CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI

Petition No. 54/MP/2016

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

Date of Hearing: 14.06.2016 Date of Order : 18.11.2016

In the matter of

Petition under sub-section (4) of section 28 of Electricity Act 2003 read with Regulation 6 & Regulation 29 of Central Electricity Regulatory Commission (Fees & charges of Regional Load Despatch Centre and other related matters) Regulations, 2015 for approval of Performance Linked Incentive for SRLDC for the financial year 2014-15 with reference to SRLDC Charges for the control period 1.4.2014 to 31.3.2019.

And In the matter of

Southern Regional Load Despatch Centre Power System Operation Corporation Ltd. B-9, Qutab Institutional Area, 1st Floor, Katwaria Sarai, New Delhi -110016

Vs

1. CMD, APTRANSCO, Vidyut Soudha, Hyderabad-500082 Telangana

2. CMD,TSTRANSCO Vidyut Soudha, Hyderabad-500082 Telangana

3. Managing Director, PCKL KPTCL Building, Cauvery Bhavan, Bangalore-560009, KarnatakaPetitioner

4. Chairman, KSEB, Vaidyuthi Bhavanam, Pattom Trivandrum-695004, Kerala

5. Chairman, TNEB 144, Anna Salai, Chennai-600002, Tamil Nadu

6. Superintending Engineer, Puducherry Electricity Dept. Electricity Dept. of Pondicherry Pondicherry-605001

Chief Engineer (Electrical),
Goa Electricity Board, Office of Chief Electrical Engineer (Electrical),
Govt. of Goa, Vidyuth Bhavan, 3rd Floor, Panaji, Goa-403001

8. Executive Director Powergrid HVDC, PGCIL, Southern Regional Transmission System-II, Near RTO Driving Test Crack, Singanayakanhali, Yelahanka, Bangalore-560064

9. General Manager, Ramagundam STG I & II NTPC, RSTPS, Jyothi Nagar, Dist. Karim Nagar, Telengana-505215

10. General Manager, Ramagundam STG III NTPC, RSTPS, Jyothi Nagar, Dist. Karim Nagar, Telengana-505215

11. The AGM (Commercial), Simhadri STG II, NTPC, District-Vishakhapatnam, Simhadri-531020, Andhra Pradesh

12. Executive Director, NTPC, Talcher STG II NTPC, Kaniha, Deepshikha-P.O, District-angul-759147, Orissa,

13. Chief General Manager, NLC TPS II STG I, Neyveli Lignite Corpn Ltd., Thermal Power Station II, Neyveli 607801, Tamil Nadu

14. Chief General Manager, NLC TPS II STG II, Neyveli Lignite Corpn Ltd., Thermal Power Station II, Neyveli 607801, Tamil Nadu

15. Chief General Manager, NLC TPS I Expansion, Neyveli Lignite Corpn Ltd., Thermal Power Station II, Neyveli 607801, Tamil Nadu

16. Deputy General Manager, NLC TPS II EXPANSION, Neyveli Lignite Corpn Ltd., Thermal Power Station II, Neyveli 607801, Tamil Nadu

17. Station Director, MAPS,

Nuclear Power Corporation of India Ltd.,

Madras Atomic Power Station, Kalpakkam-603102, Tamil Nadu

18. Station director, KGS Units 1 & 2, Nuclear Power Corpn. Of India Ltd., Kaiga Generating Station, Kaiga-581400, Karwar, Karnataka

19. Station director, KGS Units 3 & 4, Nuclear Power Corpn. Of India Ltd., Kaiga Generating Station, Kaiga-581400, Karwar, Karnataka

20. The Station Director, KNPP Unit-I, Kudankulam Nuclear Power Project, Nuclear Power Corporation of India Ltd., Kudankulam Post, Radhapuram Taluk-627106, Tamil Nadu

21. The Station Director, KNPP Unit-II, Kudankulam Nuclear Power Project, Nuclear Power Corporation of India Ltd., Kudankulam Post, Radhapuram Taluk-627106, Tamil Nadu

22. The General Manager, NTPC Tamil Nadu Energy Co. Ltd, Vallur Thermal Power Project, Vellivoyalchavadi Post, Poneri Taluck, Tiruvallur, Chennai-600013, Tamil Nadu

23. The General Manager, NLC Tamil Nadu Power Ltd., 500 MW JV Thermal Power Project, Harbour estate, tuticorin-628004, Tamil Nadu

24. Executive Director, Lanco Kodapalli St II, Lanco Kondapalli Power Pvt. Ltd., Kondapalli, Ibrahimpatnammandal -521228, Telangana

25. Executive Director, Lanco Kodapalli St III, Lanco Kondapalli Power Pvt. Ltd., Kondapalli, Ibrahimpatnammandal -521228, Telangana

26. The Chairman & Managing Director, Meenakshi Energy Pvt. Ltd., NSL ICON Plot No. 1,2,3,4, H-No-8-2-684/2/A, 2nd Floor, Road No.12, Banjara Hills, Hyderabad 500034, Telangana

27. The General Manager, Simhapuri Energy Ltd, Madhucon Green Lands, 6-3-866/2, 3rd Floor, Begumpet, Hyderabad-560016, Telangana

28. The President & CEO, Coastal Energen Pvt. Ltd, 7th Floor, Buhari Towers, No.4 Moores Road, Chennai-600006, Tamil Nadu

29. The Chief Commercial Officer, Thermal Powertech Corporation India Ltd., 6-3-1090 A-block, 5th Floor, T.S.R. Towers, Raj Bhavan Road Hyderabad 500082, Telangana

30. Executive Director, Powergrid ISTS, Southern Regional Transmission System-II, Near RTO Driving Test Track, Singanayakanhalli, Yelankha,Bangalore-560064, Karnataka

31. The Project In Charge , Raichur Sholapur Transmission Company Limited, Patel Estates, S.V. Road, Jogeshwari (West), Mumbai 400102, Maharashtra**Respondents**

Parties present:

Shri KVS Baba, POSOCO Shri Aditya P. Das, WRLDC Shri V. Balaji, SRLDC Shri M.K. Gupta, SRLDC Shri H.K. Chawla, NRLDC Shri Rajib Sutradhar, NERLDC Shri Manas Das, ERLDC Ms. Abiha Zaidi, POSOCO

<u>ORDER</u>

The petitioner, Southern Regional Load Despatch Centre, has filed the present petition under Section 28 (4) of Electricity Act 2003 read with Regulations 6 and 29 of Central Electricity Regulatory Commission (Fees and charges of Regional Load Despatch Centre and other related matters) Regulations, 2015 (hereinafter referred to as "Fees and charges Regulations") for approval of Performance Linked Incentive for Southern Regional Load Despatch Centre for the financial year 2014-15 during the control period 1.4.2014 to 31.3.2019.

