariff forms in case of Asset I, II, III and IV and has claimed the tariff based on actual/estimated expenditure to be incurred up to COD and additional



capitalization projected to be incurred from COD to 31.3.2019. The capital cost claimed by the petitioner and considered for determination of tariff is as given below:-

(₹ in lakh)

Assets	Apportioned cost as per revised cost estimates*	Cost incurred up to actual COD	Estimated additional capital expenditure			Total estimated completion cost	Cost overrun
			2016-17	2017-18	2018-19		
Asset-I	1815.56	1067.28	651.51	488.70	488.70	2696.19	Yes (48.50%)
Asset-II	612.44	685.23	180.92	135.69	135.69	1137.53	Yes (85.73%)
Asset-III	1892.11	2236.83	370.43	277.83	277.82	3162.91	Yes (67.16%)
Asset-IV	1075.47	88.17	847.46	200	-	1135.63	Yes (5.59%)
Total	5395.58	4077.51	2050.32	1102.22	902.21	8132.26	

Accordingly, total estimated completion cost claimed in respect of all the four assets exceed their respective revised apportioned approved cost.

Cost Over-Run

20. The petitioner has submitted that the cost over-run is mainly due to higher award cost received in competitive bidding compared to initial estimates. For procurement, open competitive bidding route is followed and by providing equal opportunity to all eligible firms, lowest possible market prices for required product/services is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices against tenders may happen to be lower or higher than the cost estimate depending upon prevailing market conditions. Further under Form-5, the reasons for item wise cost variation between approved costs (FR) and anticipated cost as on COD have been explained. The additional capitalization projected to be incurred in the contextual asset is mainly on account of Balance/Retention Payments. The cost variation from the FR is attributable to inflationary trends prevalent during the execution



of project from March, 2015 (first OBD under the project) to August, 2016 (period of major supplies), and also market forces prevailing at the time of bidding process of various packages. The petitioner further submitted that RCE for the instant project is under approval and will be submitted shortly.

21. We have considered the submissions of the petitioner regarding cost over-run. The petitioner has not submitted the RCE and has also not submitted any justification for going ahead with such high cost discovered in bids and not going for re-bidding. Accordingly, the capital cost of the instant assets is restricted to the apportioned approved cost of individual assets. The capital cost for Assets-I, II, III and IV have been restricted by ₹880.63 lakh, ₹525.09 lakh, ₹1270.80 lakh and ₹60.16 lakh respectively. However, the petitioner is directed to submit the detailed reasons for asset wise cost over-run alongwith the approval of cost over-run by the competent authority at the time of truing-up. The capital cost considered for the purpose of tariff calculations is given below:-

Assets	Apportioned / Approved Cost	Estimated cost on COD	Estimated additional capital expenditure			Capital cost allowed
			2016-17	2017-18	2018-19	
Asset-I	1815.56	1067.28	651.51	96.77	0.00	1815.56
Asset-II	612.44	612.44	0.00	0.00	0.00	612.44
Asset-III	1892.11	1892.11	0.00	0.00	0.00	1892.11
Asset-IV	1075.47	88.17	847.46	139.84	0.00	1075.47
Total	5395.58	3660	1498.97	236.61	0.00	5395.58

Time over-run

22. The project was scheduled to be commissioned within 24 months from the date of Investment Approval of 24.3.2015. Accordingly, the scheduled date of commercial



operation was 23.3.2017. However, Assets-I, II, III and IV were commissioned and put under commercial operation on 19.6.2016, 27.10.2016, 7.1.2017 and 14.11.2016. Thus, there is no delay in commissioning of the instant assets.

Treatment of IDC and IEDC

23. As regards IDC and IEDC, Regulation 11 of the 2014 Tariff Regulations provides as follows:-

"11. Interest during construction (IDC), Incidental Expenditure during Construction (IEDC)

(A) Interest during Construction (IDC):

(1) Interest during construction shall be computed corresponding to the loan from the date of infusion of debt fund, and after taking into account the prudent phasing of funds upto SCOD.

(2) In case of additional costs on account of IDC due to delay in achieving the SCOD, the generating company or the transmission licensee as the case may be, shall be required to furnish detailed justifications with supporting documents for such delay including prudent phasing of funds: Provided that if the delay is not attributable to the generating company or the transmission licensee as the case may be, and is due to uncontrollable factors as specified in Regulation 12 of these regulations, IDC may be allowed after due prudence check.

Provided further that only IDC on actual loan may be allowed beyond the SCOD to the extent, the delay is found beyond the control of generating company or the transmission licensee, as the case may be, after due prudence and taking into account prudent phasing of funds.

(B) Incidental Expenditure during Construction (IEDC):

(1) Incidental expenditure during construction shall be computed from the zero date and after taking into account pre-operative expenses upto SCOD:

Provided that any revenue earned during construction period up to SCOD on account of interest on deposits or advances, or any other receipts may be taken into account for reduction in incidental expenditure during construction.

(2) In case of additional costs on account of IEDC due to delay in achieving the SCOD, the generating company or the transmission licensee as the case may be, shall be required to furnish detailed justification with supporting documents for such delay including the details of incidental expenditure during the period of delay and liquidated damages recovered or recoverable corresponding to the delay:



Provided that if the delay is not attributable to the generating company or the transmission licensee, as the case may be, and is due to uncontrollable factors as specified in Regulation 12, IEDC may be allowed after due prudence check:

Provided further that where the delay is attributable to an agency or contractor or supplier engaged by the generating company or the transmission licensee, the liquidated damages recovered from such agency or contractor or supplier shall be taken into account for computation of capital cost

(3) In case the time over-run beyond SCOD is not admissible after due prudence, the increase of capital cost on account of cost variation corresponding to the period of time over run may be excluded from capitalization irrespective of price variation provisions in the contracts with supplier or contractor of the generating company or the transmission licensee.

