

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 56/MP/2018

Coram

Shri P.K.Pujari, Chairperson

Shri A.K Singhal, Member

Dr. M. K. Iyer, Member

Date of Order: 09.10.2018

In the matter of

Submission under subsection (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 NRLDC for the financial year 2016-17 with reference to NRLDC Charges for the control period 1.4.2014 to 31.3.2019

And in the matter of

Northern Regional Load Despatch Centre
B-9, Qutub Institutional Area, 1st Floor,
Katwaria Sarai, New Delhi -110016

....Petitioner

Vs

1. Uttar Pradesh Power Corporation Ltd.



Shakti Bhawan, 14-Ashok Marg,
Lucknow-226 001

2. Government of J&K
Civil Secretariat,
Srinagar, J&K
3. Rajasthan Rajya Vidyut Prasaran Nigam Ltd.
Vidyut Bhawan, Vidyut Marg,
Jaipur – 302 005
4. Punjab State Electricity Board,
The Mall, Patiala-147 001
5. Haryana Vidyut Prasaran Nigam Ltd.
Shakti Bhawan, Sector-6,
Panchkula-134 109
6. Delhi Transco Ltd.
Shakti Sadan, Kotla Road,
New Delhi – 110 002
7. Himachal Pradesh State Electricity Board,
Kumar House, Vidyut Bhawan,
Shimla-171 004
8. Power Transmission Corporation of Uttarakhand Ltd.
7-B, Lane No.-1, Vasant Vihar Enclave,
Dehradun-248 001
9. Electricity Department,
UT Chandigarh, Sector 9-D,
UT Chandigarh-160 019
10. North Central Railway,
GM Office Building,
Allahabad, UP



11. Power Grid Corporation of India Ltd.,
B-9, Qutab Institutional Area,
New Delhi-110 016
12. Singrauli Super Thermal Power Station,
Shakti Nagar, UP-231 222
13. Singrauli Solar PV Power Project,
Shakti Nagar, UP-231 222
14. Rihand Super Thermal Power Station-I,
Rihand Nagar, UP-231 223
15. Rihand Super Thermal Power Station-II,
Rihand Nagar, UP- 231 223
16. Rihand Super Thermal Power Station-III,
NTPC Rihand, Dist-Sonbhadra, UP- 231 223
17. Dadri, National Capital Power Project,
Dadri Dhaulana Road, Distt. Gautam Buddh Nagar,
UP-201 008
18. Dadri-Stage-II, National Capital Power Project,
Dadri Dhaulana Road, Distt. Gautam Buddh Nagar,
UP-201 008
19. Firoz Gandhi Unchahar Thermal Power Project-I,
Unchahar, Distt. Raibareilly, UP
20. Firoz Gandhi Unchahar Thermal Power Project-II,
Unchahar, Distt. Raibareilly, UP
21. Firoz Gandhi Unchahar Thermal Power Project-III,
Unchahar, Distt. Raibareilly, UP
22. Firoz Gandhi Unchahar Solar PV Power Project,



Unchahar, Distt. Raibareilly, UP

23. Dadri Gas Power Project,
Dhaulana Road, Distt. Gautam Buddha Nagar,
UP-201 008
24. Dadri Solar PV Power Project,
Dhaulana Road, Distt. Gautam Buddha Nagar,
UP-201 008
25. Auraiya Gas Power Project (Gas Fired, RLNG Fired,
Liquid Fired), Dibiyapur, Distt Etawah,
UP-206 244
26. Anta Gas Power Project (Gas Fired, RLNG Fired,
Liquid Fired), Distt. Baran,
Rajasthan-325 209
27. Koldam HPP, NTPC, Post-Barman,
Distt. Bilaspur,
Himachal Pradesh-174013
28. Narora Atomic Power Station, Narora,
Distt. Bulandshahar,
UP-202 389
29. Rajasthan Atomic Power Station-B,
Anu Shakti Vihar, Kota,
Rajasthan-323 303
30. Rajasthan Atomic Power Station-C,
(RAPS-5&6) PO-Anushakti, Kota,
Rajasthan-323 304
31. Bairasiul Hydro Electric Project,
NHPC Ltd., Surangini, Distt. Chamba,
HP-176 317