2. Brief facts of the case leading to the filing of the petition and subsequent developments after the filing of the petition are capitulated as under:

(a) The petitioner, Southern Regional Load Despatch Centre (SRLDC) set up under Section 28 of the Electricity Act, 2003 performs functions specified in Section 28 of the Electricity Act, 2003 and the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010. NLDC and RLDCs are operated by Power System Operation Corporation Limited (POSOCO) w.e.f. 1.10.2016.

(b) As per Regulation 29(1) to 29(3) of the Fees and Charges Regulations, the recovery of performance Linked Incentive(PLI) by NLDC and RLDCs shall be based on the achievement of Key Performance Indicators (KPI) as specified in Appendix V of Fees and Charges Regulations or such other parameters as specified by the Commission.

(c) As per Regulation 29 (6) of the Fees and Charges Regulations, NLDC and RLDCs are required to compute the KPIs on annual basis for the previous year ending 31st March and to submit to the Commission for approval as per Appendix V and VI of the Fees and Charges Regulations. (d) As per methodology specified in Appendix V of the Fees and Charges Regulations, KPI score for SRLDC for the year 2014-15 has been computed as under:

SI. No.	Key Performance Indicators	Weightage	Previous Year (2014-15)
1	Reporting of Interconnection meter	10	10
2	Reporting of Grid Incidents and Grid	10	10
3	Average processing time of shut down	10	10
4	Availability of SCADA System	10	10
5	Voltage Deviation Index (VDI)	10	10
6	Frequency Deviation Index (FDI)	10	10
7	Reporting of System Reliability	10	6.67
8	Availability of Website	10	10
9	Availability of Standby Supply	5	5
10	Variance of Capital expenditure	5	5
11	Variance of Non Capital expenditure	5	4.92
12	Percentage of Certified Employee 5		4.94
	Total	100	96.53

(e) As per the methodology provided in Regulation 29 (5) of the Fees and Charges Regulations, the petitioner is entitled to recover 7% of annual charges at the aggregate performance level of 85% for three years commencing from 1.4.2014 and the incentive shall increase by 1% of annual charges for every 5% increase of performance level above 90%. Accordingly, recovery of Performance Linked Incentive for the year 2014-15 works out as 8.31% of the annual charges (7% for 85 to 90% performance level + 1% for performance level from 90 to 95% + 0.31% for performance level from 95% to 96.53%).

3. Against the above background, the petitioner has filed the present petition with the following prayers:

"(a) Approve the charges for SRLDC for control period 1.4.2014 to 31.3.2019 proposed vide affidavit dated 15.10.2015;

(b) Approve the proposed performance linked incentive based on the KPIs computed by SRLDC for year ending 31.3.3-015 given at para 6, the KPI score given at para 7 and PRP percentage of Annual Charges for the year 2014-15 as per para 8 above.

(c) Allow the applicant to recover incentive from the users for the year 2014-15 as approved by the Commission.

(d) Pass such other order as the Commission deems fit and appropriate in this case and in the interest of justice."

4. The matter was heard on 26.5.2016 and notices were issued to the respondents

to file their replies. No reply has been filed by the respondents despite notice.

5. The petitioner, vide record of proceedings for the hearing dated 26.5.2016, was

directed to file the following information:

- (a) Rationale to arrive at the formula for calculation of marks for various KPIs for year 2014-15.
- (b) Whether the petitioner intimated concerned utilities regarding interconnection meter error covered under KPI-1? If yes, provide details?
- (c) Whether the petitioner reported each incident of grid disturbance to the Commission. If yes, provide details?
- (d) According to the petitioner, 26 hours is the time allowed to NLDC and50 hours (including NLDC time) to RLDC for approval of the shutdown requests. The basis of considering these hours may be submitted.
- (e) With regard to voltage deviation index, whether petitioner intimated to concerned utilities for corrective action. If yes, provide details?
- (f) With regard to KPI-7 (Reporting of system reliability) the petitioner at Annexure-VII has mentioned that reporting of angle difference between important buses (to be reported to CERC) is not applicable. Clarify the same and reasons for not reporting to the Commission may be explained.
- (g) Regarding KPI-10 the formulae proposed by the petitioner may be reviewed since it is not taking absolute value of % variation.

(h) Details of Productivity Linked Incentive (PLI) claims. In case of discrepancy with the figures in respective Fee and Charges, the reasons of the same may be explained.

6. The petitioner vide its affidavit dated 8.6.2016 has submitted the information called for.

7. The present petition has been filed under Regulations 6 and 29 of the Fees and

Charges Regulations for approval of PLI for the financial year 2014-15. Regulations 6

and 29 are extracted as under:

"6. Application for determination of fees and charges:

- (1) The RLDCs and NLDC shall make application in the formats annexed as Appendix I to these regulations within 180 days from the date of notification of these Regulations, for determination of fees and charges for the control period, based on capital expenditure incurred and duly certified by the auditor as on 1.4.2014 and projected to be incurred during the control period based on the CAPEX and the REPEX.
- (2) The application shall contain particulars such as source of funds, equipments proposed to be replaced, details of assets written off, and details of assets to be capitalized etc.
- (3) Before making the application, the concerned RLDC or NLDC, as the case may be, shall serve a copy of the application on the users and submit proof of service along with the application. The concerned RLDC or NLDC shall also keep the complete application posted on its website till the disposal of its petition.
- (4) The concerned RLDC or NLDC, as the case may be, shall within 7 days after making the application, publish a notice of the application in at least two daily newspapers, one in English language and one in Indian modern language, having circulation in each of the States or Union Territories where the users are situated, in the same language as of the daily newspaper in which the notice of the application is published, in the formats given in Appendix II to these regulations.
- (5) The concerned RLDC or NLDC, as the case may be, shall be allowed the fees and charges by the Commission based on the capital expenditure incurred as on 1.4.2014 and projected to be incurred during

control period on the basis of CAPEX and REPEX duly certified by the auditor in accordance with these Regulations:

Provided that the application shall contain details of underlying assumptions and justification for the capital expenditure incurred and the expenditure proposed to be incurred in accordance with the CAPEX and REPEX.