24. The petitioner has claimed Interest During Construction (IDC) of ₹13.80 lakh, ₹16.46 lakh, ₹47.12 lakh and ₹3.93 for Asset-I, II, III and IV respectively on accrual basis. The IDC on cash basis has been worked out based on the loans deployed for the instant assets as per Form-9C assuming that the petitioner has not made any default in the payment of interest. The petitioner, vide its affidavit dated 6.2.2017, has submitted that IDC have been discharged up to COD and the undischarged IDC as on COD is to be discharged during 2016-17 to 2018-19 and the same is not included in the additional capital expenditure claimed as per Auditor's certificate. Accordingly, IDC discharged upto COD is ₹6.11 lakh, ₹7.01 lakh, ₹19.02 lakh and ₹3.72 lakh for Asset-I, II, III and IV respectively and it is allowed. Further, IDC discharged after COD amounting to ₹7.69 lakh, ₹9.45 lakh, ₹28.10 lakh and ₹0.21 lakh for Asset-I, II, III and IV respectively is disallowed and IDC shall be reviewed at the time of truing up after considering its actual discharge.

25. The petitioner has claimed ₹37.01 lakh, ₹23.54 lakh, ₹77.51 lakh and ₹0.14 lakh in respect of Asset-I, Asset-II, Asset-III and Asset-IV respectively, as Incidental Expenditure incurred and paid During Construction (IEDC) as on COD, which is within the percentage on Hard Cost as indicated in the Abstract Cost Estimate. Accordingly, it is allowed. This



line of action has been adopted by the Commission in order dated 20.5.2015 in Petition No. 109/TT/2013 and similar other petitions.

26. Regulation 13 of the 2014 Tariff Regulations specifies ceiling norms for capitalization of initial spares in respect of transmission system as under:-

“13. Initial Spares

Initial spares shall be capitalised as a percentage of the Plant and Machinery cost upto cut-off date, subject to following ceiling norms:

(d) Transmission system

- (i) Transmission line - 1.00%
- (ii) Transmission Sub-station (Green Field) - 4.00%
- (iii) Transmission Sub-station (Brown Field) - 6.00%
- (iv) Series Compensation devices and HVDC Station - 4.00%
- (v) Gas Insulated Sub-station (GIS) - 5.00%
- (vi) Communication system - 3.5%

Provided that:

(i) where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the Commission, such norms shall apply to the exclusion of the norms specified above:

(ii) where the generating station has any transmission equipment forming part of the generation project, the ceiling norm for initial spares for such equipments shall be as per the ceiling norms specified for transmission system under these regulations:

(iii) once the transmission project is commissioned, the cost of initial spares shall be restricted on the basis of plant and machinery cost corresponding to the transmission project at the time of truing up:

(iv) for the purpose of computing the cost of initial spares, plant and machinery cost shall be considered as project cost as on cut-off date excluding IDC, IEDC, Land Cost and cost of civil works. The transmission licensee shall submit the break up of head wise IDC & IEDC in its tariff application.”

27. The petitioner has claimed initial spares amounting to ₹150.00 lakh, ₹57.00 lakh, ₹168.00 lakh and ₹57.59 lakh in respect of Assets-I, II, III and IV respectively, corresponding to sub-station. The initial spares claimed are being adjusted as on COD while determining tariff of the assets. Accordingly, the excess initial spares claimed in respect of the assets are deducted to arrive at the capital cost, as on COD. The details of



initial spares claimed by the petitioner and allowed are given below:-

(₹ in lakh)

Assets	Total capital cost *	Initial spares claimed	Pro-rata restricted total capital cost	Pro-rata initial spares (to be claimed)	Ceiling limit	Initial spares worked out	Excess initial spares
Asset I	2645.38	150.00	1781.35	101.01	4.00%	70.01	30.99
Asset II	1097.53	57.00	590.90	30.69	4.00%	23.34	7.35
Asset III	3038.28	168.00	1817.55	100.50	4.00%	71.54	28.96
Asset IV	1131.56	57.59	1071.62	54.54	4.00%	42.38	12.16

*(plant and machinery cost excluding IDC, IEDC, land cost and cost of civil works up to cut-off date)

Capital cost allowed as on COD

28. Accordingly, the details of capital cost as on the date of commercial operation for the instant transmission assets after adjustment of IDC and IEDC and initial spares allowed is considered as per Regulation 9 (2) of the 2014 Tariff Regulations and are as below:-

(₹ in lakh)

Assets	Capital cost as on COD	Disallowed IDC	Disallowed IEDC	Excess Initial spares	Capital cost as on COD considered for tariff calculation (E)= (A)- (B+C+D)
	(A)	(B)	(C)	(D)	
Asset I	1067.28	7.69	0.00	30.99	1028.60
Asset II	612.44	9.45	0.00	7.35	595.64
Asset III	1892.11	28.10	0.00	28.96	1835.05
Asset IV	88.17	0.21	0.00	12.16	75.80

Projected Additional Capital Expenditure

29. Clause (1) of Regulation 14 of the 2014 Tariff Regulations provides as under:-

“(1) The capital expenditure in respect of the new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

- (i) Undischarged liabilities recognised to be payable at a future date;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and



(iii) Change in law or compliance of any existing law:”

Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.”

