

**CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**Petition No. 243/TT/2015**

**Coram:**

**Shri Gireesh B. Pradhan, Chairperson  
Shri A.K. Singhal, Member  
Shri A.S. Bakshi, Member  
Dr. M.K. Iyer, Member**

**Date of Order : 26.12.2016**

**In the matter of:**

Determination of Fees and Charges for Northern Regional Load Despatch Centre for the tariff period 2014-19 under sub-section 4 of Section 28 of the Electricity Act, 2003 and Regulation 6 of Central Electricity Regulatory Commission (Fees & Charges of Regional Load Despatch Centre and other related matters) Regulations 2015.

**And in the matter of:**

Northern Regional Load Despatch Center (NRLDC)  
Power System Operation Corporation Limited (POSOCO)  
Regd. Office : B-9, Qutub Institutional Area  
Katwaria Sarai, New Delhi-110016

**.....Petitioner**

**Vs**

1. Uttar Pradesh Power Corporation Ltd.,  
Shakti Bhawan, 14, Ashok Marg,  
Lucknow - 226001, UP, India.
2. Government of J&K,  
Civil Secretariat, Srinagar, J&K
3. Rajasthan Rajya Vidyut Prasaran Nigam Limited  
Vidyut Bhawan, Vidyut Marg, Jaipur - 302 005
4. Punjab State Electricity Board,  
The Mall, Patiala-147001
5. Haryana Vidyut Prasaran Nigam Limited,  
Shakti Bhawan, Sector -6  
Panchkula-134109



6. Delhi Transco Limited,  
Shakti Sadan, Kotla Marg,  
New Delhi-110002
7. Himachal Pradesh State Electricity Board,  
Kumar House, Vidyut Bhawan, Shimla -171004
8. Power Transmission Corporation of Uttarakhand Limited,  
7-B, Lane No-1, Vasant Vihar Enclave, Dehradun-248 001
9. Electricity Department, UT Chandigarh  
Sector 9-D, UT Chandigarh-160019
10. North Central Railway, GM Office Building  
Allahabad, UP
11. Power Grid Corporation of India Ltd.,  
'Saudamini', Plot No.2, Sector 29,  
Gurgaon, Haryana-122001
12. NTPC.,  
NTPC Bhawan, SCOPE Complex,  
Institutional Area, Lodhi Road,  
New Delhi-110003
13. Nuclear Power Corporation of India Ltd.,  
Kakrapara Atomic Power Station,  
PO - via Vyara, Surat,  
Gujarat – 395651
14. NHPC  
NHPC Office Complex,  
Sector-33, Faridabad Haryana 121003
15. Satluj Jal Vidyut Nigam Ltd. Power Project  
Jhakri, Rampur, Distt.-Shimla, HP-172201
16. Tehri Hydro Development Corporation Ltd.  
Pragtipuram, Rishikhesh, Uttarakhand-249201
17. Parbati Koldam Transmission Co. Ltd.  
B-9, Qutab Institutional Area, New Delhi – 110016
18. THDCIL,  
Koteshwar HEP, Koteshwerpuram  
Tehri Garhwal-249002
19. ADHPL  
Prini, Tehsil Manali, Distt-Kullu  
Himachal Pradesh



20. Indira Gandhi Super Thermal Power Project  
VPO-Jharli, Tashsil Matanhail  
Distt: Jhajjar (Haryanan)-124125
21. Karcham Wangtoo HEP,  
Jaiprakash Power House Ventures Ltd.,  
Baspa-II, Hydro-Electric Project Sholtu Colony, PO-Tapti  
Dist. Kinnaur-172104
22. Everest Power Pvt. Ltd.  
1<sup>st</sup> Floor, Hall-1, NBCC Tower,  
Bhikaji Cama Place, New Delhi-110066
23. Shree Cement Thermal Power Project Bangurnagar,  
Beawar, Distt. Ajmer, Rajasthan-305901
24. Greenco Budhil HPS Ltd.,  
Plot No. 1367, Road No.-45,  
Jubilee Hills, Hyderabad-500033.
25. Powerlinks Transmission Ltd.  
10<sup>th</sup> Floor, DLF Tower-A, District Centre,  
Jasola, New Delhi-110044
26. JaypeePowergrid Ltd.  
House No.-7, Housing Board Colony Chuha Bagh,  
Khaneri Rampur, Busharhr Shimla H.P.
27. APL, Business Development,  
Achalraj, Opp Mayor Bungalow,  
Law Garden, Ahmedabad-380009

.....**Respondents**

**For petitioner** : Shri S.K. Soonee, POSOCO  
Shri R.K. Bansal, POSOCO  
Shri H.K. Chawla, POSOCO  
Shri M.K. Gupta, POSOCO

**For respondents** : None

### **ORDER**

The instant petition has been filed by Northern Regional Load Despatch Center (NRLDC), a statutory body set up under Section 27 of the Electricity Act, 2003, (hereinafter referred to as the "Act") under sub-section (4) of Section 28 of the Act,



2003 and Regulation 6 of Central Electricity Regulatory Commission (Fees & Charges of Regional Load Despatch Centre and other related matters) Regulations, 2015 (hereinafter referred to as the “2015 RLDC Fees Regulations”) for determination of fees and charges for Northern Regional Load Despatch Centre (NRLDC) for the period from 1.4.2014 to 31.3.2019. The NLDC and RLDCs are being operated by Power System Operation Corporation Limited (POSOCO), a wholly owned subsidiary of Power Grid Corporation of India Limited (PGCIL).

2. The fees and charges for 2009-14 tariff period for NRLDC was allowed vide order dated 11.3.2011 in Petition No. 91/2010. Subsequently, the fee and charges for 2009-14 tariff period were trued-up and approved vide order dated 18.3.2016 in Petition No. 525/TT/2014.