- (6) If the application is inadequate in any respect as required under Appendix-I of these regulations, the application shall be returned to the concerned RLDC or NLDC for resubmission of the petition within one month after rectifying the deficiencies as may be pointed out by the staff of the Commission.
- (7) If the information furnished in the petition is in accordance with the regulations and is adequate for carrying out prudence check of the claims made the Commission shall consider the suggestions and objections, if any, received from the respondents and any other person including the consumers or consumer associations. The Commission shall issue order determining the fees and charges order after hearing the petitioner, the respondents and any other person permitted by the Commission.
- (8) During pendency of the application, the applicant shall continue to bill the users on the basis of fees and charges approved by the Commission during previous control period and applicable as on 31.3.2014, for the period starting from 1.4.2014 till approval of the Fees and Charges by the Commission, in accordance with these Regulations.
- (9) After expiry of the control period, the applicant shall continue to bill the users on the basis of fees and charges approved by the Commission and applicable as on 31.3.2019 for the period starting from 1.4.2019 till approval of fees and charges under the applicable regulations"

29. Performance linked incentive to RLDCs and NLDC:

- (1) Recovery of incentive by the Regional Load Despatch Centre shall be based on the achievement of the Key Performance Indicators as specified in Appendix V or such other parameters as may be prescribed by the Commission.
- (2) Each Regional Load Despatch Centre shall submit its actual performance against each of the key performance indicators to the Commission on annual basis as per the format specified in Appendix V.

- (3) NLDC shall submit the details in regards to each Key Performance Indicator in the format specified in Appendix V along with the methodology for approval of the Commission.
- (4) The Commission shall evaluate the overall performance of the RLDCs or NLDC, as the case may be, on the basis of weightage specified in Appendix V. The Commission, if required, may seek advice of the Central Electricity Authority for evaluation of the performance of system operator.
- (5) The RLDCs or NLDC, as the case may be, shall be allowed to recover incentive of 7% of annual charges for aggregate performance level of 85% for three years commencing from 1.4.2014 and for aggregate performance level of 90% from 1.4.2017. The incentive shall increase by 1% of annual charges for every 5% increase of performance level above 90%: Provided that incentive shall be reduced by 1% of annual charges on prorata basis for the every 3% decrease in performance level below 85%.
- (6) The RLDCs or NLDC, as the case may be, shall compute the Key Performance Indicators on annual basis for the previous year ending on 31st March and submit to the Commission along with petitions for approval of the Commission as per Appendix V and Appendix VI of these Regulations:

Provided that the key performance indicators of previous year ending on 31st March shall be considered to recover incentive on each year and shall be trued up at the end of the control period."

8. The Key Performance Indicators (KPIs) has been specified in Appendix V of the RLDC Fees and Charges Regulations. The Commission may also specify such other parameters.

9. In the light of the above provisions, we have considered the petitioner's claim for PLI. The petitioner vide affidavit dated 8.6.2016 has submitted that the Commission has notified the various performance indicators and their weightage for determination of fees and charges in the Fees and Charges Regulations and performance on these KPIs has been quantified to make it measurable. The petitioner, vide its affidavit dated 8.6.2016 has submitted KPI-wise details as under:

(a) **KPI-1: Reporting of Inter-connection metering error:** The meter readings are processed on weekly basis and an error could only be detected after processing the

same and after going through the validation process. RLDCs are reporting the meter errors on weekly basis which are made available on the concerned web-sites as per the provisions of the Regulations. Therefore, in a year, the possible nos. of reports are 52 which have been converted to percentage based on the actual reporting. Percentage performance has been proportionately converted to marks scored.

(b) **KPI-2 Reporting of grid incidents and grid disturbance:** The grid incidents and grid disturbances are compiled with on monthly basis and the same are sent to NLDC for further compilation on National basis for further reporting to the Commission on consolidated basis. As the reporting on grid incidences and grid disturbances is generated on monthly basis, twelve target reports to be generated have been considered. Percentage performance has been measured based on the actual number of reports generated, which has been proportionately converted to marks scored.

(c) KPI-3: Average processing time of shut down request (RLDC/NLDC): The shutdown process, uniform across all the RLDCs has been discussed and approved at RPCs level. Time allowed to NLDC and RLDC for approval of the shut-down requests is 26 hours and 50 hours (including NLDC Time) respectively. This methodology has been devised considering primarily the planned outages approved in the monthly OCC meetings of RPCs which are processed by RLDCs on D-3 basis (3-day ahead of actual day of outage) based on confirmation from the shutdown requesting agency and the then prevailing grid conditions. RLDCs after processing the shut down requests at regional level, forward the list to NLDC for impact

assessment at national level. After clearance from NLDC, the final list of cleared shutdown requests are sent by respective RLDCs to the requesting agencies on D-1 (i.e. one day ahead of the proposed date of outage). As per the formula used for calculating KPI score for this parameter, performance would be considered as 100%, if the time taken for processing shut down requests is less than the prescribed time i.e. 26 hours for NLDC and 50 Hours RLDCs. If the time taken is more than the prescribed time, then the performance would come down in the same proportion i.e. if the time taken in processing the request is more than 5% of the prescribed time, then the performance would be 95%. Percentage performance has been proportionately converted to marks scored.

(d) KPI-4: Availability of SCADA; KPI-8: Availability of website; KPI 9-Availability of Standby Power Supply: Month-wise percentage availability has been calculated and percentage average availability of twelve (12) months has been proportionately converted to marks scored.