32. Salal Hydro Electric Project,
NHPC Ltd., Jyotipuram, Distt. Udhampur,
J&K-182 312
33. Tanakpur Hydro Electric Project,
NHPC Ltd., Banbassa, Distt. Champawa,
Uttarakhand-262 310
34. Chamera-I Hydro Electric Project,
NHPC Ltd., Khairi, Distt. Chamba,
HP-176 310
35. Uri Hydro Electric Project,
NHPC Ltd., Mohra, Distt. Baramulla,
J&K-193 122
36. Chamera-II Hydro Electric Project,
NHPC Ltd., Karian, Distt. Chamba,
HP-176 310
37. Chamera-III Hydro Electric Project,
NHPC Ltd., Dharwala, Distt. Chamba,
HP-176 311
38. Dhauliganga Hydro Electric Project,
NHPC Ltd., Tapovan, Dharchula, Pithoragarh,
Uttarakhand-262 545
39. Dulhasti Hydro Electric Project,
NHPC Ltd., Chenab Nagar, Distt. Kishtwar,
J&K-182 206
40. Uri 2 Hydro Electric Project,
NHPC Ltd., Nowpura, Distt. Baramulla,
J&K-193 123
41. Parbati HE Project Stage-III Behali,
P.O- Larjikullu,
Himachal Pradesh-175 122



42. Sewa-II Power Station, NHPC Ltd. Maska,
Distt Kathua, Jammu and Kashmir
43. Satluj Jal Vidyut Nigam Ltd. Power Project,
Jhakri, Rampur, Distt. Shimla,
HP-172 201
44. Rampur HEP, Satluj Jal Vidyut Nigam Ltd. Power Project,
Jhakri, Rampur, Distt. Shimla,
HP-172 201
45. Tehri Hydro Development Corporation Ltd.,
Bhagirathpuram, Tehri,
Uttarakhand-249 001
46. Koteshwar HEP,
THDCIL, Koteshwerpuram, Post Office-Pokhri Tehri
Uttarakhand-249 002
47. ADHPL, Village- Prini, PO-Jagat Sukh
Tehsil Manali, Distt.-Kullu (H.P.) India
48. Indra Gandhi Super Thermal Power Project
VPO-Jharli, Tahsil Matanhil,
Dist. Jhajjar (Haryana)-124125
49. Karcham Wangtoo HEP,
Jaiprakash Power House Ventures Ltd.
Baspa-II Hydro-Electric Project Sholtu Colony,
PO-Tapti Dist Kinnaur-172 104 (HP)
50. Malana-II Everest Power Pvt. Ltd.,
HALL-A/ 1st Floor, Plot No.-143-144,
Udyog Vihar Phase-4,
Gurgaon, Haryana-122015
51. Shree Cement Thermal Power Project
Bangurnagar, Beawer, Distt. Ajmer,
Rajasthan-305 901



52. Greenco Budhil HPS Ltd.,
Plot No. 1367 Road No.-45, Jubilee Hills,
Hyderabad-500 033
53. Himachal Sorang Power Limited,
D-7, Lane-I, Sector-I, New Shimla,
Shimla, H.P.-171009.
54. Bhakra Power House,
BBMB, Tehsil Nangal Township,
Distt. Ropar (Punjab).
55. Indira Gandhi Super Thermal Power Project,
Aravali Power Company Pvt. Ltd., P.O.: Jharli,
Dist- Sorang, Jhajjar.
56. NRTS-I, Power Grid Corporation of India Ltd.,
B-9, Qutab Institutional Area,
New Delhi-110 016
57. Powerlinks Transmission Ltd.,
10th Floor, DLF Tower-A, District Centre, Jasola,
New Delhi-110 044
58. Jaypee Powergrid Ltd.,
JIIT Basement, Sector-128, NOIDA-U.P
59. APL, Business Development, Achalraj,
Opp. Mayor Bungalow, Law Garden,
Ahmedabad-380 009
60. NRTS-I, Parbati Koldam Transmission Company Ltd.,
B-9, Qutab Institutional Area,
New Delhi-110016
61. Indira Gandhi Super Thermal Power Project
Aravali Power Company Private Limited.,
P.O. Jharli, Dist. Jhajjar

.....Respondents



For Petitioner: Shri S.R. Narasimhan, NLDC
Shri Rakesh Kumar, NLDC
Shri Ashok Rajan, NLDC
Shri Manash Protim Nath, NERLDC
Shri Venkateshan M., SRLDC
Shri Aditya Prasad Das, WRLDC
Shri Manas Das, ERLDC
Shri Nadim Ahmad, ERLDC
Shri Debasis De, NRLDC

For respondents: ---

ORDER

The petitioner, Northern Regional Despatch Centre (NRLDC), 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 NRLDC for the Financial year 2016-17 for the control period 1.4.2014 to 31.3.2019.

