

**BEFORE
THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

IN THE MATTER OF: Approval under regulation-86 of CERC (Conduct of Business) Regulations'1999 and CERC (Terms and Conditions of Tariff) Regulations'2009 for determination of Transmission Tariff from anticipated DOCO to 31.03.2014 for (1) 7651400 kV, 1500 MVA ICT-1 along with associated bays at Jabalpur Pooling SLS (New) (Ant. DOCO-01.12.2013) and (2) 400 kV D/C (Quad) Jabalpur Pooling S/S (New) – Jabalpur (Existing) S/S T/L along with associated bays (Ant. DOCO-01.12.2013) under Transmission System for Phase-I Generation projects in Orissa-Part B in Western Region for tariff block 2009-14 period.

PETITIONER

Power Grid Corporation of India Ltd. (Govt. of India undertaking) -

Registered office: B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi 110 016

Corporate office: "Saudamini", Plot no.2, Sector-29, Gurgaon -122 001. (Haryana)

Power Grid Corporation of India Ltd., the petitioner in the matter, is filing petition under Regulation-86 for approval of transmission tariff for the above said assets under Transmission System for Phase-I Generation projects in Orissa-Part B in Western Region

In terms of Regulation 3(2) of the Central Electricity Regulatory Commission (Procedure for making of application for determination of tariff, publication of the application and other related matters) Regulations, 2004, copy of complete tariff application is hereby served to the respondents (beneficiaries of **Eastern , Northern & Western & Regions**), for information and necessary action in the matter.

The tariff application is hereby served through the nodal officers of the respondents for CERC matters, on the addresses as mentioned below:

ADDRESSES OF NODAL OFFICERS

1. GMR KAMALANGA ENERGY LTD.,
SKIP HOUSE, 25/1, MUSEUM ROAD,
BANGALORE,
KARNATAKA- 560025
REPRESENTED BY ITS MD

2. MONNET POWER COMPANY LTD.
MONNET MARG, MANDIR HASAUD,
RAIPUR,
CHATTISGARH- 492101
REPRESENTED BY ITS CEO

3. LANCO BABANDH POWER LTD.
PLOT NO. 397, PHASE-III, 2nd FLOOR,
UDYOG VIHAR, GURGAON,
HARYANA- 120016
REPRESENTED BY ITS CEO
4. IND BARATH ENERGY (UTKAL) LTD.
PLOT NO. 30-A, ROAD NO. 1 ,
FILM NAGAR, JUBLIEE HILLS,
HYDERABAD, ANDHRA PRADESH- 500033
REPRESENTED BY ITS DIRECTOR
5. NAVBHARAT POWER PRIVATE LTD.
NAVBHARAT CHAMBERS, 6-3-110911,
3rd FLOOR, LEFT WING, RAJBHAWAN ROAD,
SOMAJIGUDA,
HYDERABAD, ANDHRA PRADESH- 500082
REPRESENTED BY ITS MD
6. JINDAL INDIA THERMAL POWER LTD.,
PLOT NO. 12, SECTOR- B, POCKET- 1,
LOCAL SHOPPING COMPLEX,
VASANT KUNJ, NEW DELHI- 110070
REPRESENTED BY ITS CEO
7. STERLITE ENERGY LIMITED,
SIPCOT INDUSTRIAL COMPLEX,
TUTICORIN, TAMIL NADU - 628002
REPRESENTED BY ITS GM
8. BIHAR STATE ELECTRICITY BOARD
VIDYUT BHAWAN, BAILEY ROAD
PATNA - 800 001
REPRESENTED BY ITS CHAIRMAN
9. WEST BENGAL STATE ELECTRICITY DISTRIBUTION COMPANY LIMITED
BIDYUT BHAWAN, BIDHAN NAGAR
BLOCK DJ, SECTOR-11, SALT LAKE CITY
CALCUTTA - 700 091
REPRESENTED BY ITS CHAIRMAN
10. GRID CORPORATION OF ORISSA LTD.
SHAHID NAGAR, BHUBANESWAR - 751 007
REPRESENTED BY ITS CHAIRMAN cum MANAGING DIRECTOR
11. DAMODAR VALLEY CORPORATION
DVC TOWER, MANIKTALA
CIVIC CENTRE, VIP ROAD, CALCUTTA - 700 054
REPRESENTED BY ITS CHAIRMAN
12. POWER DEPARTMENT
GOVT. OF SIKKIM, GANGTOK - 737 101
REPRESENTED BY ITS COMMISSIONER & SECRETARY (POWER)

13. JHARKHAND STATE ELECTRICITY BOARD
IN FRONT OF MAIN SECRETARIAT
DORANDA, RANCHI - 834002
REPRESENTED BY ITS CHAIRMAN

14. MADHYA PRADESH POWER MANAGEMENT COMPANY LTD.
SHAKTI BHAWAN, RAMPUR
JABALPUR - 482 008
REPRESENTED BY ITS MD

15. MAHARASHTRA-STATE ELECTRICITY DISTRIBUTION CO. LTD.
PRAKASHGAD, 4TH FLOOR
ANDHERI (EAST), MUMBAI - 400 052
REPRESENTED BY ITS MD

16. GUJARAT URJA VIKAS NIGAM LTD.
SARDAR PATEL VIDYUT BHAWAN,
RACE COURSE ROAD
VADODARA - 390 007
REPRESENTED BY ITS CHAIRMAN

17. ELECTRICITY DEPARTMENT
GOVT. OF GOA
VIDYUT BHAWAN, PANAJI,
NEAR MANDVI HOTEL, GOA - 403 001
REPRESENTED BY ITS CHIEF ENGINEER (ELECTRICAL)

18. ELECTRICITY DEPARTMENT
ADMINISTRATION OF DAMAN & DIU
DAMAN - 396 210
REPRESENTED BY ITS SECRETARY (FIN.)

19. ELECTRICITY DEPARTMENT
ADMINISTRATION OF DADRA NAGAR HAVELI
U.T., SILVASSA - 396 230
REPRESENTED BY ITS SECRETARY (FIN.)

20. CHHATTISGARH STATE ELECTRICITY BOARD
P.O.SUNDER NAGAR, DANGANIA, RAIPUR
CHHATISGAARH-492013
REPRESENTED BY ITS CHAIRMAN

21. MADHYAPRADESH AUDYOGIK KENDRA
VIKAS NIGAM (INDORE) LTD.
3/54, PRESS COMPLEX, AGRA-BOMBAY ROAD,
INDORE-452 008
22. RAJASTHAN RAJYA VIDYUT PRASARAN NIGAM LIMITED
VIDYUT BHAWAN, VIDYUT MARG, JAIPUR - 302 005
REPRESENTED BY ITS CHAIRMAN & OTHERS
23. AJMER VIDYUT VITRAN NIGAM LTD
400 KV GSS BUILDING (GROUND FLOOR), AJMER ROAD,
HEERAPURA, JAIPUR.
REPRESENTED BY ITS MANAGING DIRECTOR & OTHERS
24. JAIPUR VIDYUT VITRAN NIGAM LTD
400 KV GSS BUILDING (GROUND FLOOR), AJMER ROAD,
HEERAPURA, JAIPUR.
REPRESENTED BY ITS MANAGING DIRECTOR & OTHERS
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400 KV GSS BUILDING (GROUND FLOOR), AJMER ROAD,
HEERAPURA, JAIPUR.
REPRESENTED BY ITS MANAGING DIRECTOR & OTHERS
26. HIMACHAL PRADESH STATE ELECTRICITY BOARD
VIDYUT BHAWAN
KUMAR HOUSE COMPLEX BUILDING II
SHIMLA-171 004
REPRESENTED BY ITS CHAIRMAN
27. PUNJAB STATE ELECTRICITY BOARD
THE MALL, PATIALA - 147 001
REPRESENTED BY ITS CHAIRMAN
28. HARYANA POWER PURCHASE CENTRE
SHAKTI BHAWAN, SECTOR-6
PANCHKULA (HARYANA), 134 109
REPRESENTED BY ITS S.E. / C & R-1
29. POWER DEVELOPMENT DEPTT.
GOVT. OF JAMMU & KASHMIR
MINI SECRETARIAT, JAMMU
REPRESENTED BY ITS COMMISSIONER

30. UTTAR PRADESH POWER CORPORATION LTD.
(FORMARLY UTTAR PRADESH STATE ELECTRICITY BOARD)
SHAKTI BHAWAN, 14, ASHOK MARG
LUCKNOW - 226 001
REPRESENTED BY ITS CHAIRMAN
31. DELHI TRANSCO LTD
SHAKTI SADAN, KOTLA ROAD,
NEW DELHI-110 002
REPRESENTED BY ITS CHAIRMAN
32. BSES YAMUNA POWER Ltd,
BSES BHAWAN, NEHRU PLACE ,
NEW DELHI.
REPRESENTED BY ITS CEO
33. BSES RAJDHANI POWER Ltd,
BSES BHAWAN, NEHRU PLACE,
NEW DELHI
REPRESENTED BY ITS CEO
34. NORTH DELHI POWER Ltd,
POWER TRADING & LOAD DISPATCH GROUP
CENNET BUILDING,
ADJACENT TO 66/11 kV PITAMPURA-3
GRID BUILDING, NEAR PP JEWELLERS
PITAMPURA, NEW DELHI - 110034
REPRESENTED BY ITS CEO
35. CHANDIGARH ADMINISTRATION
SECTOR -9, CHANDIGARH.
REPRESENTED BY ITS CHIEF ENGINEER
36. UTTARAKHAND POWER CORPORATION LTD.
URJA BHAWAN
KANWALI ROAD
DEHRADUN.
REPRESENTED BY ITS MANAGING DIRECTOR
37. WORTH CENTRAL RAILWAY
ALLAHABAD.
REPRESENTED BY CHIEF ELECTRICAL DISTRIBUTION ENGINEER

38. NEW DELHI MUNICIPAL COUNCIL
PALIKA KENDRA, SANSAD MARG,
NEW DELHI-110002
REPRESENTED BY CHAIRMAN

Kindly acknowledge the receipt.

**PETITIONER
POWER GRID CORPORATION OF INDIA LTD.
REPRESENTED BY**


S. S. Raju

**GURGAON
DATED: D1.11.2013**

Dy. GENERAL MANAGER (COMMERCIAL)

BEFORE
THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION FOR
APPROVAL OF TRANSMISSION TARIFF FOR

(1) 7651400 kV, 1500 MVA ICT-1 along with associated bays at Jabalpur Pooling S/S (New) (Ant. **DOCO-01.12.2013**) and (2) 400 kV D/C (Quad) Jabalpur Pooling S/S (New) – Jabalpur (Existing) S/S T/L along with associated bays (Ant. DOCO-01.12.2013) under Transmission System for Phase-I Generation projects in Orissa-Part B in Western Region for tariff block 2009-14 period.

PETITION NO. :

TARIFF BLOCK : 2009 - 2014

POWER GRID CORPORATION OF INDIA LTD.

REGISTRAR ICE
B-9, QUTAB INSTITUTIONAL AREA, KATWARIA SARAI,
NEW DELHI – 110 016

CORPORATE CENTRE
"SAUDAMINI", PLOT NO-2, SECTOR-29,
GURGAON-122 001 (**HARYANA**)
EPABX : 0124-2571 700 TO 719, FAX : **0124-2571989**



**BEFORE
THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

PETITION NO.:

IN THE 'MATTER OF: (1) 7651400 kV, 1500 MVA ICT-1 along with associated bays at Jabalpur Pooling S/S (New) (Ant. DOCO-01.12.2013) and (2) 400 kV D/C (Quad) Jabalpur Pooling S/S (New) – Jabalpur (Existing) S/S T/L along with associated bays (Ant. DOCO-01.12.2013) under Transmission System for Phase-I Generation projects in Orissa-Part B in Western Region for tariff block 2009-14 period.