3. The petitioner has served the petition on the respondents and notice of this application has been published in the newspaper in accordance with the Central Electricity Regulatory Commission (Procedure for making of application for determination of tariff, publication of the application and other related matters) Regulations, 2004. No comments/objections have been received from the public in response to the notice in newspaper. None of the respondents have filed any reply.

4. The hearing in the matter was held on 22.12.2015. Having heard the representatives of the parties and perused the material on record, we proceed to dispose of the petition.

### **Brief Background**

5. As per the directives of Government of India vide order dated 4.7.2008, Power System Operation Corporation Ltd. (POSOCO), a wholly owned subsidiary of Power Grid Corporation of India Ltd. was created and POSOCO is responsible for system



operation of National Load Despatch Centre (NLDC) and Regional Load Despatch Centres (RLDCs). Pursuant to Satnam Singh Committee's report, the assets pertaining to system operations have been transferred to POSOCO for which separate tariff orders were issued by the Commission.

6. The Commission has notified Central Electricity Regulatory Commission (Fees and Charges of Regional Load Despatch Centre and other related matters) Regulations, 2015 and RLDC fee and charges have been determined in the instant petition as per the provisions of the said regulations.

### **Determination of Annual Fee and Charges for 2014-19**

7. The annual fee and charges claimed by the petitioner are as hereunder:-

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	424.81	306.49	178.33	195.95	203.53
Interest on Loan Capital	0.00	0.00	0.00	0.00	0.00
Depreciation	118.89	217.01	347.70	375.63	362.87
O&M Expenses excluding HR Expenses	587.21	630.73	677.69	728.35	783.00
HR Expenses	1840.11	2146.80	3042.67	4676.75	5537.89
NLDC Charges	924.57	1265.75	1680.50	2535.72	2877.69
Interest on working capital	128.24	151.65	198.58	287.33	330.64
<b>Total</b>	<b>4023.83</b>	<b>4718.44</b>	<b>6125.47</b>	<b>8799.73</b>	<b>10095.61</b>

### **Capital Cost**

8. Regulation 9 of the 2015 RLDC Fees Regulations provides as under:-

#### **“9. Computation of Capital Cost:**

(1) The capital cost as admitted by the Commission after prudence check, for each of the Regional Load Despatch Centre or NLDC, as the case may be, shall form the basis for determination of annual charges.

(2) The capital cost shall be computed by considering the following:

(a) The Capital cost as admitted by the Commission as on 1.4.2014 duly trued up by excluding liability, if any;



(b) Expenditure on account of additional capitalization and de-capitalization determined in accordance with the Regulation 10;

(c) The original capital cost of the fixed assets which has been replaced during control period shall be de-capitalized from the admitted capital cost from the respective date duly adjusting cumulative depreciation and cumulative repayment, if any;

(d) Interest during construction and incidental expenditure during construction;

(e) Any grant received from the Central or State Government or any statutory body or authority for execution of the project which does not carry any liability of repayment shall be excluded from the Capital Cost for the purpose of computation of interest on loan, return on equity and depreciation;

(3) The Capital cost shall be admitted after prudence check which may include scrutiny of the reasonableness of the capital expenditure, financing plan, Interest During Construction (IDC), Incidental Expenditure During Construction (IEDC), financing charges, any gain or loss on account of Foreign Exchange Rate Variation (FERV), use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission:

Provided further that 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 duly adjusting IDC on account of time over run if any ;

Provided further that incidental expenditure during construction shall be computed after prudence check duly adjusting the IEDC on account of time over run if any, interest on deposits or advances, or any other receipts and liquidated damages recovered or recoverable corresponding to the delay.”

9. The capital cost of ₹12898 lakh as on 31.3.2014 was allowed vide order dated 18.3.2016 in Petition No. 525/TT/2014. The same gross block value has been considered for the purpose of computation of fees and charges for the 2014-19 period.

### **Additional Capitalization**

10. Regulation 10 of the 2015 RLDC Fees Regulations provides as under:-

“10. Additional Capitalisation and De-Capitalization:

(1) The capital expenditure incurred or projected to be incurred for the assets already in service and the additional assets projected to be procured during tariff period may be admitted, in its discretion, by the Commission, subject to prudence check:

Provided that any expenditure for acquiring the minor items or the assets like tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans,



heat convectors, mattresses, carpets etc. purchased during 2009-14 tariff period shall not be considered for additional capitalization for determination of fees and charges.

(2) In case of de-capitalisation of assets under the REPEX or otherwise, the original cost of such asset as on the date of de-capitalisation shall be deducted from the value of gross fixed asset along with corresponding adjustment in equity, outstanding loan, cumulative repayment of loan and depreciation in the year such de-capitalisation takes place.”

11. The petitioner has claimed the following additional capital expenditure for 2014-19 tariff period:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	12898.00	13545.87	14806.34	15198.34	15333.34
CAPEX	0.00	165.50	222.00	85.00	100.00
REPEX	536.45	1094.97	170.00	50.00	10.00
Closing Capital Cost	13434.45	14806.34	15198.34	15333.34	15443.34

### **Capital Expenditure (CAPEX) and Additional Replacement Expenditure (REPEX) Plan**

12. Regulation 5 of the 2015 RLDC Fees Regulations provides as under:-

“5. Capital Expenditure (CAPEX) and Replacement Expenditure (REPEX)Plan:

(1) The Regional Load Despatch Centres and National Load Despatch Centre shall formulate the scheme for Capital Expenditure (CAPEX) and Replacement Expenditure (REPEX) for the control period duly approved by the Board of Power System Operation Company. The CAPEX and REPEX plan shall also include future costs to be incurred for the up-gradation, modernization, automation and expansion of infrastructure in addition to existing capital assets.