2. The petitioner, Northern Regional Load Despatch Centre setup under Section 27 of the Electricity Act, 2003 performs functions specified in Section 28 of the Electricity Act, 2003. NLDC and RLDCs are operated by Power System Operation Corporation Limited (POSOCO) in accordance with Government of India, Ministry of Power`s



notification dated 27.9.2010.

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

4. As per Regulation 29 (6) of the Fees and Charges Regulations, RLDCs or NLDC 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.

5. Petitioner has submitted that as per methodology specified in Appendix V of the Fees and Charges Regulations, 2015, KPI score for NRLDC for the year 2016-17 ending 31.3.2017 has been computed as under:

Sl. No	Key Performance Indicators	Weightage	(2016-17)
1	Reporting of Interconnection meter error	10	10.00
2	Reporting of Grid Incidents and Grid Disturbance	10	10.00
3	Average processing time of shut down request	10	10.00
4	Availability of SCADA System	10	10.00
5	Voltage Deviation Index (VDI)	10	10.00



SI. No	Key Performance Indicators	Weightage	(2016-17)
6	Frequency Deviation Index (FDI)	10	10.00
7	Reporting of System Reliability	10	10.00
8	Availability of Website	10	9.980
9	Availability of Standby Supply	5	5.00
10	Variance of Capital expenditure	5	4.431
11	Variance of Non Capital expenditure	5	5.00
12	Percentage of Certified Employee	5	4.536
	Total	100	98.947

6. The petitioner has filed the present petition with the following prayers:

- a). Approve the proposed performance linked incentive based on the KPIs computed by NRLDC for the year ending 31.03.2017 given at para 5, the KPI score given at para 6 and PRP percentage of Annual Charges of the year 2016-17 as per para 7.
- b). Allow the Applicant to recover the above mentioned incentives from the users for the year 2016-17 as approved by the Hon'ble Commission.
- c). Pass such other order(s) as the Hon'ble Commission deems fit and appropriate in this case and in the interest of justice.

7. The matter was heard on 5.4.2018 and notices were issued to the respondents to file their replies. The Commission vide RoP dated 11.04.2018 directed the petitioner to submit the following:



(a) Whether the Petitioners have informed the Commission about each incident of grid disturbance as required under Appendix VI of the Central Electricity Regulatory Commission (Fees and Charges of Regional Load Despatch Centre and other related matters) Regulations, 2015;

(b) With regard to Voltage Deviation Index (VDI), submit the details of No. of hours the voltage at all sub-Stations of 400 kV and above was out of range in a month;

(c) With regard to Frequency Deviation Index (FDI), submit the details of No. of hours during which frequency was out of range in a month;

(d) Submit the following with regard to System Reliability: (i) % of times N-1 criteria was violated in the inter-regional corridors. (ii) % of times ATC violated on inter-regional corridors. (iii) % of time Angular difference on important buses was beyond permissible limit.

8. The petitioner vide affidavit dated 4.5.2018 has submitted point-wise reply to the above queries.

9. UPPCL filed a reply vide affidavit dated 4.6.2018 making an observation on the computation of KPIs and comparison submitted by NRLDC of 12 KPIs across FY 2015-16- and 2016-17. It stated that the comparison reveals that the KPI reporting of system reliability has improved from 7.78 in FY 2015-16 to 10 in FY 2016-17. However, the KPI, variance in capital expenditure has shown decline from 5.00 in FY 2015-16 to 4.31



in FY 2016-17. Also, the KPI percentage of certified employee has shown a decline from 5.00 in FY 2015-16 to 4.536 in FY 2016-17.