Power Grid Corporation of India Ltd.
(Govt. of India undertaking)

---PETITIONER

Registered office: B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi 110 016 and
Corporate office: "Saudamini", Plot no.2,
Sector-29, Gurgaon -122 001. (Haryana)

MADHYA PRADESH POWER MANAGEMENT COMPANY LTD.
SHAKTI BHAWAN, RAMPUR
JABALPUR - 482 008
REPRESENTED BY ITS MD
And Others

--RESPONDENTS

INDEX

Sl. No.	Description	Enclosure No.	Page No.
1	Letter for registration	-	3
2	Memo of Parties	-	4-8
3	Affidavit	-	9-10
4	Petition	-	11-16
5	Investment Approval	Encl -1	17-22
6	Schematic line diagram for the project	Encl - 2	23-
7	Minutes from SCM & ERPC meetings	Encl - 3	24-50
8	Auditors certificate for cost	Encl - 4	51-54
9	Tariff Details and supporting documents (Forms 1 to 14)	Encl - 5	55-111
10	Copy of Agreement with IPPs	Encl - 6	112-128
11	Check list	-	

Filed by
Power Grid Corporation of India Ltd.
Represented by



S. S. Raju
S. S. Raju

Dy. General Manager (Commercial)

Gurgaon

Dated: 29.10.2013

**BEFORE
THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

PETITION NO.:

IN THE MATTER OF: (1) 7651400 kV, 1500 MVA ICT-1 along with associated bays at Jabalpur Pooling S/S (New) (Ant. DOCO-01.12.2013) and (2) 400 kV D/C (Quad) Jabalpur Pooling S/S (New) – Jabalpur (Existing) S/S T/L along with associated bays (Ant. DOCO-01.12.2013) under Transmission System for Phase-I Generation projects in Orissa-Part B in Western Region for tariff block 2009-14 period.

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(Govt. of India undertaking)

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Registered office: B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi 110 016 and
Corporate office: "Saudamini", Plot no.2,
Sector-29, Gurgaon -122 001. (Haryana)

MADHYA PRADESH POWER MANAGEMENT COMPANY LTD.
SHAKTI BHAWAN, RAMPUR
JABALPUR - 482 008
REPRESENTED BY ITS MD
And Others

--RESPONDENTS

To

The Secretary
Central Electricity Regulatory Commission
New Delhi. 110 001
Sir,

The application filed under Regulation 86 of CERC (Conduct of Business) Regulation, 1999 and CERC (Terms and Conditions of Tariff) Regulations'2009 for determination of Transmission tariff from DOCO to 31.03.2014 may please be registered.

**Filed by
Power Grid Corporation of India Ltd.
Represented by**


S. S. Raju

Dy. General Manager (Commercial)

**Gurgaon
Dated: 29.10.2013**



-
BEFORE
THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI
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Power Grid Corporation of India Ltd.
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MADHYA PRADESH POWER MANAGEMENT COMPANY LTD.
SHAKTI BHAWAN, RAMPUR
JABALPUR - 482 008
REPRESENTED BY ITS MD
And Others

--RESPONDENTS

MEMO OF PARTIES

POWER GRID CORPORATION OF INDIA LTD.

--PETITIONER

VERSUS

1. GMR KAMALANGA ENERGY LTD.
SKIP HOUSE, 2511, MUSEUM ROAD,
BANGALORE,
KARNATAKA- 560025
REPRESENTED BY ITS MD
2. MONNET POWER COMPANY LTD.
MONNET MARG, MANDIR HASAUD,
RAIPUR,
CHATTISGARH- 492101
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UDYOG VIHAR, GURGAON,
HARYANA- 120016
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PLOT NO. 30-A, ROAD NO. 1,
FILM NAGAR, JUBLIEE HILLS,
HYDERABAD, ANDHRA PRADESH- 500033



REPRESENTED BY ITS DIRECTOR

5. NAVBHARAT POWER PRIVATE LTD.
NAVBHARAT CHAMBERS, 6-3-1109/1,
3rd FLOOR, LEFT WING, RAJBHAWAN ROAD,
SOMAJIGUDA,
HYDERABAD, ANDHRA PRADESH- 500082
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LOCAL SHOPPING COMPLEX,
VASANT KUNJ, NEW DELHI- 110070
REPRESENTED BY ITS CEO
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SIPCOT INDUSTRIAL COMPLEX,
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GOVT. OF SIKKIM, GANGTOK - 737 101
REPRESENTED BY ITS COMMISSIONER & SECRETARY (POWER)
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IN FRONT OF MAW SECRETARIAT
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SHAKTI BHAWAN, RAMPUR
JABALPUR - 482 008



पु. - २४ - २

REPRESENTED BY ITS MANAGING DIRECTOR & OTHERS

24. JAIPUR VIDYUT VITRAN NIGAM LTD
400 KV GSS BUILDING (GROUND FLOOR), AJMER ROAD,
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SHIMLA-171 004
REPRESENTED BY ITS CHAIRMAN
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THE MALL, PATIALA - 147 001
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SHAKTI BHAWAN, SECTOR-6
PANCHKULA (HARYANA) 134 109
REPRESENTED BY ITS S.E. / C & R-1
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GOVT. OF JAMMU & KASHMIR
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NEW DELHI-110 002
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NEW DELHI.



REPRESENTED BY ITS CEO

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BSES BHAWAN, NEHRU PLACE,
NEW DELHI
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POWER TRADING & LOAD DISPATCH GROUP
CENNET BUILDING,
ADJACENT TO 66/11 kV PITAMPURA-3
GRID BUILDING, NEAR PP JEWELLERS
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REPRESENTED BY ITS CEO

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SECTOR -9, CHANDIGARH.
REPRESENTED BY ITS CHIEF ENGINEER

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URJA BHAWAN
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37. NORTH CENTRAL RAILWAY
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REPRESENTED BY CHIEF ELECTRICAL DISTRIBUTION ENGINEER

38. NEW DELHI MUNICIPAL COUNCIL
PALIKA KENDRA, SANSAD MARG,
NEW DELHI-120002
REPRESENTED BY CHAIRMAN

--- RESPONDENTS

Filed by
Power Grid Corporation of India Ltd.
Represented by


S. S. Raju

Dy. General Manager (Commercial)

Gurgaon

Dated: 29.10.2013



भारतीय गैर न्यायिक

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रुपये

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TEN
RUPEES

Rs.10

INDIA NON JUDICIAL

हरियाणा HARYANA

BEFORE

30AA 425210

THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.: ..,.....

IN THE MATTER OF: Approval under Regulation-86 of CERC (Conduct of Business) Regulations' 1999 and CERC (Terms and Conditions of Tariff) Regulations' 2009 for determination of Transmission Tariff for (1) 7651400 kV, 1500 MVA ICT-1 along with associated bays at Jabalpur Pooling S/S (New) (Ant. DOCO-01.12.2013) & (2) 400 kV D/C (Quad) Jabalpur Pooling S/S (New) – Jabalpur (Existing) S/S T/L along with associated bays (Ant. DOCO-01.12.2013) under Transmission System for Phase-I Generation projects in Orissa-Part B in Western Region for tariff block 2009-14 period.

Power Grid Corporation of India Ltd.

(Govt. of India undertaking)

Registered office: B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi. 110 016.

Corporate Centre : 'SAUD AMINI', Plot No-2,
Sector-29, Gurgaon-122 001 (Haryana).

Maharashtra State Electricity Distribution Co. Ltd.

5th Floor, Prakashgad,

Bandra (East), Mumbai - 400 051

Represented By Its Chief Engineer (Power Purchase Cell)

And others

I, S. S. Raju, S/O Shri S. B. Raju, working as Deputy General Manager (Commercial) in the Powergrid Corporation of India Ltd., having its registered Office at B-9, Institutional Area, Katwaria Sarai, New Delhi-110 016, do hereby solemnly affirm and state as under:-

--- PETITIONER

---RESPONDENTS



24.12.13

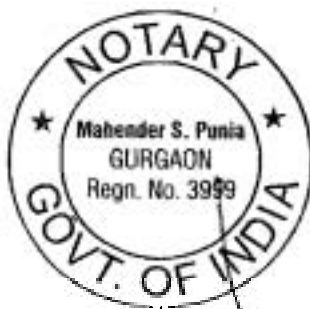
1. I am the Dy. General Manager (Commercial) of Power Grid Corporation of India Ltd., the representative of the Petitioner in the above matter, and am duly authorized to make this affidavit.
2. I submit that the enclosed tariff Petition is being filed for determination of tariff for (1) 7651400 kV, 1500 MVA ICT-1 along with associated bays at Jabalpur Pooling S/S (New) (Ant. DOCO-01.12.2013) & (2) 400 kV D/C (Quad) Jabalpur Pooling S/S (New) – Jabalpur (Existing) S/S T/L along with associated bays (Ant. DOCO-01.12.2013) under Transmission System for Phase-I Generation projects in ~~Orissa-Part B~~ in Western Region for tariff block 2009-14 period.
3. I submit that no other tariff Petition except this Petition has been filed directly or indirectly for approval of tariff for (1) 7651400 kV, 1500 MVA ICT-1 along with associated bays at Jabalpur Pooling S/S (New) (Ant. DOCO-01.12.2013) & (2) 400 kV D/C (Quad) Jabalpur Pooling S/S (New) – Jabalpur (Existing) S/S T/L along with associated bays (Ant. DOCO-01.12.2013) under Transmission System for Phase-I Generation projects in Orissa-Part B in Western Region for tariff block 2009-14 period.
4. The statements made in the tariff Petition herein are based on petitioner company's official records maintained in the ordinary course of business and I believe them to be true and correct.
5. The documents attached with the petition are legible copies and duly attested by me.


 (DEPONENT)

VERIFICATION

Solemnly affirmed at Gurgaon on this²⁹ day of October 2013 that the contents of the above affidavit are true to my knowledge and belief and no part of it is false and nothing material has been concealed there from.


 (DEPONENT)



ATTESTED

MAHENDER S. PUNIA
 ADVOCATE & NOTARY
 DISTT. GURGAON (Haryana) India

29 OCT 2013

BEFORE
'THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.:

IN THE MATTER OF: (1) 7651400 kV, 1500 MVA ICT-1 along with associated bays at Jabalpur Pooling S/S (New) (Ant. DOCO-01.12.2013) and (2) 400 kV D/C (Quad) Jabalpur Pooling SIS (New) – Jabalpur (Existing) S/S T/L along with associated bays (Ant. DOCO-01.12.2013) under Transmission System for Phase-I Generation projects in Orissa-Part B in Western Region for tariff block 2009-14 period.

Power Grid Corporation of India Ltd.

(Govt. of India undertaking)

Registered office: B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi 110 016 and

Corporate office: "Saudamini", Plot no.2,
Sector-29, Gurgaon -122 001. (Haryana)

--PETITIONER

MADHYA PRADESH POWER MANAGEMENT COMPANY LTD.