30. Clause (13) of Regulation 3 of the 2014 Tariff Regulations defines “cut-off” date as under:-

“cut-off date” means 31st March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31st March of the year closing after three years of the year of commercial operation”.

“Provided that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalisation could not be made within the cut-off date for reasons beyond the control of the project developer;”

31. The petitioner has claimed the following additional capital expenditure for the assets during 2014-19 tariff period, under Clause 1 of Regulation 14 of the 2014 Tariff Regulations:-

(₹ in lakh)

Assets	2016-17	2017-18	2018-19	Total
Asset-I	651.51	488.70	488.70	1628.91
Asset-II	180.92	135.69	135.69	452.30
Asset-III	370.43	277.83	277.82	926.08
Asset-IV	847.46	200.00	0.00	1047.46

32. It is observed that total estimated completion cost of the instant assets exceeds the revised apportioned approved cost. Hence, the capital cost of Assets-I, II, III and IV has been restricted to the apportioned cost of ₹880.63 lakh, ₹525.09 lakh, ₹1270.80 lakh and ₹60.16 lakh respectively. Therefore, the following additional capital expenditure have been considered:-

(₹ in lakh)

Assets	2016-17	2017-18	2018-19	Total
Asset-I	651.51	96.77	0.00	748.28
Asset-II	0.00	0.00	0.00	0.00
Asset-III	0.00	0.00	0.00	0.00
Asset-IV	847.46	139.84	0.00	987.30



Debt- Equity Ratio:

33. Clause 3 and 5 of Regulation 19 of the 2014 Tariff Regulations specifies as under:-

“19. Debt-Equity Ratio: (1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

- i. Where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- ii. The equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- iii. Any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.”

Explanation.-The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.”

“(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation”

34. The petitioner has considered debt:equity ratio as 70:30 as on COD as well as for additional capitalisation. We have considered debt:equity ratio of 70:30 as on COD and for additional capitalization during tariff period 2014-19. The details of the debt:equity as on the date of COD and 31.3.2019 considered for the purpose of tariff computation for the 2014-19 tariff period is as follows:-

(₹ in lakh)

Asset-I	As on COD		As on 31.03.2019	
	Amount	%	Amount	%
Debt	720.02	70.00	1243.81	70.00
Equity	308.58	30.00	533.06	30.00
Total	1028.60	100.00	1776.88	100.00



(₹ in lakh)

Asset-II	As on COD		As on 31.03.2019	
	Amount	%	Amount	%
Debt	416.95	70.00	416.95	70.00
Equity	178.69	30.00	178.69	30.00
Total	595.64	100.00	595.64	100.00

(₹ in lakh)

Asset-III	As on COD		As on 31.03.2019	
	Amount	%	Amount	%
Debt	1,284.54	70.00	1284.54	70.00
Equity	550.51	30.00	550.51	30.00
Total	1835.05	100.00	1835.05	100.00

(₹ in lakh)

Asset-IV	As on COD		As on 31.03.2019	
	Amount	%	Amount	%
Debt	53.06	70.00	744.17	70.00
Equity	22.74	30.00	318.93	30.00
Total	75.80	100.00	1063.10	100.00

Return on Equity

35. Clause (1) and (2) of Regulation 24 and Clause (2) of Regulation 25 of the 2014

Tariff Regulations specify as under:-

“24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that:

- (i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:
- (ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:
- (iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:



- (iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:
- (v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:
- (vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.”

36. Return on equity has been computed @ 19.610% p.a on average equity. The MAT Rate for the financial year 2013-14 is considered for computing return on equity.

37. The details of return on equity calculated are as follows:-

(₹ in lakh)

Asset I			
Particulars	2016-17	2017-18	2018-19
Opening Equity	308.58	504.03	533.06
Addition due to Additional Capitalization	195.45	29.03	0.00
Closing Equity	504.03	533.06	533.06
Average Equity	406.31	518.55	533.06
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	62.43	101.69	104.53

(₹ in lakh)

Asset II			
Particulars	2016-17	2017-18	2018-19
Opening Equity	178.69	178.69	178.69
Addition due to Additional Capitalization	0.00	0.00	0.00
Closing Equity	178.69	178.69	178.69
Average Equity	178.69	178.69	178.69
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	14.98	35.04	35.04

(₹ in lakh)

Asset III			
Particulars	2016-17	2017-18	2018-19
Opening Equity	550.51	550.51	550.51



Addition due to Additional Capitalization	0.00	0.00	0.00
Closing Equity	550.51	550.51	550.51
Average Equity	550.51	550.51	550.51
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	49.10	107.96	107.96

(₹ in lakh)

Asset IV			
Particulars	2016-17	2017-18	2018-19
Opening Equity	22.74	276.98	318.93
Addition due to Additional Capitalization	254.24	41.95	0.00
Closing Equity	276.98	318.93	318.93
Average Equity	149.86	297.95	318.93
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	11.11	58.43	62.54

Interest on loan

38. Regulation 26 of the 2014 Tariff Regulations provides as under:-

“(1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalisation of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of decapitalisation of such asset.

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.



(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.”

39. In keeping with the provisions of Regulation 26 of the 2014 Tariff Regulations, the petitioner’s entitlement to interest on loan has been calculated on the following basis:-

(a) Gross amount of loan, repayment of installments and rate of interest on actual average loan have been considered as per the petition;

(b) The yearly repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that period; and

(c) Weighted average rate of interest on actual average loan worked out as per (i) above is applied on the notional average loan during the year to arrive at the interest on loan.