(2) The concerned Regional Load Despatch Centre and National Load Despatch Centre shall submit the following along with the petition for determination of fees and charges:

(a) the CAPEX for the control period of 2014-19 along with details of estimated expenses, reasonableness of capital cost, financing plan, interest during construction, use of efficient technology, upgradability/scalability of the technology and systems to accommodate the growing requirement of system operation and estimated completion period of each scheme ;

(b) the REPEX plan for capital expenditure of existing asset, completion of life of existing asset, cumulative depreciation recovered, date of replacement, cumulative repayment of loan upto date of replacement, writing off of the gross value of the original assets from the original fixed assets along with estimated expenses, reasonableness of capital cost, financing plan, interest during construction, use of efficient technology, upgradability/scalability of the technology and systems to



accommodate the growing requirement of system operation and estimated completion period of each scheme.

(3) In relation to any consolidated schemes of CAPEX and REPEX involving one or more RLDCs and/or NLDC, the capital expenditure chargeable to each RLDC and NLDC shall be segregated and considered as a part of capital expenditure of RLDC concerned and NLDC, as the case may be.”

13. The petitioner has claimed the CAPEX and REPEX for the 2014-19 as given below:-

CAPEX Plan:

(₹ in lakh)							
Sr. No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19	Total
1	Land	0.00	0.00	0.00	0.00	0.00	0.00
2	SCADA/EMS system	0.00	0.00	0.00	0.00	0.00	0.00
3	IT system	0.00	160.50	137.00	60.00	100.00	457.50
4	Power Supply	0.00	0.00	50.00	0.00	0.00	50.00
5	Civil works	0.00	5.00	10.00	0.00	0.00	15.00
6	Air Conditioning System	0.00	0.00	25.00	25.00	0.00	50.00
	<b>Total</b>	<b>0.00</b>	<b>165.50</b>	<b>222.00</b>	<b>85.00</b>	<b>100.00</b>	<b>572.50</b>

REPEX Plan:

(₹ in lakh)							
Sr. No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19	Total
1	SCADA/EMS system	123.00	1039.97	0.00	0.00	0.00	162.97
2	IT system	73.02	0.00	35.00	25.00	10.00	143.02
3	Power Supply	0.00	30.0	125.00	0.00	0.00	155.00
4	Civil Works	333.67	25.00	10.00	25.00	0.00	393.67
5	Air Conditioning System	1.50	0.00	0.00	0.00	0.00	1.50
6	Communication	0.00	0.00	0.00	0.00	0.00	0.00
7	Other office equipments	5.26	0.00	0.00	0.00	0.00	5.26
	<b>Total</b>	<b>536.45</b>	<b>1094.97</b>	<b>170.00</b>	<b>50.00</b>	<b>10.00</b>	<b>1861.42</b>

14. Total projected capital and replacement expenditure (CAPEX/REPEX) provided for 2014-19 for SRLDC is ₹2433.92 lakh (₹572.50 lakh CAPEX+₹1861.42 lakh REPEX). Major items are as below: -





### **Replacement of SCADA system (Repex)**

15. The petitioner has claimed ₹1162.97 lakh towards replacement of SCADA systems of RLDCs and NRLDC. The petitioner has submitted that SCADA System was planned during the control period 2009-14 and had been included in the CAPEX of the 2009-14 period. This formed the major portion of the projected CAPEX of 2009-14. In order to ascertain the replacement of SCADA systems of the RLDCs and the SLDC in a unified manner, the awards could be placed only in year 2012-13 after getting the concurrence of the SLDCs of the respective regions. Therefore, these have been included in the CAPEX of 2014-19.

16. We have examined the requirement of SCADA system. The communication and SCADA system installed under ULDC covered the existing network with a provision for expansion in the database and the associated site equipment. With passage of time, with very fast expansion in the power system network, requirement was felt for augmentation of the system to include the changes in the power system. Accordingly, Government and Regulators in India gave the renewed thrust to the investment in modernization of control centers through policy decisions and regulations.

17. Ministry of Power, Government of India vide order dated 13.10.2008 constituted a Task Force under the chairmanship of Shri Satnam Singh, CMD, Power Finance Corporation of India Limited “to look into the financial aspects for augmentation and up-gradation of State Load Despatch Centres and issues related to emoluments (compensation structure, incentives etc.) for the personnel engaged in System Operation and give its recommendations.” Under the Clause No. 8 (Methodology for recovery of fees and charges of LDCs) of Pradhan Committee and



Satnam Singh committee report (March, 2009) it is recommended that “The depreciation factor for new assets may be worked out considering a life of 3-7 years particularly in respect of IT infrastructure characterized by high obsolescence”.

18. The replacement of SCADA system was approved by the Commission during the 2009-14 tariff period, however, same was deferred to the 2014-19 period. The requirement of SCADA system is considered under Regulation 10 of the 2015 RLDC Fees Regulations. As it was deferred works in 2014-19 tariff period, the same has been allowed subject to true up with the actual expenditure.

### **Procurement of IT systems**

19. The petitioner has claimed ₹457.50 lakh towards procurement of IT systems (Hardware and Software), which include general IT infrastructure, Data Base Management System, Business Intelligence software, Simulation software, Web Based Scheduling software, Forecasting Software, Transient Analysis, Deviation Settlement Software, Reporting System, Financial Accounting System, PSDF Software, Software for weather system etc. The capital expenditure and replacement expenditure for procurement of IT system during 2014-19 tariff period is allowed as per Regulation 10 of the 2015 RLDC Fees Regulations subject to true up with the actual expenditure.

### **Civil works**

20. The petitioner has planned ₹393.67 lakh towards Civil Works at NRLDC, Corporate Office. The petitioner has submitted the approval of its Board in support of the above projected civil works during 2014-19 period. The projected civil works is allowed subjected to true up of actual expenditure.