(e) KPI-5: Voltage Deviation Index (VDI); KPI-6: Frequency Deviation Index (FDI); KPI 7-Reporting of System Reliability: The deviation indices are being reported on daily basis for the critical nodes along with weekly and monthly as per the provisions of the Regulation. The possible number of reports which could be generated (365 daily, 52 weekly and 12 monthly) have been converted to KPI scores based on the actual reporting.

(f) KPI 10: Variance of capital expenditure; KPI 11: Variance of non-capital expenditure: The petitioner has submitted that the figures (capital and non-capital) mentioned in the petitions for the control period 2014-19 have been considered as targets and the figures as per the balance sheet have been taken as actual performance. Limit of upto 10% variation has been considered for claiming 100% performance and for any additional 3% variation beyond initial 10%, performance shall decrease by 1% in line with the methodology of the incentive calculation prescribed in Regulation 29(5) of the Fees and Charges Regulations. Percentage performance has been proportionately converted to marks scored.

(g) **KPI 12: Percentage of certified employees:** The target percentage of the certification is 85% of the eligible candidate has been assumed for calculating the KPI score. The actual achievement has been calculated against the target and the same has been converted to the KPI score.

10. The parameter-wise submissions made by the petitioner have been examined and dealt with in the succeeding paragraphs.

A. Inter-connection meter error (Parameter 1):

11. The total weightage given for this parameter is 10. The petitioner has submitted the details as under:

Performance during FY 2014-15 (In percentage) A* =	100
Marks scored (In proportion of the percentage performance above)	10
*Formula for performance calculation	(No. of weekly reports issued /52 (Total no. of Weeks))*100

12. The petitioner has contended that since reporting of inter-connection metering error is not applicable for NLDC, performance of NLDC has been considered as average performance of RLDCs against this parameter.

13. Regulation 2.3.2 of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 (Grid Code) provides as under:

"2.3.2 The following are contemplated as exclusive functions of RLDCs

(a) System operation and control including inter-state transfer of power, covering contingency analysis and operational planning on real time basis;

(b) Scheduling / re-scheduling of generation;

(c) System restoration following grid disturbances;

(d) Metering and data collection;

(e) Compiling and furnishing data pertaining to system operation;

(f) Operation of regional UI pool account, regional reactive energy account and congestion Charge Account, provided that such functions will be undertaken by any entity(ies) other than RLDCs if the Commission so directs.

(g) Operation of ancillary services."

As per the above provisions, RLDCs are responsible for metering and data collection meter and compiling and furnishing data pertaining to system operation. Accordingly, problems related to meters including those installed at inter-regional/international tie points are reported by RLDCs concerned to the utilities for corrective action. The petitioner vide Record of Proceedings for the hearing dated 26.5.2016 was directed to explain as to whether it intimated concerned utilities regarding inter-connection meter error covered under KPI-1 and provide details thereof. The petitioner, vide its affidavit dated 8.6.2016, has submitted that as per Regulation 6.4.22 of the Grid Code,

computations on metering data are to be made available to the regional entities for checking/verifications for a period of 15 days. Accordingly, the data on inter-connection meter error is made available in Public Domain on regular basis for checking/verifications of regional entities. The petitioner has submitted that information regarding inter-connection meter error is published on the SRLDC website, namely http://srldc.org/Weekly%Sem%20Data%202014-15.aspx?yr=2014-15 on a weekly basis.

14. The petitioner has submitted that the discrepancy reports are discussed in detail in the different fora at RPC level. The petitioner has placed on record the minutes of meetings of various RLDCs. Since, the petitioner has complied with the provisions of the Regulation 6.4.22 of the Grid Code, the claims of the petitioner for weightage factor for reporting of inter-connection meter error are allowed for the purpose of incentive.

B. Reporting of grid incidents and grid disturbances (Parameter 2):

15. The petitioner has submitted that as against the total weightage of 10 for the parameter of reporting of grid incidents and grid disturbance, actual incidents of such events during the financial year 2014-15 are as under:

Grid Incidents and Grid Disturbance for FY 2014-15				
Category	Count(Nos.)	Recovery period	Loss of Energy(MUs)	
GI-1	-	-	-	
GI-1	47	98.726	0.47	
GD-1	34	58.64	32.858	
GD-2	-	-	-	
GD-3	-	-	-	
GD-4	-	-	-	
GD-5	-	-	-	
All	81	157.366	33.328	

16. The petitioner has submitted performance-wise details as under:

Performance during FY 2014-15 (In percentage) * =	100
Marks scored (In proportion of the percentage performance above)	10
*Formula for performance calculation :	(No. of monthly reports issued /12)*100

17. The petitioner was directed to submit the details of each incident of grid disturbance reported. The petitioner, vide its affidavit dated 8.6.2016, has submitted that the incidents of grid disturbance are being reported by the Regional Load Despatch Centres to National Load Despatch Centre on a monthly basis which are thereafter compiled and are independently verified by National Load Despatch Centre and reported to the Commission on monthly basis as a part of the monthly operational report in accordance with the provisions of the Grid Code. The petitioner has submitted the details of the report for the Financial Year 2014-15 as under:

S. No.	Month	Date of Reporting
1	April 2014	23rd May 2014
2	May 2014	24th June 2014
3	June 2014	23rd July 2014
4	July 2014	26 th August 2014
5	August 2014	26th September 2014
6	September 2014	23rd October 2014
7	October 2014	21st November 2014
8	November 2014	23rd December 2014
9	December 2014	22nd January 2015
10	January 2015	26th February 2015
11	February 2015	23rd March 2015
12	March 2015	23rd April 2015

18. We have considered the submission of the petitioner. Perusal of the above reveals that the petitioner is reporting incident of grid disturbance each month to the Commission. As per our direction, the petitioner has placed on record the details of reporting to the Commission. Accordingly, the weightage for reporting of grid incidents

and grid disturbance is considered as 10 out of 10.