40. Based on the above, interest on loan has been calculated are given as under:-

(₹ in lakh)

Asset I			
Particulars	2016-17	2017-18	2018-19
Gross Normative Loan	720.02	1176.07	1243.81
Cumulative Repayment upto Previous Year	0.00	56.48	148.44
Net Loan-Opening	720.02	1119.60	1095.38
Addition due to Additional Capitalization	456.06	67.74	0.00
Repayment during the year	56.48	91.96	94.53
Net Loan-Closing	1119.60	1095.38	1000.85
Average Loan	919.81	1107.49	1048.11
Weighted Average Rate of Interest on Loan	8.4996%	8.4996%	8.4996%
Interest	61.26	94.13	89.08

(₹ in lakh)

Asset II			
Particulars	2016-17	2017-18	2018-19
Gross Normative Loan	416.95	416.95	416.95
Cumulative Repayment upto Previous Year	0.00	13.44	44.89
Net Loan-Opening	416.95	403.51	372.06
Addition due to Additional Capitalization	0.00	0.00	0.00
Repayment during the year	13.44	31.45	31.45



Net Loan-Closing	403.51	372.06	340.61
Average Loan	410.23	387.78	356.33
Weighted Average Rate of Interest on Loan	8.2644%	8.2624%	8.2605%
Interest	14.49	32.04	29.44

(₹ in lakh)

Asset III			
Particulars	2016-17	2017-18	2018-19
Gross Normative Loan	1284.54	1284.54	1284.54
Cumulative Repayment upto Previous Year	0.00	44.23	141.47
Net Loan-Opening	1284.54	1240.32	1143.07
Addition due to Additional Capitalization	0.00	0.00	0.00
Repayment during the year	44.23	97.24	97.24
Net Loan-Closing	1240.32	1143.07	1045.83
Average Loan	1262.43	1191.70	1094.45
Weighted Average Rate of Interest on Loan	8.2142%	8.2127%	8.2112%
Interest	47.16	97.87	89.87

(₹ in lakh)

Asset IV			
Particulars	2016-17	2017-18	2018-19
Gross Normative Loan	53.06	646.28	744.17
Cumulative Repayment upto Previous Year	0.00	9.97	62.41
Net Loan-Opening	53.06	636.31	681.76
Addition due to Additional Capitalization	593.22	97.89	0.00
Repayment during the year	9.97	52.44	56.13
Net Loan-Closing	636.31	681.76	625.63
Average Loan	344.68	659.03	653.69
Weighted Average Rate of Interest on Loan	9.2761%	9.2735%	9.2735%
Interest	12.09	61.12	60.62

41. Detailed calculations in support of the weighted average rates of interest have been given at Annexure-I, II, III and IV.

Depreciation

42. Regulation 27 of the 2014 Tariff Regulations provide as follows:-

"27. Depreciation:

Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the



depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-II** to these regulations for the assets of the generating station and transmission system:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.”

43. The instant assets were put under commercial operation between 19.6.2016 to 19.11.2016. Accordingly, they will complete 12 years after 2018-19. As such, depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-II to the 2014 Tariff Regulations.

44. Based on the above, the depreciation has been considered are as follows:-

(₹ in lakh)

Asset - I			
Particulars	2016-17	2017-18	2018-19
Opening Gross Block	1028.60	1680.11	1776.88
Additional Capital Expenditure	651.51	96.77	0.00
Closing Gross Block	1680.11	1776.88	1776.88
Average Gross Block	1354.35	1728.49	1776.88
Rate of Depreciation	5.3221%	5.3202%	5.3199%
Depreciable Value	1218.92	1555.64	1599.19



Elapsed life	0	1	2
Weighted balance useful life	25	24	23
Remaining Depreciable Value	1218.92	1499.16	1450.75
Depreciation	56.48	91.96	94.53
Cumulative depreciation	56.48	148.44	242.97

(₹ in lakh)

Asset -II			
Particulars	2016-17	2017-18	2018-19
Opening Gross Block	595.64	595.64	595.64
Additional Capital Expenditure	0.00	0.00	0.00
Closing Gross Block	595.64	595.64	595.64
Average Gross Block	595.64	595.64	595.64
Rate of Depreciation	5.2800%	5.2800%	5.2800%
Depreciable Value	536.08	536.08	536.08
Elapsed life	0	1	2
Weighted balance useful life	25	24	23
Remaining Depreciable Value	536.08	522.64	491.19
Depreciation	13.44	31.45	31.45
Cumulative depreciation	13.44	44.89	76.34

(₹ in lakh)

Asset -III			
Particulars	2016-17	2017-18	2018-19
Opening Gross Block	1835.05	1835.05	1835.05
Additional Capital Expenditure	0.00	0.00	0.00
Closing Gross Block	1835.05	1835.05	1835.05
Average Gross Block	1835.05	1835.05	1835.05
Rate of Depreciation	5.2992%	5.2992%	5.2992%
Depreciable Value	1651.55	1651.55	1651.55
Elapsed life	0	1	2
Weighted balance useful life	25	24	23
Remaining Depreciable Value	1651.55	1607.32	1510.08
Depreciation	44.23	97.24	97.24
Cumulative depreciation	44.23	141.47	238.71

(₹ in lakh)