SHAKTI BHAWAIV, RAMPUR

JABALPUR - 482 008

REPRESENTED BY ITS MD

And Others

--RESPONDENTS

To

The Hon'ble Chairman and

his Companion Members of The Hon'ble CERC

The Humble application filed by the Petitioner

MOST RESPECTFULLY SHOWETH

- 1) The Petitioner herein, Power Grid Corporation of India Ltd. is a Government Company within the meaning of Companies Act, 1956. The Petitioner is also discharging the statutory functions under various applicable provisions, including in particular section 28 and 38 of the Electricity Act, 2003. In exercise of powers under sub-section (1) of section 38(1) the Electricity Act 2003, the Government of India has declared the Petitioner herein as the Central Transmission Utility.
- 2) That, Hon'ble Commission have notified CERC (Terms and Conditions of Tariff) Regulations, 2009, in accordance with which tariff based on capital cost of the transmission projects shall be determined. These Regulations have come in to force on 1.4.2009 and shall remain in force for a period of 5 years, unless reviewed earlier or extended by the Hon'ble Commission.
- 3) **Approval of the Scheme**
That the petitioner has been entrusted with the implementation of "Transmission System for Phase-I IPP Generation Projects in Orissa-Part-B" in Western Region. Investment approval for the said system was accorded by Board of Directors of POWERGRID vide Memorandum C/CP/Orissa Ph-I IPPs (Part-B) dtd. 15.12.2010 at an estimated cost of Rs. 2743.19 crore including IDC of Rs. 180.92 crs. (based on 3rd Quarter, 2010 price level). **Encl.-1, page 17.....to 22.....**

The Schematic diagram of the same is attached hereto as **Encl. - 2, (page 23.....)**



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4) The scope of work covered under the scheme is as follows:

Broad scope of works under the project is given below:

Transmission Lines

- **Jharsuguda Pooling Station – Dharamjaygarh/ near Korba (WR) 765 kV D/c line**
- **LILO of Ranchi – Sipat (Bilaspur) Pooling Station 765 kV S/c line at Dharamjaygarh/ near Korba (WR)**
- **Dharamjaygarh – Jabalpur Pooling Station 765 kV D/c line**
- **Jabalpur Pooling Station – Jabalpur 400 kV D/c (high capacity) line**

Substations

- **Establishment of 765 kV Switching station at Dharamjaygarh/ near Korba**
- **Establishment of 2x1500 MVA . 765/400 kV Pooling Station at Jabalpur**

Long Term Access Agreement has been entered into between the Petitioner and IPPs situated in Orissa on 24.02.2010. The petitioner had approached CERC for Regulatory Approval of High Capacity Power Transmission Corridors (including the system under consideration covered in the instant petition) for which approval was granted by Hon'ble Commission vide order dtd. 31.05.2010. Thereafter, Investment approval for the said system was accorded by Board of Directors of POWERGRID vide Memorandum C/CP/Orissa Ph-I IPPs (Part-B) dtd. 15.12.2010 at an estimated cost of Rs. 2743.19 crore including IDC of Rs. 180.92 crs. (based on 3rd Quarter, 2010 price level). The scheme was approved in the Standing Committee meeting on Eastern region held on 14.09.2009 where the generation developers and constituents of ER agreed to the evacuation of power from Phase-I in Orissa. The Transmission system was later discussed in the 13th ERPC held in Kolkata on 25th March '2010. The system was further discussed in the 14th ERPC held on 11.06.2010. The scheme was then finally agreed during the Standing Committee meeting of Eastern region held on 20.09.2010 at NRPC. The proposed transmission system has also been discussed and agreed with the Regional Constituents in the Standing Committee Meeting (SCM) of Western Region (WR) held on 6th December 2008 & 10th September 2009, Meeting of WRPC held on 25th September 2009; and Standing Committee Meeting of Northern Region (NR) held on 30th May 2009 & 23rd February 2010 and Meeting of NRPC held on 16th April 2010, as part of strengthening scheme for transfer of power to ER, WR and NR.

The relevant summary record of discussions held as stated above and the BPTA signed by various generators are enclosed as **Encl.- 3, (page 24 to 50)**.

5) Implementation Schedule

That details of asset covered in this petition under Phase-I IPP Generation Projects in Orissa in Western Region is as below:

S.No	Details of assets as per Petition being filed	Anticipated DOCO as per Auditor's Certificate	Revised Ant. DOCO for claiming tariff
1.	Asset I : (1) 765/400 kV, 3*500 MVA (1 ph) ICT-1 along with 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New)	01.12.13	01.02.14
2.	Asset II : 400 kV D/C (Quad) Jabalpur Pooling S/S (New) – Jabalpur (Existing) S/S T/L along with associated bays at Jabalpur (Existing) S/S and Jabalpur 765/400 kV Pooling S/S (New)	01.12.13	01.01.14

As per Investment Approval the project is scheduled to be commissioned by Dec.'2013 i.e. DOCO as 01.01.2014. The assets covered under the instant Petition are anticipated to be commissioned with in the approved schedule.

The balance part of the system is in various stages of completion. Petition for the balance part shall be filed progressively.



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6) **Completion Cost**

That the present petition covers determination of tariff based on actual expenditure incurred upto DOCO and projected additional capitalization to be incurred from DOCO to 31.03.2014, FY 2014-15 & FY 2015-16 of the assets covered under the current petition. The details of apportioned approved cost, cost as on DOCO and estimated /projected additional capitalization to be incurred of various assets covered in this petition are summarized below:

(Rs in Lakhs)

Sl No	Name of the asset	Apportioned approved cost as per FR	Estimated Exp. Up to Ant. DOCO	Estimated Exp. For FY 13-14	Estimated Exp. For FY 14-15	Estimated Exp. For FY 15-16	Total Est. Expenditure
1.	Asset I	24173.11	12989.73	1289.29	2862.50	935.67	18077.19
2.	Asset II	4431	4509.2	375.32	983.25	204.98	6072.75

Against the total approved cost of Rs. 18604.11 lakhs, the anticipated completed cost is Rs. 17498.93 lakhs, so there is cost over run for the two assets. The reasons for item wise cost variation between approved cost (FR) and actual cost as on DOCO are explained in detail in **Form-5B**. It is submitted that few assets of the project are still under various stages of execution, after completion of the whole project the comparison between approved cost and actual completed cost can only be seen in totality. Therefore Hon'ble Commission may kindly allow the tariff on the actual completed cost. The auditor's certificate for capital cost is attached as **Encl.-4, page 51 to 54.**

7) That the admissibility of additional capital expenditure (Add.-cap.) proposed during 2009-14 is to be dealt in accordance with the provisions of regulation 9(1), the extract of clause 9(1) of regulation 2009 is reproduced as under:

Capitalization''

The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

- (i) Undischarged liabilities
- (ii)
- (iii)
- (iv)
- (v)

Provided that the details of works included in the original scope of work along with estimates of expenditure, undischarged liabilities and the works deferred for execution shall be submitted along with the application for determination of tariff.

7.1 The additional Capitalization incurred /projected to be incurred in the contextual assets is mainly on account of provisional price variation payments, **final/Retention** Payments,. Hon'ble Commission is prayed to award the same. The details of add cap is also mentioned in form 9 of the respective assets.



8.0) TRANSMISSION TARIFF

8.1 The tariff for block 2009-2014 has been worked out as per CERC (Terms and Conditions of Tariff) Regulations, 2009, issued vide notification dated. 19.01.2009. In the present petition the transmission tariff has been calculated taking actual expenditure upto DOCO and projected additional capitalization from DOCO to 31.03.2014. Calculations for working out the tariff along with supporting documentation are attached hereto as Encl.- 5, (page 57 to 111).

The annual transmission tariff for the tariff period 2009-14 is summarized as below:

(Rs in Lakhs)

Sl No	Name of the asset	2009-10	2010-11	2011-12	2012-13	2013-14 (pro-rata)
1.	Asset-I (Ant. DOCO: 01.12.2013) revised ant. DOCO - 01.02.2014		-	-	-	359.76*
2.	Asset-II (Ant. DOCO: 01.12.2013) revised ant. DOCO - 01.01.2014	-	-	-	-	260.90*

*The tariff for the period 2013-14 has been worked out (for revised anticipated DOCO) by taking pro-rata of the tariff calculated in forms based on anticipated DOCO as per Auditor Certificate

- 8.2 Depreciation for 2009-14 period has been calculated as per straight line method and rates as specified in appendix III of the Regulation 2009 and these details are provide in Form-11.
- 8.3 That, it is submitted in the Tariff indicated at 8.1 above, the ROE has been calculated @ 17.481 % based on the rate notified by the Hon'ble Commission as per illustration under regulation 15 (4) (i) of the CERC (Terms and Conditions of Tariff) Regulations, 2009. It is further submitted that the above rate of 17.481 % is based on the MAT rate of 11.33 % being applicable for the year 2008-09.

That further in line with the amendment dated 21.06.2011 to Regulation 15 of the Principal Tariff Regulation dated 19.01.2009, the petitioner shall be allowed to recover the shortfall or refund the excess Annual Fixed Charges, on account of rate of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission. Further, Annual Fixed charges with respect to Tax rates applicable shall be trued up in accordance with Regulation 6 of the Principal Regulations

- 8.4 The transmission charges at para 8.1 above is inclusive of O&M expenses for the project derived based on the norms for O&M expenditure as specified under regulation 19(g) of the tariff regulations for block 2009-14. It is the understanding of the petitioner that these norms for O&M expenditure been arrived by the Hon'ble Commission after considering (i) normalized actual O&M expenses of the petitioner on its various projects in various regions during the year 2003-04,2004-05,2005-06,2006-07,2007-08,(ii) the base norms so arrived is escalated at 5.72% per annum to arrive at norms for years of tariff period 2009-14, (iii) and also wage hike of 50% on account of pay revision of the employees of Public Sector Undertakings. It is submitted that the wage revision of the employees of the petitioner company has already been done. The petitioner may approach the Commission for additional manpower cost on account of wage revision (if, any) during the tariff block 2009-14 for claiming in the tariff.



14

Petitioner submits that the License fee has been a new component of cost to the Transmission license under O&M stage of the project and has become incidental to the petitioner / CTU only from 2008-09.

It is therefore submitted that License fee shall be recovered separately from the respondents as per CERC (Terms and Conditions on Tariff) (Third Amendment), Regulations, 2012 issued vide date 31.12.2012, para 13 "Addition of New Regulation to the Principal Regulations 42A. (1) (b)."

- 8.5 The Transmission Charges and other related Charges indicated at para 8.1 above, is exclusive of incentive, late payment surcharge, FERV, any statutory taxes, levies, duties, cess, filing fees, license fee or any other kind of imposition (s) and/ or other surcharges etc. whatsoever imposed / charged by any Government (Central/State) and / or any other local bodies/authorities/regulatory authorities in relation to transmission of electricity, environmental protection, and/or in respect of any of its installation associated with the Transmission System and the same shall be borne and additionally paid by the respondent(s) to the petitioner and the same shall be charged, billed separately by the petitioner on the respondents.
- 8.6 Service tax on transmission has been put in the negative list w.e.f. 01.04.2012 and accordingly the Transmission Charges indicated at para 8.1 above, is exclusive of Service Tax and the same shall be borne and additionally paid by the respondent(s) to the petitioner and the same shall be charged, billed separately by the petitioner if at any time the transmission charges is withdrawn from the negative list.
- 8.7 That Interest on Loan has been calculated on the basis of rate prevailing as on DOCO. The change in Interest rate due to floating rate of interest applicable, if any, for the project needs to be claimed / adjusted over the tariff block of 05 years directly from / with the beneficiaries as was being followed during the tariff block 2004-09.
- 8.8 The Transmission Charges and other related Charges indicated at para 8.2 above, is exclusive of incentive, late payment surcharge, FERV, any statutory taxes, levies, duties, cess, filing fees, license fee or any other kind of imposition (s) and/ or other surcharges etc. whatsoever imposed / charged by any Government (Central/State) and / or any other local bodies/authorities/regulatory authorities in relation to transmission of electricity, environmental protection, and/or in respect of any of its installation associated with the Transmission System and the same shall be borne and additionally paid by the respondent(s) to the petitioner and the same shall be charged, billed separately by the petitioner on the respondents.

9.0 **Sharing of Transmission Charges**

Tariff for Transmission of Electricity (Annual Fixed Cost) as per para 8.1 of petition shall be recovered on monthly basis and the billing collection and disbursement of Transmission Charges shall be governed by provision of CERC (sharing of interstate Transmission Charges and Losses) Regulations, 2010.

The Petitioner submits that the Encl.-1 to Encl.-6 may please be treated as integral part of this petition.