C. Average processing time of shut down request (Parameter 3):

19. The total weightage for the parameter "average processing time of shut down request" is 10. The petitioner has submitted average processing time of shut down request during the financial year 2014-15 as under:

C No	Month	Total No. of	Total time (bra)	Total time (bra) taken ta
S.No.	Month	Total No of	Total time (hrs)	Total time(hrs) taken to
		shutdown	taken to	approve the shutdown
		request in a	approve the	in a month/Total No of
		month (B)	shutdown in a	shutdown requests in a
			month(A)	month(C=A/B)
1	Apr'14	25	179	7
2	May'14	50	307	6
3	June'14	41	489	12
4	July'14	33	386	12
5	Aug'14	19	164	9
6	Sep'14	19	131	7
7	Ocť 14	23	268	12
8	Nov'14	23	163	7
9	Dec'14	37	209	6
10	Jan'15	36	773	21
11	Feb'15	32	372	12
12	Mar'15	20	211	11
	Total	358	3652	10

20. The petitioner has further submitted that the total time allowed to NLDC and RLDCs (including NLDC Time) for approval of the shutdown requests are 26 hours and 50 hours respectively.

For SRLDC

Performance during FY 2014-15 (In percentage)	100
Marks scored (In proportion of the percentage performance above)	10
* Formula for performance calculation	IF((A-B*50)>0,(1-(A- B*50)/(B*50))*100,100)

21. The petitioner was directed to explain the basis of considering 26 hours and 50 hours (including NLDC time) allowed to RLDC and NLDC respectively for approval of the shutdown requests. The petitioner, vide its affidavit dated 8.6.2016, has submitted that the procedure to streamline the process of transmission outage coordination between SLDCs, RLDCs, NLDC, RPCs and Indenting Agencies was developed by NLDC in 2015 and approved in OCC fora. As per the approved process, RLDC approves the shutdown requests for inter-State transmission lines and NLDC approves the shut down requests for inter-regional and all 765 KV transmission lines. Therefore, RLDCs consult NLDC for approval of outage requests. Relevant extracts of NRPC approved procedure is as under:

"7.1. Request for outages which are approved by OCC must be sent by the indenting agency of the transmission asset at least 3 days in advance to respective RLDC by 1000 hours as per Format II.(For example, if an outage is to be availed on say 10th of the month, the indenting agency would forward such requests to the concerned RLDC on 7th of the month by 1000 hours.)

7.3. Approval of Outage where Approving Authority is NLDC:

7.3.1. NRLDC shall forward the request for shutdown along with their consent and observation as per Format-III to NLDC/other concerned RLDCs with clear observations regarding possible constraints / contingency plan and consent including study results by 1000 hours of D-2 day. Other concerned RLDCs would forward their observations/ consent/reservations by 1600 hours of D-2.

7.3.2. NLDC shall approve the outage along with the clear precautions/measures to be observed during the shutdown and inform all concerned RLDCs.

7.3.3. The proposed outages shall be reviewed on day ahead basis depending upon the system conditions and the outages shall be approved/refused latest by 1200 Hrs of D-1 day. A suggested format for approval/refusal of outage is enclosed as Format IV."

22. The petitioner has submitted that as per the above procedure, total time allowed

for approval of the shutdown requests to RLDCs including NLDC is 50 hours (1000 hrs

of D-3 to 1200 hrs of D-1). Out of these 50 hours, time allowed to NLDC is 26 hours (1000 hrs of D-2 to 1200 hrs of D-1).

23. We have considered the submission of the petitioner. In accordance with the Appendix VI of the Fees and Charges Regulations, weightage for average processing time of shut down request has been considered as 10 out of 10.

D. Availability of SCADA (Parameter 4):

24. The total weightage for this parameter is 10. The petitioner has submitted average processing time of shut down requests during the financial year 2014-15 as under:

S.No.	Month	% Availability
1	Apr'14	100
2	May'14	100
3	June'14	100
4	July'14	100
5	Aug'14	100
6	Sep'14	100
7	Ocť14	100
8	Nov'14	100
9	Dec'14	100
10	Jan'15	99.72
11	Feb'15	100
12	Mar'15	100
	Average of 12 months	99.98

Performance during FY 2014- 15*	99.98
Marks scored (In proportion of	10.00
the %age performance above)	
* Average of 12 months	

25. We have considered the submissions of the petitioner. We have worked out the

average	of	12	months	as

(100+100+100+100+100+100+100+99.72+100+100)/12=99.976. Accordingly,

the marks for availability of SCADA have been allowed as 9.998.

E. Voltage Deviation Index (Parameter 5):

26. The total weightage for the parameter Voltage Deviation Index (VDI) is 10. The petitioner has submitted voltage deviation index (VDI) as under:

	Name of the Region: SRLDC				
S. No.	Month	Intimation to utilities through Daily reports for corrective action or not	Intimation to utilities through weekly reports for corrective action or not	Intimation to utilities through monthly reports for corrective action or not	
1	Apr'14	Yes	Yes	Yes	
2	May'14	Yes	Yes	Yes	
3	June'14	Yes	Yes	Yes	
4	July'14	Yes	Yes	Yes	
5	Aug'14	Yes	Yes	Yes	
6	Sep'14	Yes	Yes	Yes	
7	Ocť14	Yes	Yes	Yes	
8	Nov'14	Yes	Yes	Yes	
9	Dec'14	Yes	Yes	Yes	
10	Jan'15	Yes	Yes	Yes	
11	Feb'15	Yes	Yes	Yes	

27. According to the petitioner, VDIs of important sub-stations are being calculated and reported on daily basis and are also being hosted on websites by RLDCs which is thereafter compiled at NLDC and circulated internally. Similarly, RLDCs are also calculating and reporting VDIs on their websites as part of their weekly reports. The petitioner has further submitted that NLDC also independently calculates and reports VDIs of important sub-stations on a monthly basis which is available on website as part of monthly report. The petitioner has submitted that persistent problems of low/high voltage are identified in the guarterly operational feedback submitted to CTU and CEA.

Performance during FY 2014-15*	100
Marks scored (In proportion of the	10
percentage performance above)	
* Formula for performance calculation	[((No. of daily reports issued (to be derived from column C)/364(Total no. of days in FY 2014-15))*100]+[No. of weekly reports issued(to be derived from column D)/52 (Total no. of weeks in FY 2014- 15))*100)+(No. of monthly reports issued (to be derived from column E)/12)*100)]/3

28. The petitioner was directed to clarify whether the petitioner had intimated to concerned utilities for corrective action, if any, with regard to voltage deviation index.