Asset -IV			
Particulars	2016-17	2017-18	2018-19
Opening Gross Block	75.80	923.26	1063.10
Additional Capital Expenditure	847.46	139.84	0.00
Closing Gross Block	923.26	1063.10	1063.10
Average Gross Block	499.53	993.18	1063.10
Rate of Depreciation	5.2800%	5.2800%	5.2800%
Depreciable Value	449.58	893.86	956.79
Elapsed life	0	1	2
Weighted balance useful life	25	24	23
Remaining Depreciable Value	449.58	883.89	894.38
Depreciation	9.97	52.44	56.13
Cumulative depreciation	9.97	62.41	118.54



Operation & Maintenance Expenses (O&M Expenses)

45. Regulation 29(4)(a) of the 2014 Tariff Regulations specifies the norms for O & M Expenses for the transmission system based on the type of sub-station and the transmission line. Norms specified in respect of the elements covered in the instant petition are as under:-

	(₹ in lakh)				
Element	2014-15	2015-16	2016-17	2017-18	2018-19
400 kV bay	60.30	62.30	64.37	66.51	68.71
400 kV GIS	51.54	53.25	55.02	56.84	58.73

46. The petitioner has not claimed any O&M Expenses for Asset-II. The O&M Expenses claimed by the petitioner for other assets are as follows:-

	(₹ in lakh)		
Assets	2016-17	2017-18	2018-19
Asset-I	100.85	133.02	137.42
Asset-II	0	0	0
Asset-III	58.83	133.02	137.42
Asset-IV	48.99	133.02	137.42

47. The O&M Expenses claimed by the petitioner for Asset IV are not in accordance with the norms specified in the 2014 Tariff Regulations. Therefore, the O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. O&M Expenses for Asset-III has been calculated based on approved COD i.e. 7.1.2017. The O&M Expenses allowed are as under:-

	(₹ in lakh)		
Assets	2016-17	2017-18	2018-19
Asset-I	100.85	133.02	137.42
Asset-III	29.62	133.02	137.42
Asset-IV	48.67	133.02	137.42

48. The petitioner has submitted that O&M Expenses for the tariff period 2014-19 had been arrived at on the basis of normalized actual O&M Expenses during the period



2008-09 to 2012-13. The petitioner has further submitted that the wage revision of the employees is due during 2014-19 and actual impact of wage hike effective from a future date has not been factored in fixation of the normative O&M rates specified for the tariff block 2014-19. The petitioner has submitted that it would approach the Commission for suitable revision in norms for O&M Expenses for claiming the impact of wage hike during 2014-19, if any.

49. We have considered the submissions of the petitioner. The O&M Expenses have been worked out as per the norms specified in the 2014 Tariff Regulations. As regards impact of wage revision, any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

Interest on Working Capital

50. Clause 1 (c) of Regulation 28 and Clause 3 and 5 of Regulation 3 of the 2014 Tariff Regulations specify as follows:-

“28. Interest on Working Capital

(c)(i) Receivables equivalent to two months of fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and

(iii) Operation and maintenance expenses for one month”

“(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later”

“(5) ‘Bank Rate’ means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points;”



51. The interest on working capital is worked out in accordance with Regulation 28 of the 2014 Tariff Regulations. The rate of interest on working capital considered is 12.80% (SBI Base Rate plus 350 basis points). The interest on working capital as determined is shown in the table below:-

(₹ in lakh)

Asset I			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	19.31	19.95	20.61
O & M expenses	10.73	11.09	11.45
Receivables	61.73	72.34	73.17
Total	91.76	103.38	105.24
Interest	9.20	13.23	13.47

(₹ in lakh)

Asset II			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00
Receivables	17.10	16.78	16.34
Total	17.10	16.78	16.34
Interest	0.94	2.15	2.09

(₹ in lakh)

Asset III			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	9.77	19.95	20.61
O & M expenses	5.43	11.09	11.45
Receivables	64.03	74.94	74.35
Total	79.22	105.98	106.42
Interest	4.61	13.57	13.62

(₹ in lakh)

Asset IV			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	19.31	19.95	20.61
O & M expenses	10.73	11.09	11.45
Receivables	37.52	52.62	54.64
Total	67.56	83.66	86.70
Interest	3.27	10.71	11.10



Transmission charges

52. The transmission charges being allowed for the transmission asset are as follows:-

(₹ in lakh)

Asset-I			
Particulars	2016-17	2017-18	2018-19
Depreciation	56.48	91.96	94.53
Interest on Loan	61.26	94.13	89.08
Return on equity	62.43	101.69	104.53
Interest on Working Capital	9.20	13.23	13.47
O & M Expenses	100.85	133.02	137.42
Total	290.22	434.03	439.04

(₹ in lakh)

Asset-II			
Particulars	2016-17	2017-18	2018-19
Depreciation	13.44	31.45	31.45
Interest on Loan	14.49	32.04	29.44
Return on equity	14.98	35.04	35.04
Interest on Working Capital	0.94	2.15	2.09
O & M Expenses	0.00	0.00	0.00
Total	43.84	100.68	98.02

(₹ in lakh)

Asset-III			
Particulars	2016-17	2017-18	2018-19
Depreciation	44.23	97.24	97.24
Interest on Loan	47.16	97.87	89.87
Return on equity	49.10	107.96	107.96
Interest on Working Capital	4.61	13.57	13.62
O & M Expenses	29.62	133.02	137.42
Total	174.72	449.65	446.11

(₹ in lakh)

Asset-IV			
Particulars	2016-17	2017-18	2018-19
Depreciation	9.97	52.44	56.13
Interest on Loan	12.09	61.12	60.62
Return on equity	11.11	58.43	62.54
Interest on Working Capital	3.27	10.71	11.10
O & M Expenses	48.67	133.02	137.42
Total	85.11	315.71	327.81



Filing fee and the publication expenses

53. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of 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 of the 2014 Tariff Regulations.