PRAYER

It is respectfully prayed that the Hon'ble Commission may be pleased to

- 1) Approve the Transmission Tariff for the assets covered under this petition, as per para –8.1 above. The billing shall be done from the actual date of commercial operation.
- 2) Approve the Additional Capitalisation incurred / projected to be incurred.

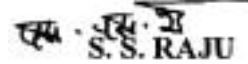


सत्य. प्रकाश

- 3) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission.
- 4) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and publishing of notices in newspapers in terms of Regulation 42 CERC (Terms and Conditions of Tariff) Regulations,2009, and other expenditure (if any) in relation to the filing of petition.
- 5) Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2009-14 period, if any, from the respondent.
- 6) Allow the Petitioner to bill and recover Service tax on Transmission Charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list at any time in future.
- 7) Allow the petitioner to bill and recover Licensee fee separately from the respondents as per CERC (Terms and Conditions on Tariff) (Third Amendment), Regulations, 2012 issued vide date 31.12.2012, para 13 "Addition of New Regulation to the Principal Regulations 42A. (1) (b)."
- 8) Allow provisional tariff in accordance with clause (3) of Regulation 5 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (First and Second Amendment).
- 9) Allow the petitioner to bill Tariff from actual DOCO.
- 10) The variation between the approved cost and the anticipated completion cost may kindly be looked into at project level when the entire scope of the project is commissioned and tariff may be allowed as claimed in the current petition.

and pass such other relief as Hon'ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice

FILED BY
POWER GRID CORPORATION OF INDIA LTD.
REPRESENTED BY


S.S. RAJU

Dy. GENERAL MANAGER (COMMERCIAL)

GURGAON:

DATED: 29.10.2013



Incl-1

पंजीकृत कार्यालय : पश्चिमिमी २५६३ २-०, बंगलूरु-२९, सुबर्बाँरु-५२३ ००१, इंडिया
 फोन : ०११२४-२५७१७००-७१६ फॉक्स : ०११२४-२५७१७००, ०११२४-२५७१७०१ टैक्स : ०११२४६३
 Corporate Office : Southwark Place No-2, Sector-29, Gurgaon - 122 001, Haryana
 Tel: 0124-2571700-719 Fax: 0124-2571740, 0124-2571781 Gram: NATGRID
 २५६३ २-०, बंगलूरु-२९, सुबर्बाँरु-५२३ ००१, इंडिया

C/CP/ Orissa Ph-I IPPs (Part-B)

December 15, 2010

MEMORANDUM

SUB: INVESTMENT APPROVAL FOR "TRANSMISSION SYSTEM FOR PHASE-I GENERATION PROJECTS IN ORISSA - PART-B".

The Board of Directors of POWERGRID, in exercise of powers delegated to it by the Department of Public Enterprises (DPE), Ministry of Heavy Industries and Public Enterprises, Government of India through its Office Memorandum No. 26(3)/2005-GM-GL-92 dated 1st May, 2008 and *Office* Memorandum No. DPE/11(2)/97-Fin. dated 22nd July, 1997 (modified subsequently through Office Memorandum No. 18(24)/2003-GM-GL.64 dated 5th August, 2005), have accorded investment approval for "**Transmission System for Phase-I Generation Projects in Orissa - Part-B**" in its 246th meeting held on December 13, 2010, as per the details given below:

1. Scope of project

Broad scope of works under the project is given below:

Transmission Lines

- Jharsuguda Pooling Station - Dharamjaygarh near Korba (WR) 765 kV Dlc line
- LILO of Ranchi - Sipat (Bilaspur) Pooling Station 765 kV S/c line at Dharamjaygarh/ near Korba (WR)
- Dharamjaygarh - Jabalpur Pooling Station 765 kV Dlc line
- Jabalpur Pooling Station - Jabalpur 400 kV Dlc (high capacity) line

Substations

- Establishment of 765 kV Switching station at Dharamjaygarh near Korba
- Establishment of 2x1500 MVA, 765/400 kV Pooling Station at Jabalpur

2. Project Cost & Funding

The estimated cost of the project based on 3rd Quarter, 2010 price level is **Rs. 2743.19 Crore** including IDC of Rs. 180.92 Crore. The abstract cost estimate is attached as **Annexure-I**.

This project is proposed to be implemented through domestic borrowings and POWERGRID's internal resources with a debt: equity ratio of 70:30.



3. implementation Schedule

The project is scheduled to be commissioned within 36 **months** from the date of investment approval.

This is issued in pursuance of 246^m meeting of Board of Directors held on December 13, 2010.

2/1/11
15/12/10

(Seema Gupta)
General Manager (CP)

15.12.10



Distribution:

1. PS to Secretary (Power), MoP, Shram Shakti Bhawan, New Oelhi-110 001
2. Chairman, CERC, Core-3, 5th floor, SCOPE complex, New Delhi- 110 003
3. Chairman, CEA , R.K.Puram, New Delhi –66
4. Commissioner, Power Development Deptt., Govt. of Jammu & Kashmir, Mini Secretariat, Jammu
5. Chairman, Himachal Pradesh SEB, Vidyut Bhawan, Kumar House Complex Building-II, Shimla-171004
6. Chairman, Punjab State Electricity Board, The Mall, Patiala-147001
7. CMD, Haryana Vidyut Prasaran Nigam Ltd., Shakti Bhawan, sector-6, Panchkula (Haryana) – 134109
8. CMD, Rajasthan State Electricity Board, Vidyut Bhawan, Vidyut Marg, Jaipur-302005.
9. CMD, UPPCL, Shakti Bhawan, 14, Ashok Marg, Lucknow – 226001
10. CMD, Uttarakhand Power Corporation Ltd., Kaulagarh Power House, FRI complex, Dehradun-248006.
11. CMD, Delhi Transco Limited (DTL), Shakti Sadan, Kotla Road, New Delhi-02
12. Chief Engineer, Electricity Deptt., Chandigarh Administration, Mini Secretariat (U.T.), Sector-9, Chandigarh.
13. Member Secretary, NRPC, 18/A, Shaheed Jeet Singh Sansanwal Marg, Katwaria Sarai, New Delhi-110 016
14. Chairman, Maharashtra State Electricity Board, Hongkong Bank Bldg, 4th floor, MG Road, Fort, Mumbai – 400 051
15. Chairman, Madhya Pradesh State Electricity Board, Shakti Bhawan, PB No. 34, Rampur, Jabalpur – 482 008
16. Chairman, Gujarat Electricity Board, Vidyut Bhawan, Race Course, Baroda, Gujarat
17. Secretary (Power), Govt. of Goa, Vidyut Bhawan, Near Mandvi Hotel, Panaji, Goa – 403 001
18. Chairman, Chhattisgarh State Electricity Board, PO – Sundarnagar, Dangania, Raipur, Chhattisgarh – 492 013
19. Secretary (Power), Electricity Department, Administration of Dadra Nagar Haveli, U.T. Silvassa – 396 230
20. Secretary (Power), Electricity Department, Administration of Daman and Diu, U.T. Daman – 396 210
21. Member Secretary, WRPC, MIDC Area, Marol, Andheri East, Mumbai – 400094
22. Chairman, BSEB, Bidyut Bhawan, Bailey Road, Patna – 800 001.

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23. Chairman, WBSEB, Bidyut Bhawan, Bidhan Nagar, Block- DJ, Sector – II, Salt Lake City, Kolkata – 700 091.
24. Chairman, JSEB, Jharkhand Vidyut Bhawan, Nepal House, Doranda, Ranchi– 02.
25. Secretary (Power), Power Department, Govt. of Sikkim, Gangtok – 727 102. -
26. CMD, GRIDCO, Vidyut Bhawan, Janpath, Bhubaneswar – 751 007.
27. Member Secretary, ERPC, 14, Golf Club Road, Kolkata – 700 033. Advisor, PAMD, Planning Commission, Yojana Bhawan, New Delhi
28. Advisor, PAMD, Planning Commission, Yojana Bhawan, New Delhi.
29. Member Secretary, Planning Commission, Yojana Bhawan, New Delhi.
30. Member (Power Systems), CEA, R.K.Puram, New Delhi – 110 066.
31. Secretary, CEA, Sewa Bhawan, R.K.Puram, New Delhi – 110 066. – 03 copies
32. Joint Secretary (Trans.), MoP, Shram Shakti Bhawan, New Delhi.
33. Joint Secretary & Financial Advisor, MoP, Shram Shakti Bhawan, New Delhi.
34. Director (Trans.), MoP, Shram Shakti Bhawan, New Delhi.
35. Joint Secretary (Plan Finance Div.-II), Ministry of Finance, North Block, New Delhi.
36. Director (Plan Finance-II Div.), Ministry of Finance, North Block, New Delhi.
37. Joint Secretary, Ministry of Statistics & Programme Implementation, Sardar Patel Bhawan, New Delhi.
38. Deputy Secretary, Cabinet Secretariat, Rashtrapati Bhawan, New Delhi.
39. Under Secretary, Finance & Budget Section, MoP, New Delhi.

21/11/10
15/12/10
(Seema Gupta)
General Manager (CP)

१५.१२.१०



Distribution:

CEO, POSOCO

ED: Engg.-SEF, CE & IT / Comml. / Finance – Sh. R. T. Agarwal / ~~CS~~ & MM / HR / Law / Finance – Sh. V. C. Jagannathan / Engg.-HVDC & QA&I/ Telecom/ NR-I / WR-I & WR-II /ER-I/ ER-II

GM I/c: LD&C/ NR-II

GM: Engg.-TL & SS/ ESMD /CMG/ OS/ IB

Dy. CVO

AGM: Cost Engg.

Company Secretary

For kind information of:

Director (Finance) / Director (Personnel) / Director (Operations)/ Director (Projects)

24/11/10

**(Seema Gupta)
General Manager (CP)**

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ABSTRACT COST ESTIMATE
(BASE COST)

TRANSMISSION SYSTEM FOR PHASE-I GENERATION PROJECTS IN ORISSA
{PART-B}

(Cost updated to 3rd Qtr. 2010 price level)