10. UPPCL has also submitted following observations on KPI computations:

KPI	Annexure of application	Remarks by UPPCL
#1 Reporting of interconnection metering error	Annexure-1	No anomaly in actual reporting date.
#5 Voltage Deviation Index	Annexure-5	There is a formula specified for the calculation of performance. However, there is no value for computing the same in the column C, D and E. The space has been filled with "Yes" instead of any value.
#6 Frequency Deviation Index	Annexure-6	There is a formula specified for the calculation of performance. However, there is no value for computing the same in the column C, D and E. The space has been filled with "Yes" instead of any value.
#7 Reporting of System Reliability	Annexure-7	There is a formula specified for the calculation of X, Y and Z. However, there are no values for computing the same in column C, D and E. The space has been filled with "Yes" instead of any value



11. In response to reply filed by UPPCL, Petitioner filed rejoinder dated 18.6.2018 as detailed below:

a). Observation of UPPCL against the KPI#1.

There is no anomaly in the actual reporting date. However, while furnishing the submission in compliance to RoP to the Commission, the date format got changed from dd/mm/yy to mm/dd/yy. The actual date of submission is again submitted.

b). Observation of UPPCL against the KPI#5.

VDI is being calculated for all the bus voltage based on the specified formula as provided in the Regulations and same is hosted in NRLDC website on daily, weekly, and monthly basis as per requirement of the KPI. The same has been mentioned accordingly. However, the actual values have already been sent to all respondent vide letter dated 4th May, 2018 as directed by the Commission under RoP of Petition No. 56/MP/2018.

c). Observation of UPPCL against the KPI#6.

FDI is calculated for system frequency based on specified formula as provided in the Regulations and the same is hosted in NRLDC website on daily, weekly, and monthly basis as per requirement of the KPI. The same has been mentioned accordingly. However, the actual values have already been sent to all respondents vide letter dated 4th May, 2018 as directed by the Commission under RoP of Petition No. 56/MP/2018.

d). Observation of UPPCL against the KPI#7.

System Reliability is being reported based on specified formula as provided in the Regulations and the same is hosted in NRLDC website on daily, weekly, and



monthly basis as per requirement of the KPI. The same has been mentioned accordingly. However, the actual values have already been sent to all respondent vide letter dated 4th May, 2018 as directed by the Commission under RoP of Petition No. 56/MP/2018.

12. The matter was heard on dated 5.4.2018. The Petitioner has submitted that the requisite information has been filed as per the Commission's direction dated 5.4.2018. After hearing the representatives of the Petitioner, the Commission reserved order in the petition.

13. We have considered the submissions of the petitioner and respondent UPPCL. As per methodology of the incentive specified in Regulation 29 (5) of the Fees and Charges Regulations, 2015, we have calculated the incentive which can be allowed. The relevant extract is stated here:

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 pro-rata basis for the every 3% decrease on performance level below 85%.

14. The parameter-wise submissions made by the petitioner have been examined. The petitioner has submitted the KPI-wise details in the petition:



KPI-1: Reporting of Inter-connection metering error

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

Performance during FY 2016-17 (in %)	100%
Marks Scored (In proportion of the %age performance above)	10
*Formula for performance calculation:	(No. of weekly reports issued (to be derived from column E)/ 52 (Total no. of Weeks))*100

16. We have considered the submission of the petitioner. 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 is allowed for the purpose of incentive.

KPI-2: Reporting of Grid Incidents and Grid Disturbance

17. The petitioner has submitted that as against the total weightage of 10 for parameter reporting of grid incidents and grid disturbance, actual incidents of such events during the financial year 2016-17 are as under:-

Grid Incidents and Grid Disturbance for FY 2016-17			
Category	Count(No's)	Recovery period (Hrs)	Loss of Energy (MUs)
GI-1	3	4:23:00	0.00
GI-2	106	308:45:00	0.00
GD-1	119	233:54:00	32.31
GD-2	0	0:00:00	0.00



GD-3	0	0:00:00	0.00
GD-4	0	0:00:00	0.00
GD-5	0	0:00:00	0.00
All	228	547:02:00	32.31

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

Performance during FY 2016-17(In %) *	100%
Marks scored(In proportion of the %age performance above)	10
*Formula for performance calculation :	(No. of weekly reports issued /12) *100

19. The petitioner has submitted that the incidences of grid disturbance/ incidences 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 a monthly basis as a part of monthly operational report issued by National Load Despatch Centre in accordance with the provisions of the Grid Code. The petitioner has submitted the details of the report for the Financial Year 2016-17, copy of which is available on public domain on POSOCO website (<https://posoco.in/reports/monthly-reports/>).