Licence fee and RLDC Fees and Charges

54. The petitioner has requested 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), respectively, of Regulation 52 of the 2014 Tariff Regulations.

Sharing of Transmission Charges

55. 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.

56. This order disposes of Petition No. 210/TT/2016.

Sd/-	Sd/-	Sd/-	Sd/-
(Dr. M. K. Iyer) Member	(A.S. Bakshi) Member	(A.K. Singhal) Member	(Gireesh B. Pradhan) Chairperson



Annexure-I

(₹ in lakh)				
CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN				
	Details of Loan	2016-17	2017-18	2018-19
1	SBI 10000(01.05.2014)			
	Gross loan opening	193.03	193.03	193.03
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	193.03	193.03	193.03
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	193.03	193.03	193.03
	Average Loan	193.03	193.03	193.03
	Rate of Interest	9.55%	9.55%	9.55%
	Interest	18.43	18.43	18.43
	Rep Schedule			
2	Bond-LIII (Proposed Loan)			
	Gross loan opening	548.68	548.68	548.68
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	548.68	548.68	548.68
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	548.68	548.68	548.68
	Average Loan	548.68	548.68	548.68
	Rate of Interest	8.13%	8.13%	8.13%
	Interest	44.61	44.61	44.61
	Rep Schedule			
	Total Loan			
	Gross loan opening	741.71	741.71	741.71
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	741.71	741.71	741.71
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	741.71	741.71	741.71
	Average Loan	741.71	741.71	741.71
	Rate of Interest	8.4996%	8.4996%	8.4996%
	Interest	63.04	63.04	63.04



Annexure-II

(₹ in lakh)				
CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN				
	Details of Loan	2016-17	2017-18	2018-19
1	SBI 10000(01.05.2014)			
	Gross loan opening	99.93	99.93	99.93
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	99.93	99.93	99.93
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	99.93	99.93	99.93
	Average Loan	99.93	99.93	99.93
	Rate of Interest	9.35%	9.35%	9.35%
	Interest	9.34	9.34	9.34
	Rep Schedule			
2	Bond-LIII			
	Gross loan opening	9.00	9.00	9.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	9.00	9.00	9.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	9.00	9.00	9.00
	Average Loan	9.00	9.00	9.00
	Rate of Interest	8.13%	8.13%	8.13%
	Interest	0.73	0.73	0.73
	Rep Schedule			
3	Bond-LIV			
	Gross loan opening	364.11	364.11	364.11
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	364.11	364.11	364.11
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	364.11	364.11	364.11
	Average Loan	364.11	364.11	364.11
	Rate of Interest	7.97%	7.97%	7.97%
	Interest	29.02	29.02	29.02
	Rep Schedule	Redeemable on 15.07.2031		
4	Bond-LIV			
	Gross loan opening	0.00	0.47	0.47
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.47	0.47
	Additions during the year	0.47	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.47	0.47	0.47
	Average Loan	0.24	0.47	0.47
	Rate of Interest	7.97%	7.97%	7.97%



	Interest	0.02	0.04	0.04
	Rep Schedule	Redeemable on 15.07.2031		
5	Bond-LIV			
	Gross loan opening	0.00	0.00	6.15
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	6.15
	Additions during the year	0.00	6.15	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.00	6.15	6.15
	Average Loan	0.00	3.08	6.15
	Rate of Interest	7.97%	7.97%	7.97%
	Interest	0.00	0.25	0.49
	Rep Schedule	Redeemable on 15.07.2031		
	Total Loan			
	Gross loan opening	473.04	473.51	479.66
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	473.04	473.51	479.66
	Additions during the year	0.47	6.15	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	473.51	479.66	479.66
	Average Loan	473.28	476.59	479.66
	Rate of Interest	8.2644%	8.2624%	8.2605%
	Interest	39.11	39.38	39.62



Annexure-III

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN				
(₹ in lakh)				
	Details of Loan	2016-17	2017-18	2018-19
1	SBI 10000(01.05.2014)			
	Gross loan opening	271.03	271.03	271.03
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	271.03	271.03	271.03
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	271.03	271.03	271.03
	Average Loan	271.03	271.03	271.03
	Rate of Interest	9.35%	9.35%	9.35%
	Interest	25.34	25.34	25.34
	Rep Schedule			
2	Bond-LIII			
	Gross loan opening	23.00	23.00	23.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	23.00	23.00	23.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	23.00	23.00	23.00
	Average Loan	23.00	23.00	23.00
	Rate of Interest	8.13%	8.13%	8.13%
	Interest	1.87	1.87	1.87
	Rep Schedule			
3	Bond-LIV			
	Gross loan opening	1252.08	1252.08	1252.08
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	1252.08	1252.08	1252.08
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	1252.08	1252.08	1252.08
	Average Loan	1252.08	1252.08	1252.08
	Rate of Interest	7.97%	7.97%	7.97%
	Interest	99.79	99.79	99.79
	Rep Schedule		Redeemable on 15.07.2031	
4	Bond-LIV			
	Gross loan opening	0.00	0.78	0.78
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.78	0.78