The petitioner vide its affidavit dated 8.6.2016 has submitted that Clause 2.2.4.6 of the

NLDC Operating Procedure, 2015 provides the corrective actions to be taken in the

event of voltage going high and low. The relevant extract of the Clause 2.2.4.6 of the

NLDC Operating Procedure, 2015 is extracted as under:

"2.2.4.6. The following corrective measures shall be taken in the event of voltage going high / low:-

i) In the event of high voltage (when the bus voltage going above 410 kV), following specific steps would be taken by the respective grid substation/generating station at their own, unless specifically mentioned by NLDC/RLDC/SLDCs.

- a. The bus reactor is switched in
- b. The manually switchable capacitor banks is taken out
- c. The switchable line/tertiary reactor or convertible line reactor (if the line kept open for High voltage) wherever possible are taken in. Optimize the filter banks at HVDC terminal
- d. All the generating units on bar shall absorb reactive power within the capability curve
- e. Operate synchronous condensers wherever available for VAR absorption
- f. Operate hydro generator/gas turbine as synchronous condenser for VAR absorption wherever such facilities are available
- g. Bring down power flow on HVDC terminals so that loading on parallel EHVAC network goes up, resulting in drop in voltage.

h. Open lightly loaded lines in consultation with RLDC/SLDC for ensuring security of the balanced network. To the extent possible, it must be ensured that no loop of transmission lines is broken due to opening of lines to control the high voltage.

ii) In the event of low voltage (when the bus voltage going down below 390kV), following specific steps would be taken by the respective grid substation/generating station at their own, unless specifically mentioned by NLDC/RLDC/SLDCs.

a. Close the lines which were opened to control high voltage in consultation with RLDC/SLDC.

b. The bus reactor is switched out

c. The manually switchable capacitor banks are switched in.

- d. The switchable line/tertiary reactor are taken out
- e. Optimize the filter banks at HVDC terminal

f. All the generating units on bar shall generate reactive power within capability curve.

g. Operate synchronous condenser for VAR generation

h. Operate hydro generator/gas turbine as synchronous condenser for VAR generation wherever such facilities are available

i. Increase power flow on HVDC terminals so that loading on parallel Extra High Voltage (EHV) network goes down resulting in rise in voltage."

29. The petitioner has submitted that corrective actions are being taken in Real Time Grid Conditions by NLDC at 765 kV and inter-regional level by opening/closing shunt reactors, transmission lines, etc. and by RLDCs for other inter-State systems. The petitioner has submitted that for voltage deviations taking place in/resulting from intra-State system, RLDCs write regularly to the constituents and also discuss in the OCC meetings. The petitioner has placed on record the extracts from OCC meetings of RPCs, sample letters from RLDCs stating sustained voltage deviation and suggested corrective actions. The petitioner has submitted that apart from these, persistent high voltage and low voltage are being reported in the NLDC operational feedback every quarter. Link for NLDC operational feedback for the quarter January-March 2016 is http://posoco.in/WebsiteData/Documents/OperationalFeedback/NLDC% 20Operat ional% 20Feedback_April_2016_Q4.pdf. According to the petitioner, nodes experiencing low/high voltage are listed on page Nos. 26-27, 43-46, 63-64, 80-83,103-110 in the January to March 2016 operational feedback and this information was discussed in Standing Committees on Power System Planning of different regions with all the stakeholders. The petitioner has submitted that corrective actions are also discussed in Standing Committee Meetings and OCC Meetings.

30. We have considered the submission of the petitioner. As per Regulation 29 (6) of the Fees and Charges Regulations, RLDCs or NLDC are required to compute the Key Performance Indicators on annual basis for the previous year ending on 31st March and are required to submit the same to the Commission for approval. Accordingly, the petitioner has computed the Key Performance Indicators on annual basis. Accordingly, as per Appendix VI of the Fees and Charges Regulations, the weightage for Voltage Deviation Index (VDI) is allowed and considered as 10 out of 10.

F. Frequency Deviation Index (Parameter 6):

31. The total weightage for the parameter Frequency Deviation Index (FDI) is 10. The petitioner has submitted FDI during 2014-15 as under:

S.No.	Month	through Daily reports for	0	utilities through monthly
				action or not
1	Apr'14	Yes	Yes	Yes
2	May'14	Yes	Yes	Yes

3	June'14	Yes	Yes	Yes
4	July'14	Yes	Yes	Yes
5	Aug'14	Yes	Yes	Yes
6	Sep'14	Yes	Yes	Yes
7	Ocť14	Yes	Yes	Yes
8	Nov'14	Yes	Yes	Yes
9	Dec'14	Yes	Yes	Yes
10	Jan'15	Yes	Yes	Yes
11	Feb'15	Yes	Yes	Yes
12	Mar'15	Yes	Yes	Yes

Performance during FY 2014-15*	100
Marks scored (In proportion of the	10
percentage performance above)	
* Formula for performance calculation	(((No. of daily reports issued (to be derived from column C)/364(Total no. of days in FY 2014-15))*100)+(No. of weekly reports issued(to be derived from column D)/52 (Total no. of weeks in FY 2014-15))*100)+(No. of monthly reports issued (to be derived from column E)/12)*100))/3

32. We have considered the submission of the petitioner. FDIs submitted by the petitioner are found to be in order. Accordingly, weightage for FDI has been allowed as 10 out of 10 as per Appendix VI of the Fees and Charges Regulations.