20. We have considered the submissions of the petitioner. Perusal of the above reveals that the petitioner is reporting incident of grid disturbance every month to the Commission. As per our direction, the petitioner has placed on record the details of reporting to the Commission. Accordingly, the claims of the petitioner for weightage factor for reporting of grid incidents and grid disturbance is allowed for the purpose of incentive.

KPI-3: Average processing time of shut down request (RLDC/NLDC)



21. 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 2016-17 as under:

S. No.	Month	Total No of shutdown request in a month (B)	Total time (hrs) taken to approve the shutdown in a month(A)	Total time(hrs) taken to approve the shutdown in a month/Total No of shutdown requests in a month(C=A/B)
1	Apr'16	229	5187	22.65
2	May'16	175	3601	20.58
3	June'16	124	2083	16.80
4	July'16	109	2524	23.16
5	Aug'16	164	3326	20.28
6	Sep'16	175	3570	20.40
7	Oct'16	232	5387	23.22
8	Nov'16	355	8352	23.53
9	Dec'16	316	6824	21.60
10	Jan'17	227	4533	19.97
11	Feb'17	248	5823	23.48
12	Mar'17	318	6655	20.93
	Total	2672	57867	21.66

Figures under column 'A' represents cumulative hours month wise.

22. The petitioner has further submitted that the total time allowed to NLDC and RLDC for approval of the shutdown requests are 26 hours and 50 (Including NLDC Time) Hours respectively.



The formula for calculation of performance & performance calculated is as follows:

Performance during FY 2016-17(In %)	100%
Marks scored (In proportion of the %age performance above)	10
* Formula for performance calculation	$IF((A-B*50)>0,(1-(A-B*50)/(B*50))*100,100)$

23. We have considered the submission of the petitioner. Accordingly, weightage for average processing time of shut down request has been considered as 10 out of 10.

KPI-4: Availability of SCADA

24. The total weightage for this parameter is 10. The petitioner has submitted availability of SCADA during the financial year 2016-17 as under:

Availability of SCADA		
S. No.	Month	% Availability
1	Apr-16	100.00
2	May-16	100.00
3	Jun-16	100.00
4	Jul-16	99.93
5	Aug-16	100.00
6	Sep-16	100.00
7	Oct-16	100.00
8	Nov-16	100.00
9	Dec-16	100.00
10	Jan-17	100.00
11	Feb-17	100.00
12	Mar-17	100.00
	Average of 12 months	99.99



Performance during FY 2016-17*:	99.99%
Marks Scored (In proportion of the %age performance above)	10.00
* Average of 12 months	

25. We have considered the submission of the petitioner. We have worked out the average of 12 months as $(100 + 100 + 99.93 + 100 + 100 + 100 + 100 + 100 + 100 + 100 + 100 + 100 + 100)/12=99.99$. Accordingly, the marks scored for availability of SCADA has been allowed as 9.999 out of 10.

KPI-5: Voltage Deviation Index (VDI)

26. The total weightage for the parameter Voltage Deviation Index (VDI) is 10. Petitioner has submitted the formula for measurement of performance & performance calculated as under:

Performance during FY 2016-17*	100%
Marks scored (In proportion of the %age performance above)	10
* Formula for performance calculation	$((\text{No. of daily reports issued} / 364 (\text{Total no. of days in FY 2016-17})) * 100) + (\text{No. of weekly reports issued} / 52 (\text{Total no. of weeks in FY 2016-17})) * 100 + (\text{No. of monthly reports issued} / 12) * 100) / 3$

27. The petitioner has submitted Voltage Deviation Index (VDI) for 36 important substations in the country.

S. No.	Name of the 400/765 kV substation	S. No.	Name of the 400/765 kV substation
A	B	A	B
1	400 kV Rihand	19	765 kV Bhiwani
2	400 kV Gorakhpur	20	765 kV Unnao
3	400 kV Bareilly	21	400 kV Agra