	Additions during the year	0.78	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.78	0.78	0.78
	Average Loan	0.39	0.78	0.78
	Rate of Interest	7.97%	7.97%	7.97%
	Interest	0.03	0.06	0.06
	Rep Schedule	Redeemable on 15.07.2031		
5	Bond-LIV			
	Gross loan opening	0.00	0.00	18.89
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	18.89
	Additions during the year	0.00	18.89	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.00	18.89	18.89
	Average Loan	0.00	9.45	18.89
	Rate of Interest	7.97%	7.97%	7.97%
	Interest	0.00	0.75	1.51
	Rep Schedule	Redeemable on 15.07.2031		
	Total Loan			
	Gross loan opening	1546.11	1546.89	1565.78
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	1546.11	1546.89	1565.78
	Additions during the year	0.78	18.89	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	1546.89	1565.78	1565.78
	Average Loan	1546.50	1556.34	1565.78
	Rate of Interest	8.2142%	8.2127%	8.2112%
	Interest	127.03	127.82	128.57



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN				
(₹ in lakh)				
	Details of Loan	2016-17	2017-18	2018-19
1	SBI 10000(01.05.2014)			
	Gross loan opening	59.31	59.31	59.31
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	59.31	59.31	59.31
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	59.31	59.31	59.31
	Average Loan	59.31	59.31	59.31
	Rate of Interest	9.35%	9.35%	9.35%
	Interest	5.55	5.55	5.55
	Rep Schedule			
2	Bond-LIV			
	Gross loan opening	0.60	0.60	0.60
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.60	0.60	0.60
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.60	0.60	0.60
	Average Loan	0.60	0.60	0.60
	Rate of Interest	7.97%	7.97%	7.97%
	Interest	0.05	0.05	0.05
	Rep Schedule	Redeemable on 15.07.2031		
3	Bond-LVII			
	Gross loan opening	1.66	1.66	1.66
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	1.66	1.66	1.66
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	1.66	1.66	1.66
	Average Loan	1.66	1.66	1.66
	Rate of Interest	7.20%	7.20%	7.20%
	Interest	0.12	0.12	0.12
	Rep Schedule			
4	Bond-LVII			
	Gross loan opening	0.00	0.14	0.14
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.14	0.14