G. Reporting of System Reliability (Parameter 7):

33. The total weightage for parameter of Reporting of System Reliability (RSR) is 10.

The petitioner has submitted the following report of system reliability:

S.No.	Month	through Daily reports for	Intimation to utilities through weekly reports for corrective action or	through monthly reports for
		not	not	not
			100	TIOC
A	В	C	D	E
1	Apr'14	Yes	Yes	Yes
2	May'14	Yes	Yes	Yes

(a) Reporting of (N-1) violations (to be reported to CERC)

3	June'14	Yes	Yes	Yes	
4	July'14	Yes	Yes	Yes	
5	Aug'14	Yes	Yes	Yes	
6	Sep'14	Yes	Yes	Yes	
7	Ocť14	Yes	Yes	Yes	
8	Nov'14	Yes	Yes	Yes	
9	Dec'14	Yes	Yes	Yes	
10	Jan'15	Yes	Yes	Yes	
11	Feb'15	Yes	Yes	Yes	
12	Mar'15	Yes	Yes	Yes	

X*	100
*Formula	(((No.of daily reports issued (to be derived from column C)/364(Total no.of days in FY 2014-15))*100)+(No.of weekly reports issued(to be derived from column D)/52 (Total no. of weeks in FY 2014-15))*100)+(No. of monthly reports issued (to be derived from column E)/12)*100))/3

(b) Reporting of ATC violations (to be reported to CERC)

S.No.	Month	Intimation to utilities	Intimation to utilities	Intimation to
			through weekly	
		reports for		
		corrective action or	corrective action or	for corrective
		not	not	action or not
А	В	С	D	E
1	Apr'14	Yes	Yes	Yes
2	May'14	Yes	Yes	Yes
3	June'14	Yes	Yes	Yes
4	July'14	Yes	Yes	Yes
5	Aug'14	Yes	Yes	Yes
6	Sep'14	Yes	Yes	Yes
7	Ocť 14	Yes	Yes	Yes
8	Nov'14	Yes	Yes	Yes
9	Dec'14	Yes	Yes	Yes
10	Jan'15	Yes	Yes	Yes
11	Feb'15	Yes	Yes	Yes
12	Mar'15	Yes	Yes	Yes

Y*	100
*Formula	(((No.of daily reports issued (to be derived from column C)/364(Total no. of days in FY 2014-15))*100)+(No. of weekly reports issued(to be derived from column D)/52 (Total no. of weeks in FY 2014-15))*100)+(No. of monthly reports issued (to be derived from column E)/12)*100))/3

(c) Reporting of Angle difference between important buses(to be reported to CERC)

S.No.	Month	Intimation to	Intimation to	Intimation to
		utilities through	utilities through	utilities through
			weekly reports for	
		corrective action or	corrective action or	for corrective
		not	not	action or not
Α	В	C	D	E
1	Apr'14	No	No	No
2	May'14	No	No	No
3	June'14	No	No	No
4	July'14	No	No	No
5	Aug'14	No	No	No
6	Sep'14	No	No	No
7	Ocť14	No	No	No
8	Nov'14	No	No	No
9	Dec'14	No	No	No
10	Jan'15	No	No	No
11	Feb'15	No	No	No
12	Mar'15	No	No	No

Z*	0
*Formula	(((No.of daily reports issued (to be derived from column C)/364(Total no.of days in FY 2014-15))*100)+(No.of weekly reports issued(to be derived from column D)/52 (Total no. of weeks in FY 2014-15))*100)+(No. of monthly reports issued (to be derived from column E)/12)*100))/3

Performance during FY 2014-15*=	66.67
Marks scored (In proportion of the %age	6.67
performance above)	
Formula	(X+Y+Z)/ <mark>2</mark>

34. The petitioner was directed to submit the reasons regarding non-applicability of reporting of angle difference between important buses (to be reported to CERC) with regard to KPI-7 (Reporting of system reliability) mentioned at Annexure-VII of the petition. The petitioner vide its affidavit dated 8.6.2016 has submitted that in the petition 'Not Applicable' has been mentioned which means that the respective RLDCs have not

monitored the angular difference between adjacent buses during 2014-15 period. Therefore, the score for "Reporting of Angle difference between adjacent buses" is taken as zero (0) for the period 2014-15. Due to this score for KPI No-7 (Reporting of System Reliability) has worked out to 6.67 out of 10. The petitioner has submitted that angular differences between important buses observed through PMUs are being monitored and reported by NLDC and RLDCs from 2015-16 onwards.

35. We have considered the submission of the petitioner. Reporting of System Reliability is being done in accordance with the Appendix VI of the Fees and Charges Regulations. Accordingly, weightage claimed for reporting system reliability is allowed as 6.667 out of 10.

H. Availability of website (Parameter 8):

36. The total weightage for the parameter "availability of website" is 10. The petitioner has submitted the percentage of availability of website as under:

S.No.	Month	% Availability
1	Apr'14	100
2	May'14	100
3	June'14	100
4	July'14	100
5	Aug'14	100
6	Sep'14	100
7	Ocť 14	100
8	Nov'14	100
9	Dec'14	100
10	Jan'15	100
11	Feb'15	100
12	Mar'15	100

Performance during FY 2014-15*	100
Marks scored (In proportion of the percentage performance above)	10
* Average of 12 months	

37. We have considered the submission of the petitioner. The petitioner is reporting availability of website as per Appendix VI of the Fees and Charges Regulations. Accordingly, the weightage claimed for availability of website is allowed and considered as 10 out of 10.

I. Availability of Standby power supply (Parameter 9):

38. The total weightage for the parameter "availability of standby power" is 5. The petitioner has submitted availability of standby power supply as under:

Performance during FY 2014-15*	100
Marks scored (In proportion of the	5
percentage performance above)	
* Average of 12 months	

39. The petitioner has further submitted that availability of backup power supply depends on the sub systems, namely (i) availability of UPS/Battery backup, and (ii) availability of DG set. According to the petitioner, in case main power supply fails and the system does not get any power supply, the duration shall be considered as back supply failure.

40. We have considered the submission of the petitioner. The petitioner has claimed availability of standby power supply as per Appendix VI of the Fees and Charges Regulations. Accordingly, weightage claimed for availability of Standby power supply is considered as 5 out of 5.

J. Variance of capital expenditure (Parameter 10):

41. The total weightage for the parameter "Variance of capital expenditure" is 5. The

petitioner has submitted the details of Variance of Capital Expenditure as under:

(Rs.in lakh)

Capital Expenditure funded by LDC fund but not considered for fee and charges by CERC (A)		Expenditure	% Variation C= ((A-B)/A)*100
75.53	75.52		0.01

42. The petitioner has submitted that the amount considered in the column A above is as per the Fees and Charges Regulations for the control period 2014-19. The petitioner has submitted that in Column B, value as per balance sheet for the year 2014-15 has been considered.