4	400 kV Kanpur	22	400 kV MuradNagar
5	400 kV Dadri	23	400 kV Roorkee
6	400 kV Ballabgarh	24	400 kV Balia
7	400 kV Bawana	25	400 kV Bhiwadi
8	400 kV Bassi	26	765 kV Meerut
9	400 kV Hissar	27	765 kV Jhatikara
10	400 kV Moga	28	765 kV Lucknow
11	400 kV Abdullapur	29	765 kV Anpara C
12	400 kV Nalagarh	30	765 kV Bareilly
13	400 kV Kishenpur	31	765 kV Anta
14	400 kV Wagoora	32	765 kV Phagi
15	765 kV Fatehpur	33	400 kV Amritsar
16	765 kV Balia	34	400 kV Kashipur
17	765 kV Moga	35	400 kV Hamirpur
18	765 kV Agra	36	400 kV Rishikesh

28. The petitioner has submitted the reply on 4.5.2018 in compliance to the direction given by the Commission vide RoP dated 11.04.2018 related to KPI-5 w.r.t the Appendix-VI of the CERC (Fees & Charges of Regional Load Dispatch Centre & other related matters) Regulations 2015. It stated that NRLDC uploads the information on Voltage Deviation Index (VDI) on its website on daily, weekly and monthly basis as a part of its Daily, Weekly and Monthly reports. The relevant web links are given under:

KPI-5 (VDI)	Web Link on NRLDC website
Daily VDI	https://nrlcdc.in/reports/daily-reports/daily-regional-power-supply-position/
Weekly VDI	https://nrlcdc.in/reports/weekly-reports/weekly-reports-2016-2017/
Monthly VDI	https://nrlcdc.in/reports/monthly-reports/monthly-reports-2016-2017/



29. We have considered the submission of the petitioner. It is observed that intimation of VDI is given to utilities for corrective action through daily, weekly and monthly reports and there has been no default by the petitioner during the period 2016-17. Accordingly the weightage for Voltage Deviation Index (VDI) is considered as 10 out of 10.

KPI-6: Frequency Deviation Index (FDI)

30. The total weightage for the parameter Frequency Deviation Index (FDI) is 10. The petitioner has submitted month-wise FDI during 2016-17 and submitted the performance as under:

Performance during FY 2016-17*	100%
Marks scored (In proportion of the %age performance above)	10
* Formula for performance calculation	$((\text{No. of daily reports issued} / 366(\text{Total no. of days in FY 2016-17})) * 100) + (\text{No. of weekly reports issued} / 52 (\text{Total no. of weeks in FY 2016-17})) * 100 + (\text{No. of monthly reports issued} / 12) * 100) / 3$

31. The petitioner has submitted the reply on 4.5.2018 in compliance to the direction given by the Commission vide RoP dated 11.04.2018 related to the KPI-6 w.r.t the Appendix-VI of the CERC (Fees & Charges of Regional Load Dispatch Centre & other related matters) Regulations 2015, NRLDC uploads the information on Frequency Deviation Index (FDI) on its website on daily, weekly and monthly basis as a part of its Daily, Weekly and Monthly reports. The relevant web links are given under:



KPI-6 (FDI)	Web Link on NRLDC website
Daily FDI	https://nrlcdc.in/reports/daily-reports/daily-regional-power-supply-position/
Weekly FDI	https://nrlcdc.in/reports/weekly-reports/weekly-reports-2016-2017/
Monthly FDI	https://nrlcdc.in/reports/monthly-reports/monthly-reports-2016-2017/

32. We have considered the submission of the petitioner. It is observed that intimation of FDI is given to utilities for corrective action through daily, weekly and monthly reports and there has been no default by the petitioner during the period 2016-17. Accordingly, the weightage for Frequency Deviation Index (FDI) is considered as 10 out of 10.