21. Thus, the CAPEX and REPEX plan approved for the purpose of capitalization in accordance with Regulation 5 read with Regulation 10 of the 2015 RLDC Fees Regulations subject to true up is given below:-

CAPEX Plan:

(₹ in lakh)

Sr. No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19	Total
1	Land	0.00	0.00	0.00	0.00	0.00	0.00
2	SCADA/EMS system	0.00	0.00	0.00	0.00	0.00	0.00
3	IT system	0.00	160.50	137.00	60.00	100.00	457.50
4	Power Supply	0.00	0.00	50.00	0.00	0.00	50.00
5	Civil works	0.00	5.00	10.00	0.00	0.00	15.00
6	Air Conditioning System	0.00	0.00	25.00	25.00	0.00	50.00
	<b>Total</b>	<b>0.00</b>	<b>165.50</b>	<b>222.00</b>	<b>85.00</b>	<b>100.00</b>	<b>572.50</b>

REPEX Plan:

(₹ in lakh)

Sr. No.	Expenditure Head	2014-15	2015-16	2016-17	2017-18	2018-19	Total
1	SCADA/EMS system	123.00	1039.97	0.00	0.00	0.00	162.97
2	IT system	73.02	0.00	35.00	25.00	10.00	143.02
3	Power Supply	0.00	30.0	125.00	0.00	0.00	155.00
4	Civil Works	333.67	25.00	10.00	25.00	0.00	393.67
5	Air Conditioning System	1.50	0.00	0.00	0.00	0.00	1.50
6	Communication	0.00	0.00	0.00	0.00	0.00	0.00
7	Other office equipments	5.26	0.00	0.00	0.00	0.00	5.26
	<b>Total</b>	<b>536.45</b>	<b>1094.97</b>	<b>170.00</b>	<b>50.00</b>	<b>10.00</b>	<b>1861.42</b>

22. The petitioner has submitted that the REPEX and CAPEX claimed shall be funded through LDC Fund. As per Form 4D, submitted by the petitioner alongwith the petition, the loan portion (i.e. 70 %) of add-cap during 2014-19 period has been funded through LDC fund and equity portion (i.e. 30%) is notional equity, thus, there is no actual equity.

23. The expenditure on CAPEX and REPEX is allowed to be met from the LDC funds. The expenditure shall be reflected in the Books of NRLDC. However, in terms



of Regulation 12 (5) of the 2015 RLDC Fees Regulations the expenditure shall not earn any return on equity, interest on loan and depreciation. Regulation 12(5) of the 2015 RLDC Fees Regulations provides as under :-

"Any asset created by the Power System Operation Company out of the money deposited into the LDCD Fund shall not be considered for computation of return on equity, interest on loan and depreciation on same principles as in case of grant. Power System Operation Company shall submit details of such assets in the CAPEX plan."

24. POSOCO in Petition No. 222/MP/2015 had submitted that depreciation shall be allowed on the expenditure incurred out of the LDC Fund for CAPEX and REPEX in order to replenish the LDC Fund and denial of depreciation would result in depletion of the LDC Fund. The Commission after considering the submissions of POSOCO decided the issue as under in order dated 30.8.2016 in Petition No. 222/MP/2015:-

"16. As per the above provision, asset created by POSOCO out of the money deposited into the LDC Development Fund is not required to be considered for computation of return on equity, interest on loan and depreciation on same principles as in case of grant. POSOCO has submitted that the purpose of allowing depreciation for assets is to make available fund to the company to replace those assets once their economic life is over. If no depreciation on the assets funded from the LDC Development Fund is allowed, the fund shall start depleting and will not be available for future CAPEX/REPEX needs of POSOCO. In our view, although the interpretation taken by the Commission is correct as any amount allocated out of Reserve Fund are in the form of grant. However this aspect needs detailed examination and deliberation. Accordingly, we direct the staff to make a detailed analysis of the impact of disallowance of depreciation and treating it as grant on the assets funded out of LDC Development Funds on the future asset of POSOCO and submit for consideration of the Commission"

25. In compliance with the direction, staff of the Commission analysed the issue of denial of depreciation on assets created out of LDC Fund and its impact on the overall funds availability in LDC Fund and submitted its analysis to the Commission. On going through the analysis, it is observed that after meeting the funding of CAPEX and REPEX requirements out of LDC Fund as projected in the petition, NRLDC would still be left with sufficient funds to meet the CAPEX and REPEX



requirements during 2014-19 period. Therefore, there is no requirement to revisit the provisions of Regulations 12(5) of the 2015 RLDC Fee Regulations during the control period 2014-19. The issue of allowance/disallowance of depreciation on the assets created from LDC Fund will be considered at the time of making Regulations on fees and Charges for the next control period. In case of any difficulty, the petitioner may approach the Commission through an appropriate application.

26. In the instant case, the additional CAPEX and REPEX is proposed to be met from the LDC Fund and as such, additional capital expenditure claimed is not allowed for the purpose of computation of fee and charges as provided in Regulation 12(5) of the 2015 RLDC Fees Regulations.