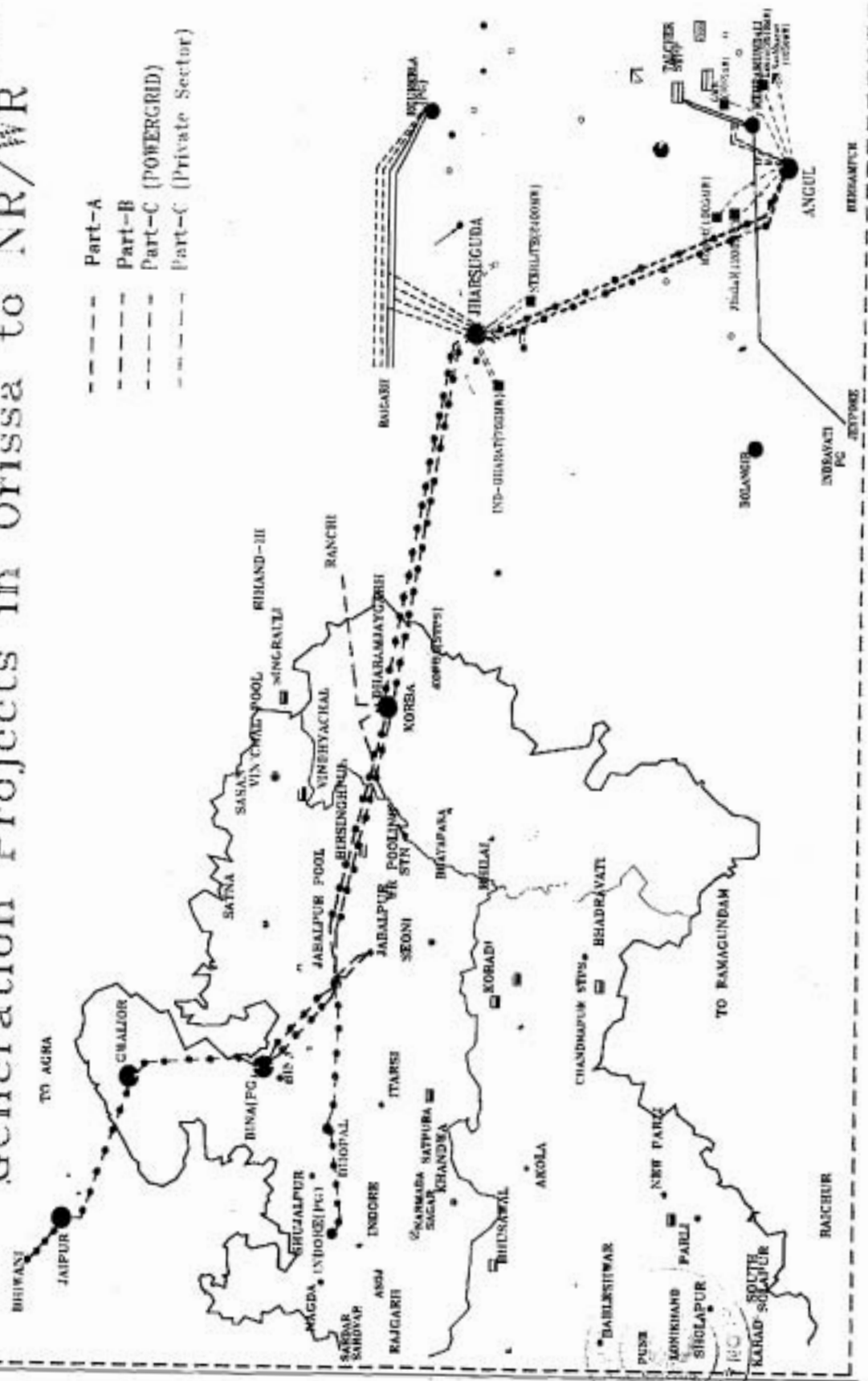
Sr. No.	DESCRIPTION	AMOUNT (Rs. in Crs.)
A	Preliminary Survey & Soil Investigation	1.00
B	Land acquisition for S/Stn and R&R Compensation	15.15
C	Cost of compensation for Trans. Lines	
	i) Compensation towards Crop & PTCC	8.57
	ii) Compensation towards forest	38.25
D	Civil Works	
	i) Infrastructure for substations	22.80
	ii) Non Residential Buildings	5.70
	iii) Colony for Trans. Lines and S/stn	18.21
E	<u>Equipment (Supply & Erection) Cost</u>	
	a) Trans Lines	1613.35
	b) Sub-stations	634.83
F	Sub Total A to E	2357.86
G	Maintenance during construction	
H	Engg. & Administration	115.98
I	Losses on Stock	
J	Contingencies @ 3% of [F - C(ii)]	69.59
K	Centages & Contingencies @ 8% on Compensatory Afforestation (considering Rs.45,000 per Ha for 337.6 Ha)	0.12
L	Customs duty @ 20.941% & handling charges @2%	18.72
	Sub Total (A to L)	2562.27
M	Interest During Construction(IDC)	180.92
	GRAND TOTAL	2743.19

Note: 1. Loan has been assumed to be available from Domestic sources.
2. Interest rate on Loan has been considered @ 10.5% for Domestic Loan subject to actuals.
3. Debt:Equity ratio has been considered as 70:30.
4. The project is scheduled to be commissioned within 36 months from the date of investment approval.



Transmission System for Transfer of Power from Generation Projects in Orissa to NR/WR

- Part-A
- Part-B
- Part-C (POWERGRID)
- Part-C (Private Sector)



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**Central Electricity Authority, SP&PA Division
Sewa Bhawan, R.K. Puram, New Delhi-110066**

No.66/5/99-SP&PA/

Dated: 24-09-2009

1. Member (Transmission),
Bihar State Electricity Board
Vidyut Bhavan, Baily Road,
Patna-800021.
2. Director (System),
Damodar Valley Corporation
DVC Towers, VIP Road,
Kolkata-700054.
3. Member Secretary,
Eastern Regional Power Committee,
14, Golf Club Road, Tollygange,
Kolkata-700033.
4. Director (Commercial),
Grid Corporation of Orissa Ltd,
Jan path, Bhubaneswar-751022.
5. Director (Transmission),
Orissa Power Transmission
Corporation Ltd,
Jan path, Bhubaneswar-751022.
6. Director (Transmission),
West Bengal State Electricity Transmission
Company Ltd, Vidyut Bhavan, 5th Floor,
Block-D, Bidhannagar, Sector-II
Kolkata-700091.
7. Principal Chief Engineer cum
Secretary, Power Department
Government of Sikkim, Sikkim.
8. Director (Projects),
Power Grid Corporation of India
"Saudamini" Plot No. 2, Sector-29
Gurgaon-122001
9. Director (Technical),
NTPC Limited,
Engineering Office Complex,
A-8, Sector 24, Noida.
10. Member (Transmission),
Jharkhand State Electricity Board,
In front of Main Secretariat,
Doranda, Ranchi-834002.
11. Executive Director (T&RE),
NHPC Ltd, NHPC Office complex,
Sector 33, Faridabad-121003.

Sub: Summary record of discussions of the Standing Committee Meeting on Power System Planning in Eastern Region held on 14-09-09 at Bhubaneswar.

Sir,

Minutes of the meeting for the Standing Committee Meeting on Power System Planning in Eastern Region held on 14-09-09 at Bhubaneswar are available on the **CEA website: www.cea.nic.in** (path to access-Wings of CEA/Power Systems/Standing Committee on Power System Planning/EASTERN REGION).

Yours faithfully,

(Dr. R. Saha)
Director (SP&PA)

Copy to : Executive Director, CESC, CESC House, Chowringhee Sq. Kolkata-700001.



B. System Strengthening under the scope of WBSETCL in State sector

Regarding the agreed system strengthening works of WBSETCL under State sector, Director (Trans.) WBSETCL informed to note that Jagatballabhpur location would be Chanditala and Guptamanipur location would be Kharagpur. Accordingly, the system strengthening works of WBSETCL would be the following:

- Chanditala – Subhashgram 400kV D/c line
- Kolaghat – Kharagpur 400kV D/C line
- Chanditala - Kharagpur 400kV D/c line
- Chanditala -Gokarna 400kV D/c line
- LILO of Baripada – Kolaghat 400kV S/c at Kharagpur
- Kharagpur – Jamshedpur 400kV D/c line
- Purulia PSS – Ranchi 400kV D/c line

On the construction of the Kharagpur-Jamshedpur 400 kV D/C and 400 kV Purulia PSS-Ranchi D/C lines, Director (Trans) WBSETCL proposed to establish these two 400kV lines by PGCIL on the basis of 100% transmission charges to be paid by WBSETCL to PGCIL. PGCIL representative stated that CERC was not in favour of such methodology. They suggested that the line can be implemented by them as deposit works on behalf of WBSETCL by PGCIL.

While enquired about progress for construction of various generation specific transmission system and related 2000MW LTOA, WBSETCL representative stated that earlier LTOA for 2000 MW was sought from PGCIL and it would now be 1000MW. Member(PS) highlighted that WBSETCU WBSEDCL should apply for LTOA with revised application.

C. Common System Strengthening for Transfer of power from generation projects in Jharkhand and West Bengal to NR/WR by PGCIL

In order to transfer power to NR/WR from generation projects in Jharkhand and West Bengal, the transmission corridors within the region and across the regions and location of the pooling station (s) were decided as following:

- **In ER**
- Establishment of 400kV Pooling Station (Jharkhand Pool) near Essar and Corporate generation projects.
- Ranchi – Jharkhand Pooling Station - Gaya 400 kV Quad D/c



- **In NR**

- New 765/400 kV substation at Varanasi and Kanpur
- Gaya – Varanasi 765 kV S/c (instead of Gaya-Balia 765kV 2nd line)
- LILO of Tilaiya – Balia 765 kV S/c at Varanasi
- Varanasi – Kanpur 765 kV D/c
- Kanpur – Jharkhalan 765 kV S/c
- 400kV connectivity for new 765/400kV S/s at Varanasi & Kanpur

- **In WR**

- Ranchi - Dharamjayagarh 765kV S/c (instead of Ranchi-Sipat 765kV 2nd S/C line)
- Dharamjayagarh – Jabalpur 765kV D/c (2nd line) -proposed to be under Pvt. Sector.

M (PS) stated that the above system requirements were already discussed and agreed by the NR and WR constituents in its 27th SCM of NR held on 30th May'09 and 29th SCM of WR held on 10-9-09 respectively.

The charges of the common transmission system would be borne by the generation developers of Jharkhand as well as WBSEDCL till the time the long term beneficiaries are finalized. Once, the long-term beneficiaries are tied-up, transmission charges would be shared by the beneficiaries in proportion to their allocation. Regional charges of Eastern Region would be borne by Jharkhand IPPs in proportion to their installed capacity, and by WBSEDCL corresponding to its long term access quantum. The regional charges for WR and NR would also be shared by Jharkhand IPPs and WBSEDCL in proportion to the power allocated to these regions.

5.3 Orissa IPPs

Phase-1 Gen Projects in Orissa

SI Projects no	Installed Capacity (MW)	Date of Commissioning	LTOA Required (MW)					Total
			NR	WR	ER	SR		
1 Sterlite	2400	June-09	200	200	-	-	400	
2 GMR	1050	Sept -11	600	-	-	200	800	
3 Navbharat	1050	July - 11	465	255	-	-	720	
4 Monnet	1050	June-12	300	375	225	-	900	
5 Jindal	1200	March-11	834	210	-	-	1044	
6 Lanco Bataandh	2640	Dec-13	650	950	-	-	1600	
7 Ind Barath	700	Sept-11	266	350	-	-	616	
	10090		3315	2340	225	200	6080	

A ATS upto Pooling Station at Jharsuguda (under the scope of Generation Developer)

Sterlite (2400 MW): Sterlite – Jharsuguda Pool 400kV D/C line with associated line bays



Ind-Barath (700 MW) : Ind-Barath – Jharsuguda Pool 400KV D/C line with associated line bays

M (PS) stated that in view of the possibility of the IPP generations being stranded on account of delay in implementation of ATS, LILO of one circuit of 400kV Rourkella- Raigarh D/C line at Sterlite and LILO of the other circuit at Ind-Barath would be made as temporary arrangement to avoid such situation. These LILO would be removed when the project specific transmission system as decided would be in place.

In respect of Sterlite project, M(PS) stated that out of the total installed capacity of 2400MW, the generation developer sought LTA for only 400MW, 600 MW share for Orissa, about 1000MW would be utilized for meeting its own typical captive load and there was no strategy indicated for utilization of balanced 400MW. In view of the plant to be connected to the grid, grid security and stability could be a concern. M (PS) stated that the generation developer would be required to carry out detailed exercise about typical characteristics of their load and derive the plan for entire utilization of Plant capacity. In this context, M(PS) stated that the generation developer should submit its switchyard drawings, load characteristics etc. to CEA/PGCIL for study and analysis.

B. ATS upto Pooling Station at Angul (under the scope of Generation Developer)

Jindal Thermal (1200 MW)

Jindal – Angul Pool 400KV D/c line with associated line bays

Monnet (1050 MW)

Monnet – Angul Pool 400KV D/c line with associated line bays

GMR (1050 MW)

GMR – Angul Pool 400KV D/c line with associated line bays

Lanco Babandh(2640 MW)

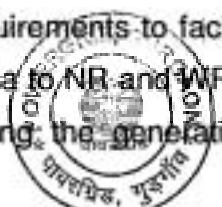
Lanco Babandh – Angul Pool 400KV 2xD/C line along with 3x1500MVA 765/400kV ICTs at Angul

Navbharat Ph-I (1050 MW)

Navbharat – Angul Pool 400KV D/c line with associated line bays.