KPI-7: Reporting of System Reliability

33. The total weightage for this parameter Reporting of System Reliability (RSR) is 10. The petitioner has submitted the month-wise reports of system reliability to the Commission on the following aspects:

- (a) Reporting of (N-1) violations (weightage X)
- (b) Reporting of ATC violations (weightage Y)
- (c) Reporting of Angle difference between important buses (weightage Z)

The petitioner has submitted that it has given intimation of RSR to utilities for corrective action through daily, weekly and monthly reports without any default during the period 2016-17. It has also submitted that the score for KPI No-7 (Reporting of System Reliability) has come out to be 10 out of 10. The score was calculated based on the formula given as under:

X, Y, Z	100
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*Formula	$\frac{(((\text{No. of daily reports issued}/365(\text{Total no. of days in FY2016-17})*100)+(\text{No. of weekly reports issued }/52(\text{Total no. of weeks in FY2016-17}))*100)+ (\text{No. of monthly reports issued }/12)*100)}{3}$
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Performance during FY 2016-17*	100%
Marks scored (In proportion of the %age performance above)	10
*Formula	$(X+Y+Z)/3$

34. The Commission in the instant petition vide RoP dated 11.04.2018 directed the petitioner to submit the following with regard to System Reliability:

- (i) % of times N-1 criteria was violated in the inter-regional corridors.
- (ii) % of times ATC violated on inter-regional corridors.
- (iii) % of time Angular difference on important buses was beyond permissible limit

In response, the petitioner has submitted the reply on dated 4.5.2018 with reference to the System Reliability, the percentage of times N-1 criteria was violated in the inter-regional corridors, the percentage of times ATC (i.e. Available Transfer Capability) was violated in the inter-regional corridors and the percentage of times the angular difference on important buses was beyond the permissible limits, is being reported by NRLDC on daily weekly and monthly basis. The relevant web links are given under:

- (i) % of times N-1 criteria was violated in the inter-regional corridors.

KPI-7	Web Link on NRLDC website
Daily	https://posoco.in/reports/system-reliability-indices/daily-vdittcatc/daily-vdittcatc-2016-2017/



Weekly	https://posoco.in/reports/system-reliability-indices/weekly-vdittcatc/weekly-vdittcatc-2016-2017/
Monthly	https://posoco.in/reports/system-reliability-indices/monthly-vdittcatc/monthly-vdittcatc-2016-2017/

(ii) % of times ATC violated on inter-regional corridors.

KPI-7	Web Link on NRLDC website
Daily	https://posoco.in/reports/system-reliability-indices/daily-vdittcatc/daily-vdittcatc-2016-2017/
Weekly	https://posoco.in/reports/system-reliability-indices/weekly-vdittcatc/weekly-vdittcatc-2016-2017/
Monthly	https://posoco.in/reports/system-reliability-indices/monthly-vdittcatc/monthly-vdittcatc-2016-2017/

(iii) % of time Angular difference on important buses was beyond permissible limit.

KPI-7	Web Link on NRLDC website
Daily	https://nrlcdc.in/reports/daily-reports/daily-regional-power-supply-position/
Weekly	https://nrlcdc.in/reports/weekly-reports/weekly-reports-2016-2017/
Monthly	https://nrlcdc.in/reports/monthly-reports/monthly-reports-2016-2017/

35. We have considered the submission of the petitioner. We observe that petitioner hosted daily, weekly & monthly reports on its website. The weightage claimed for reporting system reliability is allowed as 10 out of 10.

KPI-8: Availability of website

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'16	99.97
2	May'16	99.93
3	June'16	99.99
4	July'16	99.85
5	Aug'16	100.00
6	Sep'16	99.98
7	Oct'16	99.94
8	Nov'16	99.98
9	Dec'16	99.85
10	Jan'17	98.43
11	Feb'17	100.00
12	Mar'17	100.00
	Average of 12 months	99.83
Performance during FY 2016-17		99.83%
Marks scored (In proportion to the %age performance above)		9.983

37. We have considered the submissions of the petitioner. The weightage claimed for availability of website is allowed as 9.983 out of 10.

KPI-9: Availability of Standby Power Supply

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 2016-17*	100
Marks scored (In proportion of the %age performance above)	5
* Average of 12 months	

39. The petitioner has 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. It has submitted that, in case main power supply fails and the system does not



get any power supply, the duration shall be considered as back supply failure. Failure of the above two subsystems shall be monitored and logged on daily basis. Availability of backup power supply shall be calculated on basis of total failure hours during the calendar month. The petitioner has submitted 100% availability of the two subsystems throughout the year.