**De-capitalisation**

27. The petitioner has not submitted the details of actual/projected decapitalisation during 2014-19 period. Accordingly, decapitalisation has been derived and worked out from the statement of Depreciation/Form 6A submitted alongwith the petition. Further, the decapitalisation amount has been segregated into debt equity ratio as on 1.4.2014, i.e. 86.81:13.19. Similar approach was adopted in Petition No. 53/2007. Details of de-capitalisation worked out under Regulation 10(2) of the 2015 RLDC Fees Regulations and considered for computation of fees and charges are as under:-

(₹ in lakh)

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Auxiliary Power Supply System	0.00	0.00	0.00	0.00	0.94
SCADA Hardware with Test Equipment & Spares (IT Equipments)	3.32	989.68	47.66	0.00	23.14
Software (IT Equipments)	0.00	11,347.97	0.00	26.19	25.11
<b>Total</b>	<b>3.32</b>	<b>12,337.65</b>	<b>47.66</b>	<b>26.19</b>	<b>49.19</b>



## Debt-equity ratio

28. Regulation 11 of the 2015 RLDC Fees Regulations provide as under:-

"11. Debt-Equity Ratio:

(1) The actual debt: equity ratio as admitted by the Commission for the period ending 31.3.2014 shall be considered for the opening capital cost of each of the Regional Load Despatch Centres and National Load Despatch Centre, as the case may be.

(2) The capital expenditure incurred prior to 1.4.2014, where debt: equity ratio has not been determined by the Commission for determination of annual charges of RLDC for the period ending 31.3.2014, the Commission shall determine the debt: equity ratio in accordance with Regulation 9(2) of the Central Electricity Regulatory Commission (Fees and Charges for Regional Load Despatch Centres and other related matters) Regulations, 2009.

(3) For the capital expenditure incurred or projected to be incurred on or after 1.4.2014, the debt-equity ratio shall be considered as 70:30. 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 power system operation company 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 RLDC."

29. The details of debt-equity worked out for the instant asset as on 1.4.2014 and 31.3.2019 as provided in Regulation 11 of the 2015 RLDC Fees Regulations is given below:-

(₹ in lakh)

Particulars	Debt-Equity Ratio as on			
	1.4.2014		31.3.2019	
Debt	11196.57	86.81	376.74	86.81
Equity	1701.43	13.19	57.25	13.19
Total	12898.00	100.00	433.99	100.00

## Return on Equity (ROE)

30. Regulation 17 of the 2015 RLDC Fees Regulations provide as under:-



"17. Return on equity:

(1) Return on equity shall be computed in Rupee terms on the equity base determined in accordance with Regulation 11 of these regulations.

(2) Return on equity shall be computed on pre-tax base rate of 15.50% to be grossed up as per the sub-clause (3) of this regulation.

(3) The rate of return on equity shall be computed by grossing up the base rate with the effective tax rate of the financial year 2014-15 applicable to the Power System Operation Company:

Provided that the return on equity with respect to the actual tax rate applicable to the Power System Operation Company in line with the provisions of the relevant Finance Acts of the respective year during control period shall be trued up at the end of the control period.

(4) Rate of return on equity shall be rounded off to three decimal points and be computed as per the following formula:

$$\text{Rate of pre-tax return on equity} = \text{Base rate}/(1-t)$$

Where 't' is the effective tax rate in accordance with sub-clause (3)".

31. As per above regulation, the base rate considered for the calculation of ROE is 15.5% for 2014-19 period. We have considered the effective tax rate of 17.566% for 2014-15 as provided in the Central Electricity Regulatory Commission (Terms and Conditions) Regulations, 2014 and the same has been applied for the control period 2014-19. Accordingly, the ROE computed for control period 2014-19 is as under:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	1701.43	1700.99	73.48	67.19	63.74
Addition due to Additional Capitalisation	-0.44	-1627.51	-6.29	-3.45	-6.49
Closing Equity	1700.99	73.48	67.19	63.74	57.25
Average Equity	1701.21	887.24	70.34	65.47	60.49
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%	15.50%
Effective Tax rate during 2014-15	17.566%	17.566%	17.566%	17.566%	17.566%
Rate of Return on Equity (Pre Tax )	18.803%	18.803%	18.803%	18.803%	18.803%
Return on Equity (Pre Tax)	<b>319.88</b>	<b>166.83</b>	<b>13.23</b>	<b>12.31</b>	<b>11.37</b>



## Interest on Loan

32. The petitioner has not claimed "Interest of Loan" component for the period 2014-19 tariff period as the principal portion of loan has been fully repaid.

## Depreciation

33. Regulation 19(2) and 19(4) of the 2015 RLDC Fees Regulations provide as under:-

"(2) The salvage value of the asset (excluding IT equipments and Software's) shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset. The salvage value for IT equipments and Softwares shall be considered as NIL and 100% value of the assets shall be considered as depreciable.

(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III to these regulations for the assets of the Regional Load Despatch Centre."

34. Depreciation has been calculated annually based on Straight Line Method and at rates specified in the 2015 RLDC Fees Regulations. Year-wise Weighted Average Rates of depreciation have been calculated by applying specified rates of depreciation to individual items and these weighted average rates of depreciation have been applied to the 90% depreciable assets and 100% depreciable assets.

Following is the working of the depreciation for the instant assets/items:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
As per Last Order	12898.00	12894.68	557.03	509.37	483.18
Addition during 2009-14 due to Projected Additional Capitalisation	-3.32	-12337.65	-47.66	-26.19	-49.19
Closing Gross Block	12894.68	557.03	509.37	483.18	433.99
Average Gross Block	12896.34	6725.85	533.20	496.27	458.58
Average Gross Block of 90% Depreciable assets	314.01	314.01	314.01	314.01	313.54
Average Gross Block of 100% Depreciable assets	12582.33	6411.84	219.19	182.26	145.04
Rate of Depreciation	27.9961%	27.2649%	10.0908%	9.3297%	8.0346%
Depreciable Value (excluding IT equipments and software)	282.61	282.61	282.61	282.61	282.19
Depreciable value of IT equipments and software	12582.33	6411.84	219.19	182.26	145.04
Total Depreciable Value	12864.94	6694.45	501.80	464.87	427.23





Remaining Depreciable Value	7.38	0.00	0.00	0.00	0.00
Depreciation	7.38	0.00	0.00	0.00	0.00
Cumulative Depreciation/ Advance against Depreciation	12861.63	562.67	515.16	489.05	440.01

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

35. Regulation 20 of the 2015 RLDC Fees Regulations provide as under: -

"20. Operation and Maintenance Expenses: -

(1) Operation and maintenance (O&M) expenses (excluding human resource expenses) shall be derived on the basis of actual operation and maintenance expenses for the years 2009-10 to 2013-14, based on the audited balance sheets. The O&M expenses shall be normalized by excluding abnormal operation and maintenance expenses, donation, loss-in-inventory, prior-period adjustments, claims and advances written-off, provisions, etc, if any, after prudence check by the Commission.