C. Common System Strengthening Schemes by PGCIL

M(PS) stated that the system strengthening requirements to facilitate transfer of power from Phase-I generation projects of IPPs in Orissa to NR and WR were earlier firmed-up and the same was further tuned after reviewing the generation scenarios of IPPs.



Accordingly, the transmission requirements within and across the Eastern, Northern, and Western Regions, which were already discussed and agreed in the 27th SCM of NR held on May and 29th SCM held on 10-09-09 of WR, were the following.

(a) ER:

- Establishment of 2x1500 MVA, 765/400kV Pooling Station at Jharsuguda
- Establishment of 4x1500MVA, 765/400kV Pooling Station at Angul
- Angul Pooling Station – Jharsuguda Pooling Station 765kV 2xS/c
- LILO of Rourkela – Raigarh 400kV D/c at Jharsuguda Pooling station
- *LILO of Meramundali – Jeypore 400kV S/c line at Angul pooling station
- *LILO of one ckt of Talcher - Meramundali 400kV D/c line at Angul pooling station

[* These LILO would be later disconnected when Angul pooling station is developed as 765kV as otherwise it would cause short circuit level problem.]

(b) ER-WR:

- Establishment of 765kV substation at Dharamjaygarh
- Establishment of 2x1500 MVA, 765/400kV Jabalpur Pooling Station
- Jharsuguda Pooling Station – Dharamjaygarh (WR) 765kV D/c
- LILO of Ranchi – WR Pooling (near Sipat) 765kV SIC line at Dharamjaygarh
- Dharamjaygarh – Jabalpur Pooling Station 765kV D/c line
- Jabalpur Pooling Station – Jabalpur 400 kV D/C (high capacity)

(c) WR-NR:

- Establishment of 2x1500MVA, 765/400kV Bhopal Pooling Station
- Jabalpur Pool Pooling Station – Bina 765kV D/c line
- Bina – Gwalior 765kV SIC (3rd circuit)
- Jabalpur Pool Pooling Station – Bhopal – Indore 765kV SIC (proposed to be under Pvt. Sector)
- Bhopal New substation – Bhopal (M.P.) 400kV DIC (high capacity)
- Gwalior - Jaipur 765kV S/c line
- Jaipur - Bhiwani 765kV S/c line

The charges of the above system strengthening scheme for evacuation and transfer of power from the above IPPs in Orissa to beneficiaries in various regions would be borne initially by the generation developers. Once the generation developers identified the long term beneficiaries for their generation projects, the same shall be borne by the beneficiary state transmission utilities.

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Phone: 033-24235199
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Web : eastrpc.org

EASTERN REGIONAL POWER COMMITTEE
14, GOLF CLUB ROAD, TOLLYGUNGE
KOLKATA-700 033

NO. ERPC/TCC & COMMITTEE114120101231

Date: 16.04.2010

To :

1. Members of Eastern Regional Power Committee.
2. Members of TCC.
3. Special Invitees.

-Subject: Minutes of 12th TCC & 13th ERPC Meetings.

Sir,

The 12th TCC & 13th ERPC meetings were held on 25th & 26th March'10 respectively in Kolkata. A copy of the minutes of the meeting is enclosed.

Yours faithfully,

Sdl-

(A.K. Rampal)
Member Secretary

Encl: As above

16.04.2010

F

13th ERPC Meeting

Minutes



ITEM NO.11 ADDITIONAL AGENDA ITEMS

ITEM NO.11A TRANSMISSION SYSTEM FOR EVACUATION AND TRANSFER OF POWER FROM IPPs IN ORISSA – Agenda Submitted by POWERGRID

Transmission system for evacuation of power from phase-I IPPs in Orissa was discussed in the meeting of Standing Committee of Eastern Region held at Bhubaneswar on 14.09.2009 and was also included in the agenda of the 12th meeting of ERPC held at Gandhinagar on 04.12.2009. However, after initial-discussions, it was decided to take up this scheme in the next ERPC meeting.

Accordingly, following transmission system proposed for evacuation and transfer of power from phase-I IPPs in Orissa may be put for discussion and agreement:

Transmission system under the scope of POWERGRID

- 1. Transmission System for Phase-I Generation Projects in Orissa-Part-A**
 - Angul Pooling Station –Jharsuguda Pooling Station 765 kV 2xS/c line
 - LILO of Rourkela- Raigarh 400kV D/c at Jharsuguda Pooling Station
 - LILO of Meramundali –Jeypore 400kV S/c line at Angul Pooling Station
 - LILO of one ckt of Talcher- Meramundali 400kV D/c line at Angul pooling station.
 - Establishment of 765 / 400kV Pooling Station at Jharsuguda
 - Establishment of 765/ 400 kV Pooling Station at Angul
- 2. Transmission System for Phase-I Generation Projects in Orissa-Part-B**
 - Jharsuguda Pooling Station –Dharamjaygarh / near Korba (WR) 765kV D/c line
 - LILO of Ranchi – WR Pooling (near Sipat) 765kV S/c line at Dharamjaygarh/ near Korba.
 - Dharamjaygarh / near Korba –Jabalpur Pool 765kV D/c line
 - Jabalpur Pooling Station –Jabalpur 400kV D/c (high capacity) line
 - Establishment of 765 kV sub-station at suitable location near Dharamjaygarh / Korba.
 - Establishment of 765 / 400 kV Pooling Station at Jabalpur
- 3. Transmission System for Phase-I Generation Projects in Orissa-Part-C**
 - Jabalpur Pooling Station – Bina 765 kV D/c line
 - Bina – Gwalior 765 kV S/c (3rd circuit) line
 - Gwalior –Jaipur 765kV S/c line
 - Jabalpur –Bhiwani 765 kV S/c line

DELIBERATION IN THE ERPC MEETING

Members opined that the matter require thorough discussion. It was decided that the matter be first discussed in a combined meeting of TCC & Commercial Sub-Committee to be convened specially for this purpose within 15 days.



EASTERN REGIONAL POWER COMMITTEE

MINUTES OF THE 14TH MEETING OF EASTERN REGIONAL POWER COMMITTEE

Date: 11.06.2010

Venue : Hotel **Manu Allaya**, Manali

Chaired by : **Shri M.K. De**, Chairman & Managing Director, WBSEDCL & WBSETCL.

The list of participants is given at Annexure-A.

Host : Power Grid Corporation of India Ltd.

Shri Ravi P. Singh, Executive Director (**ER-II**), Power Grid, welcomed ERPC members and other participants to the 14th ERPC meeting on behalf of Power Grid. He gave a brief description on the ancient history of Manali. He highlighted constraints in construction of 400 KV Durgapur-Jamshedpur due to proposed Andal airport, damage of many towers in existing 400 kV lines due to nor'wester. He wished for fruitful deliberation on purchase of spare transformers, mobile ERS Sub-station in the meeting. He wished pleasant and comfortable stay of the delegates at Manali.

Shri R.N. Nayak, Director (Operations), Power Grid, welcomed members of ERPC and other delegates and said Power Grid was pleased to host this meeting at Manali as per the decision taken in the previous ERPC meeting. He hoped that the deliberations in the meeting would be useful in resolving the issues slated for discussion.

Shri A.K. Rampal, Member Secretary, ERPC, welcomed **Shri M.K. De**, Chairperson, ERPC and CMD, WBSEDCL & WBSETCL, **Shri R.N. Nayak**, Director (Operations), Power Grid, **Shri R.K. Sharma**, Chairman, BSEB, **Shri N.N. Pandey**, Chairman, JSEB, **Shri Pema Wangchen**, Secretary(Power), Govt. of Sikkim, **Shri P. Pentayya**, General Manager, ERLDC, **Mr. G. Tshering**, Executive Director, Bhutan Power Corporation, **Shri H.K. Vaidya**, Chief General Manager(S&M), Coal India Ltd., esteemed members of TCC, other participants and his colleagues from ERPC Secretariat. He thanked Power Grid for generous arrangements for the meeting. He mentioned about the recent incidents of collapse of transmission towers in Power Grid, BSEB and WBSETCL system and expressed the need for mutual cooperation among the constituents to tide over the disaster management. He highlighted the new provisions of IEGC on functions of ERPC and issues like WAMS, spare transformers for ER constituents etc. slate for discussion in the meeting.

Shri M.K. De, Chairperson, ERPC and CMD, WBSEDCL & WBSETCL welcomed ERPC members and other participants. He thanked **Shri R.N. Nayak**, Director (Operations), Power Grid and his team of officers for excellent arrangements for the meeting. He briefly mentioned about the grid performance during the period April & May' 10 and highlighted the following in his address :

- Network constraints in many parts of Bihar, Orissa and West Bengal are areas of concern.

14th ERPC Meeting:

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Minutes



DELIBERATION IN THE ERPC MEETING

Powergrid nominated Shri P. Mukhopadhyay, Dy. General Manger, ERLDC as a member of the second committee there itself.

Members noted.

ITEM NO.B3.3 TRANSMISSION SYSTEM FOR EVACUATION AND TRANSFER OF POWER FROM IPSS IN ORISSA (Item No.3.1.3 of 13th ERPC Meeting)

As per the decision taken in 13th ERPC meeting the issue was discussed in the Special TCC/Commercial Committee meeting held on 12.04.10. As a follow up of that meeting Power Grid has submitted the following :

Transmission system for evacuation of power from phase-I IPPs in Orissa was discussed various meetings with the constituents of Eastern Region as well as generation developer and agreed in the Standing Committee meeting of Eastern Region on 14-09-2009 and LTOP meeting chaired by Member(PS), CEA on 15-09-2009. The details of the generation projects are given at **Annexure-I**. The corresponding dedicated transmission system and strengthening system are given at **Annexure II (A) and II(B)** respectively.

The above transmission system was deliberated in the 13th ERPC meeting held on 26.03.10 as well as Special TCC meeting held on 12-04-2010. The clarification on various issues deliberated in the meeting are given below :

- In regard to Short Circuit Level of Talcher STPP and Meramundali substation, study has been carried out for the transmission network, when suggested interim arrangement of interconnection of IPPs with ER-grid takes place, it indicates that the short circuit level of Talcher would increase from 33kA to 40 kA, while the same for Meramundali substation would increase from 17 to 24 kA. However, the enhancement of above short circuit levels would be for a temporary period as the LILOs of existing 400kV lines at Generating Stations/Angul substation in ER grid would be withdrawn once the 765kV high capacity evacuation corridor planned for transfer of power from the generation projects to NR/WR is in place. With the withdrawal of LILO arrangements, the short-circuit levels would again come down to near the original values.
- In regard to interim arrangement suggested with LILO of 400kV lines at the generating stations, it was deliberated whether POWERGRID could take up the construction of the dedicated lines from the generating stations to the grid point so as to ensure timely implementation of the same and withdrawal of the interim arrangement. In this regard, following is to be clarified:
- The interim arrangement by LILO of existing 400kV lines at the generating stations would only ensure evacuation of power from the initial unit/s of the generation projects and is not adequate for evacuation of full dispatch of power from an IPP. The execution of final arrangement can not be avoided.