Performance during FY 2014-15*	100
*Formula	IF (C>10,100-(C-10)/3,100)#
Marks Scored (in proportion of the	5.00
percentage performance above)	
*Average of 12 months	
# Up to 10% variation, performance	is proposed to be considered
100% and for any additional 3%	
performance shall be decrease by 1%	
the incentive calculation prescribed	in the Regulation 29(5) of the
Fees and Charges Regulations.	

43. The petitioner was directed to review the formulae proposed regarding KPI 10 since it is not considering the absolute value of % variation. The petitioner vide its affidavit dated 8.6.2016 has submitted that limit of upto 10% variation has been considered for claiming 100% performance and for any additional 3% variation beyond initial 10%, performance shall decrease by 1% in line with the methodology of the

incentive calculation prescribed in the Regulation 29(5) of the Fees and Charges Regulations. The petitioner has submitted that the intent of the formula is that 10% variation limit for claiming 100% performance is on both sides i.e. positive and negative. Similarly, for variation of more than 10%, performance would vary in the same manner whether the variation in CAPEX utilization is positive or negative. Therefore, value of variation should be absolute value only. Accordingly, formula for %age variation can be read as "% Variation C=ABS ((A-B)/A)*100".

44. We have considered the submission of the petitioner. The weightage claimed for variance of Capital expenditure is provisionally considered as 5 out of 5 in terms of Appendix VI of the Fees and Charges Regulations.

K. Variance of Non-Capital expenditure (Parameter 11):

45. The total weightage for the parameter "variance of non-capital expenditure" is 5. The petitioner has submitted the details of variance of non-capital expenditure as under:

(Rs.in lakh)

Non-Capital	Expenditure	Actual Expenditure incurred	% Variation	
allowed by CERC (A)		(B) C= ((A-B)/A)*100		
1958.79 2201.00 12.37				
In the Non-Capital Expenditure, HR Expenses, O&M Expenses and Depreciation have				
been considered. In column A, figures as per the RLDCs fees & Charges worked out for				
the control period 2014-19 have been considered. In column B, value as per balance				
sheet for the year 2014-15 has been considered.				

Performance during FY 2014-15*	99.21
*Formula	IF(C>10,100-(C-10)/3,100)#
Marks Scored (in proportion of the	4.92
%age performance above)	
*Average of 12 months	
# Up to 10% variation, performance	is proposed to be considered
100% and for any additional 3%	variation beyond initial 10%,
performance shall be decrease by 1%	in line with the methodology of
the incentive calculation prescribed in	the regulation 29(5) of the Fees

and Charges Regulations.

46. We have considered the submission of the petitioner. The weightage claimed for variance of non-capital expenditure is allowed as 4.92 out of 5 in terms of Appendix VI of the Fees and Charges Regulations.

L. Percentage of certified employees (Parameter 12):

47. The total weightage for the parameter "variance of percentage of certified employees" is 5. The petitioner has submitted the details of variance of percentage of certified employees as under:

	Actual No. of employees certified as on 31.3.2015 (B)	Percentage of Employees Certified as on 31.3.2015 (C=B/A*100)
48	39	81.25

Performance during FY 2014-15*	98.75		
*Formula	IF(C>10,100-(C-10)/3,100)#		
Marks Scored (in proportion of the	4.94		
%age performance above)			
*Average of 12 months			
# Up to 85% certification, performance is proposed to be considered 100% and for certification below 85%, performance shall decrease by 1% for every			
3% decrease in the certification in line with the methodology of the incentive calculation prescribed in Regulation 29 (5) of the Fees and Charges			
Regulations.	.,		

48. We have considered the submission of the petitioner. As per methodology of the incentive specified in Regulation 29 (5) of the Fees and Charges Regulations, for certification upto 85%, performance would be considered 100% and for certification below 85%, performance would be decreased by 1% for every 3% decrease in the

certification. Accordingly, the weightage for percentage of certified employees is considered as 4.94 out of 5 as per Appendix VI of the Fees and Charges Regulations.

49. The petitioner was directed to furnish the details of Productivity Linked Incentive (PLI) claims and in case of discrepancy with the figures in respective Fee and Charges, the reasons thereof. The petitioner, vide its affidavit dated 8.6.2016, has submitted that provisions for performance linked incentive have been introduced for the first time in Fees and Charges Regulations. Since, Human Resource expenses for 2014-19 have been derived from the actual expenses of 2009-14 based on the methodology specified in the Regulations, certain amount has been reflected towards PRP in the petitions, which cannot be considered by the Commission and in this regard separate petitions claiming the PRP in each year of the control period 2014-19 would be filed.

50. We have considered the submissions of the petitioner with regard to KPI. The following Key Performance Indicators are allowed as per the methodology specified in Appendix-V of the Fees and Charges Regulations:

S. No	Key Performance Indicators	Weight age	Claimed for FY 2014-15	Allowed
1	Reporting of Interconnection meter error	10	10	10
2	Reporting of Grid Incidents and Grid Disturbance	10	10	10
3	Average processing time of shut down request	10	10	10
4	Availability of SCADA System	10	10	9.998
5	Voltage Deviation Index (VDI)	10	10	10
6	Frequency Deviation Index (FDI)	10	10	10
7	Reporting of System Reliability	10	6.67	6.667
8	Availability of Website	10	10	10
9	Availability of Standby Supply	5	5	5
10	Variance of Capital expenditure	5	5	5

11	Variance of Non Capital expenditure	5	4.92	4.92
12	Percentage of Certified Employee	5	4.94	4.94
	Total	100	96.53	96.525

51. As per the above table, the petitioner has achieved 96.525% Key Performance Indicators out of 100%. Accordingly, the petitioner is allowed to recover incentive of 8.305% of annual charges for the financial year 2014-15.

52. Petition No. 54/MP/2016 is disposed of with the above.

Sd/- sd/- sd/-

(Dr. M.K lyer)(A.S.Bakshi)(A.K.Singhal)(Gireesh B. Pradhan)MemberMemberMemberChairperson