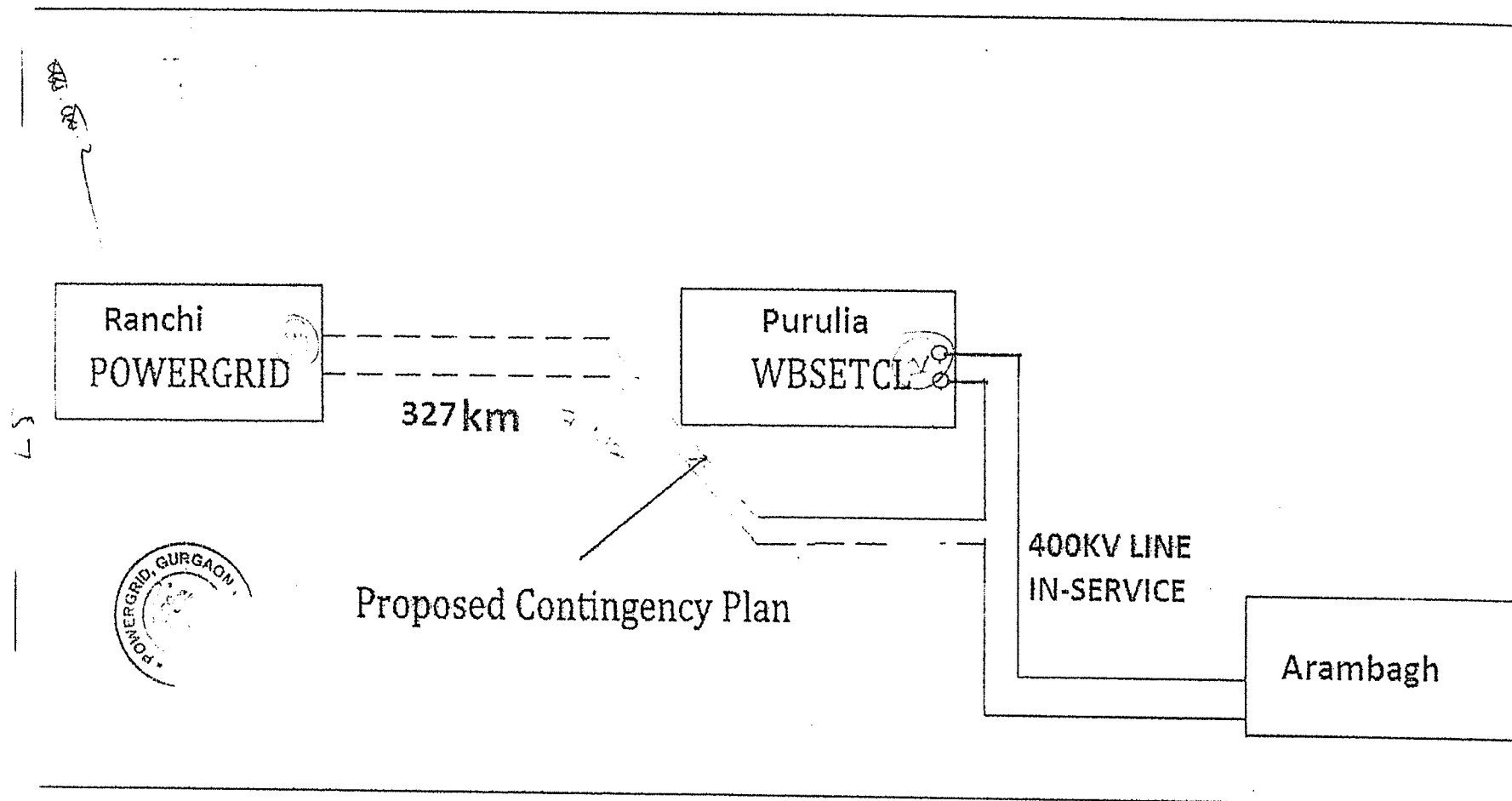


	Additions during the year	0.14	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.14	0.14	0.14
	Average Loan	0.07	0.14	0.14
	Rate of Interest	7.20%	7.20%	7.20%
	Interest	0.01	0.01	0.01
	Rep Schedule			
5	Bond-LVII			
	Gross loan opening	0.00	0.01	0.01
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.01	0.01
	Additions during the year	0.01	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.01	0.01	0.01
	Average Loan	0.01	0.01	0.01
	Rate of Interest	7.20%	7.20%	7.20%
	Interest	0.00	0.00	0.00
	Rep Schedule			
	Total Loan			
	Gross loan opening	61.57	61.72	61.72
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	61.57	61.72	61.72
	Additions during the year	0.15	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	61.72	61.72	61.72
	Average Loan	61.65	61.72	61.72
	Rate of Interest	9.2761%	9.2735%	9.2735%
	Interest	5.72	5.72	5.72



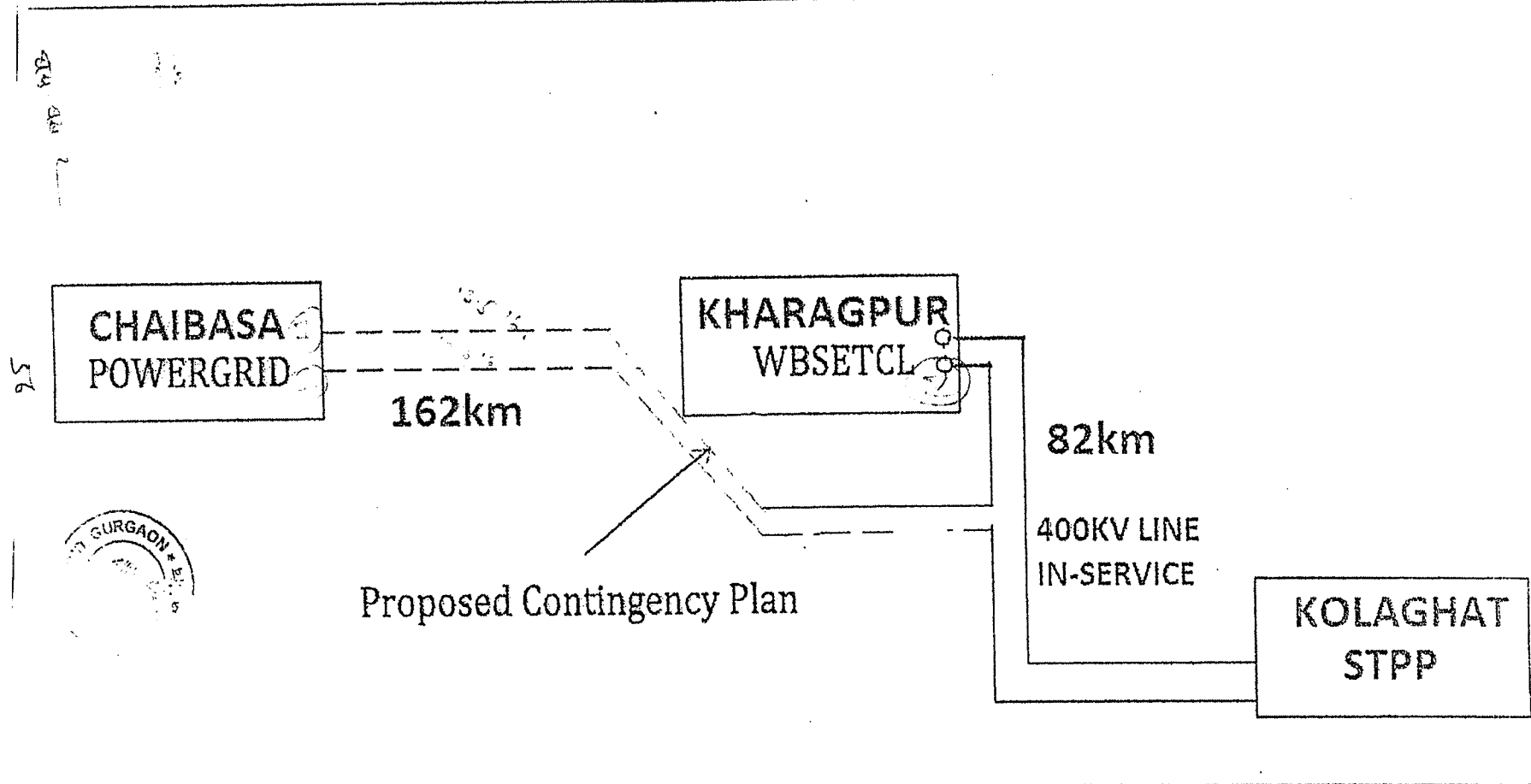
Ann-2

REVISED PLANNING FOR CHARGING OF 400 KV RANCHI-PURULIA LINE (PKTCL)



Ann - I

REVISED PLANNING FOR CHARGING OF 400KV CHAIBASA-KHARAGPUR LINE(PKTCL)



LINE SECTION: CHAIBASA- KHARAGPUR- 162KM
CHAIBASA - KOLAGHAT - 244KM