(2) The normalized operation and maintenance expenses, after prudence check, for the years 2009-10 to 2013-14, shall be escalated at the rate of 5.72% to arrive at the normalized operation and maintenance expenses at the 2013-14 price level respectively and then averaged to arrive at normalized average operation and maintenance expenses for the 2009-10 to 2013-14 at 2013-14 price level. The average normalized operation and maintenance expenses of 2013-14 price level shall be escalated at the escalation rate as worked out in accordance with clause (4) of this Regulation to arrive the operation and maintenance expenses for the year 2014-15.

(3) The operation and maintenance expenses for the year 2014-15 shall be escalated further at the annual escalation rate as worked out in accordance with clause (4) this Regulation to arrive at permissible operation and maintenance expenses for the subsequent years of the control period.

(4) The escalation rate shall be worked out by considering the compounded annual growth rate, inflation rate, rationalization of O&M expenses and other factors, if any.

(5) The actual expenditure towards Annual Maintenance Contract (AMC) of SCADA system, after prudence check, shall be considered for arriving at the Operation and Maintenance Expenses during 2014-15 to 2018-19."

36. The petitioner has submitted that the O&M Expenses excluding employee expenses have been calculated as per Regulation 20 of the 2015 RLDC Fees Regulations. The petitioner has submitted that the normalized O&M Expenses of 2009-14 have been escalated at the rate of 5.72% and then averaged to arrive at the normalized average expenses of 2013-14 level. The petitioner has claimed the following O&M Expenses:-



						(₹ in lakh)
Items	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Repairs and maintenance expenses	69.31	72.03	74.96	78.12	81.53	375.94
Administrative and general expenses	517.90	558.71	602.73	650.23	701.47	3031.04
Total	587.21	630.73	677.69	728.35	783.00	3406.98

37. The petitioner has considered the escalation rate of 7.79% to arrive at O&M Expenses for the year 2014-15. This rate has been arrived at after taking into consideration the Compounded Annual Growth Rate (CAGR) of actual O&M Expenses of the control period 2009-14 and inflation rate as provided in the Regulation 20(4) of the 2015 RLDC Fees Regulations.

38. We have considered the submissions of the petitioner. The donations and other charges which do not form part of O&M Expenses are disallowed. As regards the training expenditure, it has been decided in order dated 30.8.2015 in Petition No. 222/MP/2015 that the expenditure incurred for training the personnel from SLDC would be met from the LDC Fund. Since the expenditure on training of the personnel of NRLDC has been considered as part of the O&M Expenses of NRLDC, the same shall be met from the O&M Expenses. Accordingly, the training expenditure related to employees of POSOCO (NRLDC) is allowed as part of O&M Expenses. It is observed that the petitioner has booked certain expenses under the head 'Organization Developmental Expenses'. However, the petitioner has not clarified whether this expenditure is related to employee welfare development or other expenses. Thus, only 50% of the expenses claimed under the head 'Organization Developmental Expenses' is allowed. The same will be reviewed at the time of truing up of 2014-19 charges on submission of clarification by the petitioner.



39. Accordingly, normalised O&M Expenses actually incurred by the petitioner have been arrived at for working out the O&M Expenses for base year 2014-15 to further work out the O&M Expenses for 2014-19 tariff period as under:-

(₹ in lakh)

Year	Normalized Repairs and Maintenance	Normalized A&G expenses	Total
2009-10	29.08	365.18	394.26
2010-11	17.37	460.51	477.88
2011-12	30.23	395.85	426.08
2012-13	24.27	526.98	551.25
2013-14	43.49	375.90	419.39
5 year Average	28.89	424.88	453.77
3 year Average	32.66	432.91	465.57
Escalated upto base year 2014-15 @5.72%	33.20	488.27	521.47

40. The petitioner has claimed ₹174.17 lakh towards AMC of SCADA as part of O&M Expenses and the same is allowed. The expenses towards AMC of SCADA are based on the contract and hence, the same have been allowed subject to adjustment with actual expenses at the time of true-up.

### **Escalation Rate**

41. The escalation rate has been computed based on the five year average WPI and CPI indices for 2008-09 to 2013-14. Considering 60% WPI and 40% CPI, it works out to 7.79%. It is observed that after normalisation, the increase in O&M Expenses for the period 2008-09 to 2013-14 was around 15-16% for the petitioner. We are therefore of the view that average CPI (40%) and WPI (60%) indices are an indicator of inflation and the same is considered in the instant case. Accordingly, the escalation rate of 7.79% has been considered to work out the O&M Expenses for 2014-19 tariff period.



42. Accordingly, the O&M Expenses excluding employee expenses have been worked out by considering normalized expenses and escalation rate as discussed above. The O&M Expenses are worked out as under:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	521.47	562.14	605.99	653.25	704.20
AMC of SCADA	34.83	34.83	34.83	34.83	34.83
Total O&M Expenses	556.30	596.98	640.82	688.08	739.04

43. The total O&M Expenses worked out above excluding employee expenses and including projected annual maintenance charges of SCADA will be reviewed at the time of true up based on actual O&M expenses.