Central Electricity Authority, SP&PA Division
Sewa Bhawan. R.K. Puram, New Delhi-110066

No.66/5/99-SP&PA/

Dated: 8-10-2010

- | | |
|---|---|
| 1. Member (Transmission),
Bihar State Electricity Board
Vidyut Bhavan, Baily Road,
Patna-800021. | 2. Director (System),
Damodar Valley Corporation
DVC Towers, VIP Road,
Kolkata-700'054. |
| 3. Member Secretary,
Eastern Regional Power Committee,
14, Golf Club Road, Tollygange,
Kolkata-700033. | 4. Director (Commercial),
Grid Corporation of Orissa Ltd,
Jan path, Bhubaneswar-751022. |
| 5. Director (Transmission),
Orissa Power Transmission
Corporation Ltd,
Jan path, Bhubaneswar-751022. | 6. Director (System Operation),
West Bengal State Electricity Transmission
Company Ltd, Vidyut Bhavan, 5th Floor,
Block-D, Bidhannagar, Sector-II
Kolkata-700091. |
| 7. Principal Chief Engineer cum
Secretary, Power Department
Government of Sikkim, Sikkim. | 8. Director projects),
Power Grid Corporation of India
"Saudamini" Plot No. 2, Sector-29
Gurgaon-122001 |
| 9. Director (Technical),
NTPC Limited,
Engineering Office Complex,
A-8, Sector 24, Noida. | 10. Member ,(Transmission),
Jharkhand State Electricity Board,
In front of Main Secretariat,
Doranda, Ranchi-834002. |
| 11. Executive Director (T&RE),
NHPC Ltd, NHPC Office complex,
Sector 33, Faridabad-121003. | 12. General Manager,
Eastern Regional Load Dispatch Center,
14, Golf Club Road, Tollygange,
Kolkata-700033. |

Sub: Summary record of discussions of the Standing Committee Meeting on Power System Planning in Eastern Region held on.20-09-10 at NRPC, New Delhi.

Sir,

Minutes of the meeting for the Standing Committee Meeting on Power System Planning in Eastern Region held on 20-09-10 at NRPC, New Delhi are available on the CEA website: www.cea.nic.in. (path to access-Wings of CEA/Power Systems/Standing Committee on Power System Planning/EASTERN REGION).

Yours faithfully,

(Dr. R. Saha)
Director (SP&PA)



II. Common system strengthening for transfer of power from Phase-I generation projects in Jharkhand and West Bengal - Part-B :

- New 2x1500 MVA, 765/400 kV substation at Varanasi and Kanpur
- Gaya – Varanasi 765 kV SIC (instead of Gaya-Balia 765kV second line)
- LILO of one circuit of Gaya - Balia 765 kV line at Varanasi
- Varanasi – Kanpur 765 kV D/C
- Kanpur – Jhatikra 765 kV SIC
- 400kV connectivity for new 765/400kV S/s at Varanasi & Kanpur
 - Varanasi - Sarnath (UPPCL) 400kV D/C Quad line
 - LILO of Sasaram - Allahabad 400kV line at Varanasi
 - Kanpur (765/400kV) - Kanpur (Existing) 400kV D/C Quad line

III. Private Sector line: *In addition to the above work to be undertaken by PGCIL, Dharamjaygarh – Jabalpur 765kV D/C line (2nd line) would be under the scope of private sector. Associated 765kV line bays at Dharamjaygarh and Jabalpur sub-station would be under the scope of POWERGRID.*

The charges of the common transmission system would be borne by the generation developers of Jharkhand as well as WBSEDCL till the time the long term beneficiaries are finalized. Further, the regional charges of Eastern Region would be borne by the developers of Jharkhand projects in proportion to their installed capacity and by WBSEDCL corresponding to open access quantum i.e. 1000MW. The regional charges for WR and NR would also be shared by the developers of Jharkhand projects and WBSEDCL in proportion to the power allocated to these regions. Once, the long-term beneficiaries are tied-up, transmission charges would be shared by the beneficiaries in proportion to their allocation.

All the constituents of ER concurred.

5.2 Phase-I IPPs in Orissa & ATS:

The latest status of Phase-I IPPs in Orissa would be as given below.

Sl no	Projects	Generation Developer Open Access Applicant	Date of Commissioning	Installed Capacity (MW)	NR	LTOA Required (MW)			
						WR	ER	SR	Total
1	Sterlite	Sterlite Energy Ltd	Jun-09	2400	200	200	-	-	400
2	GMR	GMR Kamalanga Energy	Nov-11	1050	600	-	-	200	800
3	Navbharat	Navabharat Power Pvt. Ltd	Mar-12	1050	465	255	-	-	720
4	Monnet	Monnet Power-Company Ltd	June-12	1050	300	225	225	150	900
5	Jindal	Jindal India Thermal Power	March-11	1200	834	210	-	-	1044
6	Lanco Babandh	Lanco Babandh Power Pvt Ltd	Dec-13	2640	650	950	-	-	1600
7	Ind Barath	Ind Barath Energy(Utkal) Ltd	Dec-11	700	266	350	-	-	616
Subtotal(Orissa)				10090	3315	2190	225	350	6080



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5.2.1 Transmission System : (Under the Scope of Generation Developer)

Director (SP&PA), CEA stated that the dedicated transmission lines up to the pooling point at Jharsuguda or Angul for the above IPPs as agreed in the last SCM at Bhubaneswar were the following.

A. ATS planned Upto Pooling Station at Jharsuguda

- 1 Sterlite (2400 MW)
Sterlite – Jharsuguda Pool 400kV D/c line with associated line bays
- 2 Ind-Barath (700 MW)
Ind-Barath – Jharsuguda Pool 400KV D/c line with associated line bays

B. ATS planned Upto Pooling Station at Angul

- 1 Jindal Thermal (1200 MW)
Jindal – Angul Pool 400KV D/c line with associated line bays
- 2 Monnet (1050 MW)
Monnet – Angul Pool 400KV D/c line with associated line bays
- 3 GMR (1050 MW)
GMR – Angul Pool 400KV D/c line with associated line bays
- 4 Lanco Babandh(2640 MW)
Lanco Babandh – Angul Pool 400KV 2xD/c line
3x1500MVA, 765/400kV ICT at Angul with associated line bays
- 5 Navbharat Ph-I (1050 MW)
Navbharat – Angul Pool 400KV D/c Quad line with associated line bays

The temporary interim arrangement (under the scope of respective generation developer) for power evacuation from **Sterlite, Ind Bharat, GMR and Jindal IPPs** in Orissa would be as following:

Sterlite	• LILO of one ckt of Rourkela-Raigarh 400kV D/c line
Ind Bharat	• LILO of other ckt of Rourkela-Raigarh 400kV D/c line
GMR	• LILO of one ckt of Talcher-Meramundali 400kV D/c line
Jindal	• LILO of Meramundali-Jeypore 400kV S/c line

All the constituents of ER concurred.

**5.2.2 Transmission System for Phase-1 generation projects in Orissa:
(Under the Scope of PGCIL)**

Director (SP&PA), CEA stated that, the transmission works under the scope of PGCIL for Phase-1 projects in Orissa were earlier formulated under the sub-titles of 'ER', 'ER-WR' and 'WR-NR', which are divided into Part-A, B, C & D to facilitate implementation of the



works as per the requirement of PGCIL. Part-A would be relating to construction of pooling stations at Jharsuguda and Angul and associated interconnectors, Part-B would be for system strengthening in WR, Part-C having four elements of which first two elements would be for system strengthening common for WR and NR and 3rd & 4th elements for system strengthening in WR, and Part-D would be for system strengthening in WR and under the scope of private developers.

The scope of work under Part-A, B, C & D would be as following:

I. Transmission System for Phase-1 generation projects in Orissa - Part-A

- Angul Pooling Station – Jharsuguda Pooling Station 765kV 2xS/c
- LILO of Rourkela – Raigarh 400kV D/c at Jharsuguda Pooling station
- *LILO of Meramundali – Jeypore 400kV S/c line at Angul pooling station
- LILO of one ckt of Talcher - Meramundali 400kV D/c line at Angul pooling station
- Establishment of 2x1500 MVA, 765/400kV Pooling Station at Jharsuguda
- Establishment of 4x1500MVA, 765/400kV Pooling Station at Angul

[* These LILO would be later disconnected when Angul pooling station is developed at 765kV, otherwise it would cause short circuit level problem.]

II. Transmission System for Phase-1 generation projects in Orissa - Part-B

- Establishment of 765kV switching station at Dharamjaygarh / near Korba
- Establishment of 765/400kV Pooling Station at Jabalpur
- Jharsuguda Pooling Station – Dharamjaygarh / near Korba (WR) 765kV D/c
- LILO of Ranchi – WR Pooling near Sipat 765kV S/c line at Dharamjaygarh / near Korba
- Dharamjaygarh / near Korba – Jabalpur Pooling Station 765kV D/c line
- Jabalpur Pooling Station – Jabalpur 400 kV D/c (high capacity) line

III. Transmission System for Phase-1 generation projects in Orissa - Part-C

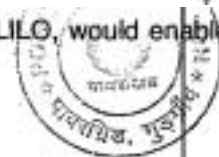
- Jabalpur Pooling Station – Bina 765kV D/c line
- Bina – Gwalior 765kV S/c (3rd circuit)
- Gwalior - Jaipur 765kV S/c line (2nd circuit)
- Jaipur - Bhiwani 765kV S/c line

IV. Transmission System for Phase-1 generation projects in Orissa - Part- D (under Private Sector)

- Establishment of 2x1500MVA, 765/400kV Bhopal Pooling Station
- Jabalpur Pool – Bhopal – Indore 765kV S/c
- Bhopal New substation – Bhopal (M.P.) 400kV D/c (high capacity)

All the constituents of ER were agreeable to the above systems. However with regard to LILO of CTU lines at IPPs, they were agreeable with the following observations.

- On the issue of the interim arrangement for power evacuation from IPPs by LILO of CTU lines, WBSETCL stated that there should be definite plan & program for implementation of ATS of IPPs. Avoiding such LILO, would enable ER constituents to



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Central Electricity Authority
System Planning & Project Appraisal Division
Sewa Bhawan, RK. Puram, New Delhi - 110066.

No. 26/10/2009-SP&PA/

Date: 17th Sep., 2009

To

- | | | | |
|----|---|----|--|
| 1 | The Member (PS),
Central Electricity Authority,
Sewa Bhawan, R. K. Puram,
New Delhi-110066 | 8 | Shri M.L Jadhav, Chief Engineer (Trans),
Nuclear Power Corp. of India Ltd.,
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Mumbai-400094
Fax 022-25993570 |
| 2 | The Member Secretary,
Western Regional Power Committee,
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Fax 022 28370193 | 9 | The Executive Director (Engg.),
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Fax 0124-2410201 |
| 3 | The Director (Projects),
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Fax 95124-2571760 | 10 | The Chief Engineer,
Electricity Department,
The Government of Goa, Panaji
Fax 08322222354 |
| 4 | Chairman and Managing Director,
MPPTCL, Shakti Bhawan,
Rampur, Jabalpur-482008
Fax 0761 2665593 | 11 | Executive Engineer (Projects)
UT of Dadra & Nagar Haveli,
Department of Electricity, Silvassa
Ph. 0260-2642787 |
| 5 | Member (Transmission & Distribution),
Chhatisgarh State Electricity Board,
Dangania, Raipur (CG)-492013
Fax 0771 4066566 | 12 | Executive Engineer
Administration of Daman & Diu (U.T.)
Department of Electricity
Moti Daman-396220
Ph. 0260-2250889, 2254745 |
| 6 | The Managing Director,
GETCO, Sardar Patel Vidyut Bhawan,
Race Course, Baroda-390007
Fax 0265-2338152 | 13 | ED, WRLDC (Special invitee)
Plot no F-3, MIDC Area, Msarol,
Andheri(East) Mumbai-400093
Fax no 022-28235434 |
| 7. | Director (Operation),
MAHATRANSCO, 'Prakashgad', Plot
No.G-9, Bandra-East, Mumbai-400051
Fax 022-26390383/26595258 | | |

Subj. Minutes of the 29th meeting of the Standing Committee on Power System Planning in Western Region held on 10th Sept 2009 at Ahmedabad

Sir,

The minutes of the 29th meeting of the Standing Committee on Power System Planning of Western Region held on 10th Sept 2009 at Ahmedabad are available on CEA website (www.cea.nic.in) at the following link: Home page-Power Systems-Standing Committee on Power System Planning-Western Region).