40. We have considered the submission of the petitioner. Keeping in view 100% availability of standby supply submitted by petitioner, the weightage claimed for availability of Standby power supply is considered as 5 out of 5.

KPI 10: Variance of Capital expenditure

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:

(` in lakh)

Capital Expenditure allowed by CERC (A)	Actual Expenditure incurred (B)	% Variation $C=ABS((A-B)/A)*100$
392	218.93	44.15

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 have been considered. The petitioner has submitted the performance as under:

Performance during FY 2016-17*:	88.62%
* Formula	$IF(C>10, 100-(C-10)/3,100)\#$



Marks Scored (in proportion of the %age performance above)	4.431
* Average of 12 months	
#Upto 10% variation, performance is proposed to be considered 100% 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 RLDC Fees and Charges Regulations 2015	

43. We have considered the submission of the petitioner. The weightage claimed for variance of capital expenditure is considered as 4.431 out of 5.

KPI 11: Variance of Non-Capital expenditure

44. 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:

(in lakh)

Capital Expenditure allowed by CERC (A)	Actual Expenditure incurred (B)	% Variation $C=ABS((A-B)/A)*100$
2358	2485.93	5.43

45. The petitioner has submitted that in the Non-Capital Expenditure, HR Expenses, O&M Expenses have been considered. In column A, figures as per the RLDCs Fees and Charges Orders by CERC for the control period 2014-19 have been considered. In Column B , value as per Balance Sheet of FY 2016-17 has been considered. The Petitioner has submitted the performance as under:

Performance during FY 2016-17*:	100%
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* Formula	$IF(C > 10, 100 - (C - 10) / 3, 100) \#$
Marks Scored (in proportion of the %age performance above)	5.00
* Average of 12 months	
#Upto 10% variation, performance is proposed to be considered 100% 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 RLDC Fees and Charges Regulations 2015	

46. The Commission vide RoP dated 11.4.2018 in the instant petition directed the petitioner to submit

"Submit the financial statement pertaining to NLDC and the RLDCs for the FY 2016-17".

In response, the petitioner vide affidavit dated 4.5.2018 has submitted the copy of financial statement of NRLDC of FY 2016-17.

47. We have considered the submission of the petitioner. The weightage claimed for variance of non-capital expenditure is allowed as 5 out of 5.

KPI 12: Percentage of certified employees

48. 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:

Name of NLDC / RLDC	NRLDC	
No. of Eligible Employees for Certification as on 31.3.2017 (A)	No. of Employees Certified as on 31.3.2017 (B)	%age of Employees Certified as on 31.3.2017 (C=B/A*100)



56	32	57.14%
Performance during FY 2016-17*:	90.71%	
* Formula	IF(C<85, (100-(85-C)/3),100)#	
Marks Scored (in proportion of the %age performance above)	4.536	
* Average of 12 months		
#Upto 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 the Regulation 29(5) of the RLDC Fees and Charges Regulations 2015		

49. We have considered the submission of the petitioner. The weightage claimed for percentage certified employees is allowed as 4.536 out of 5.

50. The following Key Performance Indicators are allowed as per details discussed in above paragraphs.

SI. No	Key Performance Indicators	Weightage	Claimed for (2016-17)	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	9.999
5	Voltage Deviation Index (VDI)	10	10	10
6	Frequency Deviation Index (FDI)	10	10	10
7	Reporting of System Reliability	10	10	10
8	Availability of Website	10	9.980	9.980
9	Availability of Standby Supply	5	5.0	5.0
10	Variance of Capital expenditure	5	4.431	4.431
11	Variance of Non Capital expenditure	5	5.0	5.0



Sl. No	Key Performance Indicators	Weightage	Claimed for (2016-17)	Allowed
12	Percentage of Certified Employee	5	4.536	4.536
	Total	100	98.947	98.947%

51. As per the above table, the petitioner has achieved 98.947% Key Performance Indicators out of 100%. Accordingly, the petitioner is allowed to recover incentive of 8.789% of annual charges for the financial year 2016-17

52. Petition No. 56/MP/2018 is disposed of in terms of above.

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

Sd/-
(A.K. Singhal)
Member

Sd/-
(P.K. Pujari)
Chairperson