### **Human Resource Expenses (HR Expenses)**

44. Regulation 21 of the 2015 RLDC Fees Regulations provide as under:-

“(1) Human resource expenses shall be derived on the basis of actual human resource expenses for the years 2009-10 to 2013-14 based on the audited balance sheets. The human resource expenses shall be normalized by excluding abnormal Human resource expenses, ex-gratia, VRS expenses, prior-period adjustments, claims and advances written-off, provisions, etc., if any, after prudence check by the Commission: Provided that performance related pay computed in accordance with DPE guidelines shall be met from the incentive allowed in accordance with sub-clause (5) of Regulation 29 of these Regulations.

(2) The normalized human resource expenses, after prudence check, for the year 2009-10 to 2013-14, shall be escalated at the rate of 5.72% to arrive at the normalized human resource expenses at the 2013-14 price level respectively and then averaged to arrive at normalized average human resource expenses for the 2009-10 to 2013-14 at 2013-14 price level.

(3) The manpower approved during the year 2013-14 shall be the basis for computation of the HR expenses for 2014-15. Thereafter, for the subsequent years, the HR expenses shall be escalated at the annual escalation rate.

(4) The average normalized human resource expenses of 2013-14 price level shall be escalated at the escalation rate as worked out in accordance with clause (6) this Regulation to arrive the operation and maintenance expenses for the year 2014-15.

(5) The human resource expenses for the year 2014-15 shall be escalated further at the annual escalation rate as worked out in accordance with clause (6) this Regulation to arrive at permissible human resource expenses for the subsequent years of the control period:

Provided that the human resource expenses from 1.1.2017 onwards shall be further rationalized after considering 50% increase in employee cost on account of pay revision of the employees of the Public Sector Undertakings to arrive at the permissible human resource expenses for the year 2017-18 and 2018-19.



(6) The escalation rate shall be worked out by considering the compound annual growth rate, inflation rate, rationalization of human resource and other factors, if any.

(7) The cost of anticipated increase in the manpower of each year of the control period shall also be considered after prudence check.”

45. The petitioner has claimed the HR expenses for the tariff period 2014-19 as under:-

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
1840.11	2146.80	3042.67	4676.75	5537.89	17244.21

46. The petitioner has submitted that the normalized HR expenses of 2009-14 have been escalated at the rate of 5.72% and then averaged to arrive at the normalized average HR expenses at 2013-14 level. The petitioner has further submitted that the manpower projection for computation of the HR expenses for the control period 2014-19 is based on increase functions/responsibilities of NRLDC over the past few years which needs to be complemented with proportionate increase in manpower for carrying out duties/ responsibilities with efficacy and quality. The Additional Manpower has been envisaged in NRLDC to take care of the additional responsibilities in the areas of regulatory Affairs, integration of renewable, WAMS-PMU project, Big data management, Information Technology, Ancillary Services, Logistics, Energy Efficiency and Physical Security, System Operation, SCADA/EMS Up gradation and Management, Power System, Open Access, handling of pool accounts and the associated taxation issues, and Human Resource Development. As per the submission of the petitioner, the actual manpower in 2014-15 is 89 and the manpower projected for 2018-19 is 115.

47. We have examined the petitioner's claim of HR Expenses in the light of Regulation 21 of the 2015 RLDC Fees Regulations. The petitioner has submitted the



copy of supporting calculation along with tariff forms. We have analyzed sub-head wise HR Expenses incurred by NRLDC. It is observed that there is increase in the HR Expenses during 2009-14. The increase during 2009-14 has been normalized. Some of the expenses like ex-gratia, productivity linked incentives, provisions and adjustments made by the petitioner have been rationalized to work out the normalized HR Expenses. The 2015 RLDC Fees Regulations provides for incentive provision separately linked with performance and therefore the same should be paid by the petitioner from the increase in revenue due to efficient system operations. The petitioner company is hived off from Powergrid during 2010-11 and therefore, it is not appropriate for the petitioner to consider the HR Expenses from 2009-12 for the purpose of working out the HR Expenses for the 2014-19 period. We have considered the average of normalised HR Expenses of last two years of the petitioner for the purpose of working out the HR Expenses.

48. The petitioner has submitted that as per Regulation 21 of RLDC Fees Regulations HR Expenses are to be considered on normalized basis with further rationalization considering 50% increase in employee cost on account of pay revision. We have considered the submissions of the petitioner. The wage revision is expected to be effective from 1.1.2017. The last pay revision of the employee of CPSE took place with effect from 1.1.2007. Pay revision of CPSE employees takes place after a gap of 10 years. However, the pay revision of the CPSE has not been notified as yet. Even though it is provided in the 2015 RLDC fee regulations to allow the HR expenses on account of pay revision with effect from 1.1.2017, the Commission is of the view that it would not be appropriate to allow the expenditure through fees and charges, which has not been crystallized on the date of order. Therefore, the claim of the petitioner for expenditure on account of wage revision has



not been allowed. Liberty is granted to the petitioner to approach the Commission after implementation of the wage revision for CPSE employees.

49. We have accordingly derived normalised HR Expenses actually incurred by the petitioner for working out the HR expenses for base year 2014-15 to work out the O&M Expenses for 2014-19 tariff period as under:-

(₹ in lakh)

Year	Normalized HR expenses
2012-13	1392.87
2013-14	1402.91
2 year Average	1397.89
Escalated upto base year 2014-15 @5.72%	1477.849

50. We have considered escalation rate of 7.79% for working out O&M Expenses. HR Expenses, excluding employee expenses, have been worked out considering normalized expenses and escalation rate of 7.79%. The details of HR Expenses worked out are as under:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
HR expenses	1477.849	1593.107	1717.353	1851.290	1995.672

### **Additional Manpower**

51. The petitioner has claimed additional manpower during 2014-19 period. The year wise addition of manpower projected by the petitioner for 2014-19 is given below:-

Year	Executive	Non-executive
2014-15 (existing staff)	56	33
2015-16 (addition)	6	0
2016-17 (addition)	13	0
2017-18 (addition)	6	0
2018-19 (addition)	9	0



52. The petitioner has claimed HR Expenses by considering increased number of manpower. The petitioner has also submitted the approval of its Board in support of the increase of manpower. The petitioner has submitted that assignment of additional responsibilities in the areas of system operation, regulatory affairs, integration of renewable, WAMS project, SCADA up-gradation, ancillary services etc. requires additional manpower. It is observed that the additional responsibilities considered by the petitioner have already been factored while providing for the manpower in the regulations. The petitioner should optimize the utilization of existing manpower to discharge any additional responsibilities already assigned to POSOCO (NRLDC). It appears that NRLDC has not recruited the manpower commensurate with the projections made for the years 2015-16 and 2016-17 (till date). The Commission is of the view that NRLDC should approach the Commission based on the actual increase in manpower and accordingly liberty is granted to NRLDC.

53. Regulation 24 of 2015 RLDC Fee Regulations provide as under :-

“24. Contingency expenses:

(1) The Power System Operation Company shall maintain a separate account for the other income like short term open access charges and REC charges etc.

(2) The Power System Operation Company shall use such income to meet the short fall, if any, in the annual charges allowed by the Commission or to meet the contingency expenses which were not foreseen at the time of making the application for fees and charges and are considered necessary for the efficient power system operation.”

54. The petitioner has submitted the details of other income received under the head short term open access charges, REC income etc. The Commission has specified the provision of contingency expenses under Regulation 24 of the 2015 RLDC Fees Regulations. This income is to be maintained under the separate account and used as specified by the Commission. Therefore, the other income is





not adjusted in the O&M expenses. However, at the end of tariff period, the balance amount, if any, may be adjusted in O&M expenses.

**Apportioned NLDC Charges & Corporate Office Expenses:**

55. Clause 23 (3) of the 2015 RLDC Fees Regulations provide as under :-

"(3) All expenses of NLDC and Corporate Office expenses approved by the Commission shall be apportioned to the Regional Load Despatch Centre on the basis of the peak demand served (in MW) in the respective region as indicated in CEA's website for the preceding year."

56. Accordingly, on the basis of the proposed NLDC Charges and Corporate Office expenses, following year-wise apportioned NLDC charges and Corporate Office expenses to be apportioned to the NRLDC have been worked out :-

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Apportioned NLDC Charges & Corporate Office expenses to NRLDC	882.08	788.91	825.50	841.95	855.71

**Interest on working capital**

57. Regulation 22 of the 2015 RLDC Fees Regulations provide as under:-

"22. Interest on Working Capital :

(1) The working capital shall cover:

- (i) Operation and maintenance expenses (excluding human resource expenses) for one month;
- (ii) Human resource expenses for one month;
- (iii) NLDC charges for one month; and
- (iv) Receivables equivalent to two months of annual charges as approved by the Commission.

(2) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014.

(2) Interest on working capital shall be payable on normative basis notwithstanding that the Power System Operation Company has not taken any loan for working capital from any outside agency."

58. Accordingly, following expenses have been worked out :-



- (i) Human Resource Expenses have been considered for one month of the recommended O&M Expenses.
- (ii) O&M Expenses excluding human resource expenses have been considered for one month of the recommended O&M expenses.
- (iii) The receivables have been worked out on the basis 2 months' of system operation charges and market operation charges as worked out above.
- (iv) NLDC charges for 1 month have been included in the computation of interest on working capital.
- (v) Rate of interest on working capital has been arrived at as SBI Base Rate Plus 350 bps as on 1.04.2014 (i.e.13.50%). Interest on working capital worked out for the 2014-19 period is as follows :-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Working Capital	108.22	106.70	110.23	117.03	124.23

### **Annual Fee and charges**

59. The details of the annual fee and charges allowed for the instant assets for the 2014-19 tariff period is summarized below:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	7.38	0.00	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	319.88	166.83	13.23	12.31	11.37
Interest on Working Capital	108.22	106.70	110.23	117.03	124.23
O & M Expenses Excluding Human Resource Expenses	556.30	596.98	640.82	688.08	739.04
Human Resource Expenses	1477.85	1593.11	1717.35	1851.29	1995.67
NLDC Charges & Corporate Office Expenses	882.08	788.91	825.50	841.95	855.71
<b>Total</b>	<b>3351.71</b>	<b>3252.52</b>	<b>3307.13</b>	<b>3510.66</b>	<b>3726.02</b>



### **Filing fee and Publication Expenses**

60. The petitioner has sought reimbursement of expenditure towards publishing of notices in Newspapers and other expenditure in relation to the filing of petition. Since the expenditure has been incurred for meeting a statutory requirement, we allow the direct reimbursement of these expenses by the users/beneficiaries on pro-rata basis.

62. As regards the petitioner's prayer to allow to bill and adjust the impact of FERV, the same is allowed to be recovered from the beneficiaries directly as provided under Regulation 33 of 2015 RLDC Fees Regulations.

63. Billing and payment of charges allowed shall be governed by Regulation 31 of the 2015 RLDC Fees Regulations. Accordingly, POSOCO will raise bills for these charges on monthly basis directly from the users as per the said Regulation.

64. This order disposes of Petition No. 243/TT/2015.

sd/-	sd/-	sd/-	sd/-
<b>(Dr. M.K. Iyer)</b> Member	<b>(A.S. Bakshi)</b> Member	<b>(A.K. Singhal)</b> Member	<b>(Gireesh B. Pradhan)</b> Chairperson