Yours faithfully,

PK Pahwa
17/9/09
(P. K. Pahwa)
Director, SP&PA



The above interim arrangement is purely a temporary transmission arrangement to be carried out by the respective IPP and power transfer may take place on short-term open access basis. The LILO shall be removed and the line shall be restored in its original configuration by the respective developer, after interconnection of the generation project at the identified Pooling Station.

B. Madhya Pradesh Generation Projects and Chattishgarh Generation Projects (pooled at Bilaspur Pooling Point)

➤ System strengthening in WR associated with above generation projects

- (i) Indore - Vadodara 765kV S/c
- (ii) Vadodara – Pirana 400kV D/c(Quad)
- (iii) Establishment of 765/400kV 2x1500MVA Vadodara substation ■

➤ Dedicated transmission System up to pooling point under the scope of Project Developer

Maruti Clean Coal & Power Ltd. (300 MW)	(i) Maruti – WR Pooling Station(Bilaspur) 400 kV D/c (ii) Two nos of 400kV bays at WR Pooling Station (Bilaspur)
Dheeru Powergen (450MW) and PTC India(600MW)	(i) Dheeru Power Gen – WR Pooling Station (Bilaspur) 400 kV D/c (high capacity) (ii) Two nos of 400kV bays each at WR Pooling Station (Bilaspur)
Jaiprakash Power Ventures Ltd. (1320MW)	(i) Jaiprakash – Satna 400kV D/c (high capacity) (ii) Two nos of 400kV bays at Satna(POWERGRID)
Aryan Coal Beneficiations Pvt. Ltd. (1200MW)	(i) Aryan Coal – Vindhyachal Pooling Station 400kV D/c (high capacity) (ii) Two nos of 400kV bays at Vindhyachal Pooling Station (iii) 1X 1500 MVA, 765/400 KV transformer at Vindhyachal Pooling Station (to be reviewed in light of 400 kV D/C interconnection between Vindhyachal pool and Sasan)

C. Orissa IPP Projects

➤ System strengthening common for WR and NR associated with Orissa IPPs.

- (i) Establishment of 765kV switching substation at Dharamjaygarh
- (ii) Establishment of 2x1500 MVA, 765/400kV Jabalpur Pooling Station
- (iii) Jharsuguda Pooling Station – Dharamjaygarh (WR) 765kV D/c
- (iv) LILO of Ranchi – Sipat (Bilaspur) PS 765kV S/c line at Dharamjaygarh
- (v) Dharamjaygarh – Jabalpur Pool 765kV D/c line
- (vi) Jabalpur Pooling station – Jabalpur 400 kV D/c (high capacity)
- (vii) Jabalpur Pooling station – Bina 765kV D/c line
- (viii) Bina – Gwalior 765kV S/c (3rd circuit)

➤ System strengthening in WR associated with Orissa IPPs.

- (i) Establishment of 2x1500MVA, 765/400kV Bhopal Pooling Station. (Implementation by private sector through tariff based competitive bidding route)
- (ii) Jabalpur Pooling station – Bhopal 765kV S/c (Implementation by private sector through tariff based competitive bidding route)



- (iii) Bhopal – Indore 765kV S/c (*Implementation by private sector through tariff based competitive bidding route*)
- (iv) Bhopal New substation – Bhopal (M.P.) 400kV D/c (high capacity) (*Implementation by private sector through tariff based competitive bidding route*)

➤ **System strengthening in NR associated with Orissa IPP.**

- (i) Gwalior - Jaipur 765kV S/c line
- (ii) Jaipur - Bhiwani 765kV S/c line

➤ **Pooling Stations along with their interconnections for IPPs in Orissa**

- (i) Establishment of 765/400kV Pooling Station at Jharsuguda
- (ii) Establishment of 765/400kV Pooling Station at Angul
- (iii) Angul Pooling Station – Jharsuguda Pooling Station 765kV 2xS/c
- (iv) LILO of Rourkela – Raigarh 400kV 1xD/c at Jharsuguda Pooling station -
- (v) *LILO of Meramundali – Jeypore 400kV S/c line at Angul pooling station
- (vi) *LILO of one ckt of Talcher - Meramundali 400kV D/c line at Angul pooling station.

• Interim arrangement. LILO to be removed after establishment of 765 kV pooling station at Angul

➤ **Dedicated transmission System up to pooling point under the scope of Project Developer for Orissa IPPs**

Sterlite (2400 MW)	(i) Sterlite- Jharsuguda Pooling station 400 kV D/C line with associated bays
Ind- Barath(700 MW)	(i) Ind-Barath Jharsuguda Pooling station 400 kV D/C line with associated bays
Jindal Thermal (1200 MW)	(i) Jindal Thermal- Angul Pooling station 400 kV D/C line with associated bays
Monnet (1050 MW)	(i) Monnet- Angul Pooling station 400 kV D/C line with associated bays
GMR (1050 MW)	(i) GMR- Angul Pooling station 400 kV D/C line with associated bays
Lanco Babandh (2640 MW)	(i) Lanco Babandh- Angul Pooling station 400 kV 2XD/C line -with associated bays (ii) 3X1500 MVA, 765/400 kV transformers at Angul along with associated bays
Navbharat Phase-I (1050 MW)	(i) Navbharat - Angul Pooling station 400 kV D/C line with associated bays

D. Jharkhand and West Bengal IPP Projects

➤ **System strengthening, common for WR and NR associated with IPP Projects in Jharkhand and West Bengal Generation projects:**

- (i) Ranchi - Dharamjayagarh 765kV S/c
- (ii) Dharamjayagarh – Jabalpur 765kV D/c (2nd line) (*Implementation by private sector through tariff based competitive bidding route*)



Government of India
Central Electricity Authority
System Planning & Project Appraisal Division
Sewa Bhawan R K Puram,
New Delhi -110066

No.1/9/06-SP&PA/

Dated: 09.03.2010

-As per List enclosed-

Sub: Minutes of the 28th meeting of the Standing Committee on Transmission System Planning of Northern Region held on 23rd February, 2010 at NRPC, New Delhi

Sir,

It is intimated that the minutes of the 28th meeting of the Standing Committee on Transmission System Planning of Northern Region held on 23rd February, 2010 at NRPC, New Delhi have been uploaded on CEA website (under [www.cea.nic.in/ PS wing/ standing committee meeting/NR](http://www.cea.nic.in/PS_wing/standing_committee_meeting/NR))

This is for your kind information and further necessary action at your end please.

Yours faithfully

(B. K. Sharma)
Director (SP&PA)



ED(POWERGRID) explained that the IPPs have no firm beneficiaries and transmission system has been evolved based on target beneficiaries. In view of the above IPPs/applicants were informed to sign BPTA and share the transmission charges in proportion to the capacity for which LTOA had been granted.

In addition to above transmission charges, regional transmission charges for ER, WR, NR and associated inter regional transmission charges would be borne by the respective open access applicant, as applicable (as per CERC norms)

He also informed that IPPs were advised to firm up beneficiaries at the earliest and intimate to POWERGRID. The applicable transmission and other charges would be payable by the beneficiaries after firming up of the same. The transmission charges for all the common transmission systems would be shared by the IPP's who have applied for LTOA in proportion to the capacity for which LTOA had been applied/ granted. In addition to above, regional transmission charges for WR, NR and associated inter regional transmission charges proportional to its utilization would be borne by the respective open access applicant as applicable.

Members agreed for the above.

10.3 Transmission system for IPP's in Orissa

ED(POWERGRID) explained that total expected IPP's in Orissa is about 20,000MW of which about 10000 MW is expected in phase-I. The allocation to Northern region from IPP's in Orissa, based on the review meetings is 3315 MW. The generation alongwith allocation is tabulated below:

Sl. No	Projects	IC (MW)	LTOA (MW)	Time frame	NR	WR	ER	SR
1	Sterlite	2400	400	Jun-09	200	200		
2	GMR	1050	800	Sept -11	600	-		200
3	Navbharat	1050	720	Jul-11	465	255		
4	Monnet	1050	900	June-12	300	225	225	150
5	Jindal	1200	1044	Mar-11	834	210		-



6	Lanco Babandh	2640	1600	Dec-13	650	950	
7	Ind Barath	700	616	Sept-11	266	350	-
Subtotal		10090	6080		3315	2190	225
							350

For evacuation of power from IPP projects in Orissa, it was agreed to pool power from various IPPs located in Orissa at two number 765/400 kV pooling stations at Jharsuguda and Angul. The proposed pooling stations would be interconnected through 765 kV 2xS/C ring network and for onward transfer of power to NR and WR it was proposed to inject power at new pooling station at Dharamjaygarh in Chhattisgarh through Jharsuguda pooling- Dharamjaygarh 765 kV D/c lines. From Dharamjaygarh power will be transferred to Bina via Dharamjaygarh- Jabalpur-Bina 765kV D/c . From Bina, power would be transferred to NR via Bina-Gwalior-Jaipur-Bhiwani 765kV S/c.. For transfer within WR Jabalpur-Bhopal-Indore 765 kV SIC line has been proposed. Accordingly the scheme would be as follows :

I. Transmission System for Phase-I Generation Projects in Orissa - Part-A

- Angul Pooling Station – Jharsuguda Pooling Station 765 kV 2xS/c line
- LILO of Rourkela – Raigarh 400 kV D/c at Jharsuguda Pooling station
- LILO of Meramundali – Jeypore 400 kV S/c line at Angul pooling station**
- LILO of one ckt of Talcher – Meramundali 400 kV D/c line at Angul pooling station**
- Establishment of 2x1500MVA, 765/400 kV Pooling Station at Jharsuguda
- Establishment of 4x1500MVA, 765/400 kV Pooling Station at Angul

**Interim arrangement. LILO to be removed after establishment of 765 kV pooling station at Angul.

II. Transmission System for Phase-I Generation Projects in Orissa - Part-B

- Jharsuguda Pooling Station – Dharamjaygarh / near Korba (WR) 765 kV D/c line
- LILO of Ranchi – Sipat Pooling station (Bilaspur) 765 kV S/c line at Dharamjaygarh / near Korba
- Dharamjaygarh / near Korba – Jabalpur Pool 765 kV D/c line
- Jabalpur Pooling Station – Jabalpur 400 kV D/c (high capacity) line



- Establishment of 765 kV sub-station at suitable location near Dharamjaygarh / Korba
- Establishment of 2x1500MVA 765/400 kV Pooling Station at Jabalpur

III. Transmission System for Phase-I Generation Projects in Orissa - Part-C

- Jabalpur Pooling Station – Bina 765 kV D/c line
- Bina – Gwalior 765 kV S/c (3rd circuit) line
- Gwalior – Jaipur 765 kV S/c line (2nd circuit)
- Jaipur – Bhiwani 765 kV S/c line

System strengthening in WR

- Establishment of 2x1500MVA, 765/400kV Bhopal Pooling Stn. (private sector)
- Jabalpur Pooling station – Bhopal 765kV SIC (private sector)
- Bhopal – Indore 765kV SIC (private sector)
- Bhopal New S/s– Bhopal (M.P.) 400kV D/C (high capacity) (private sector)

Dedicated transmission system upto pooling point under the scope of Project developers of Orissa IPPs

Projects	Transmission Line
Sterlite (2400 MW)	• Sterlite-Jharsuguda Pooling station 400kV DC line
IND-Barath (700 MW)	• IND-Barath- Jharsuguda Pooling station 400 kV D/C line
Jindal Thermal (1200MW)	• Jindal Thermal- Angul Pooling station 400 kV D/C line
Monnet(1050 MW)	• Monnet- Angul Pooling stn. 400kV D/C line
GMR (1050 MW)	• GMR- Angul Pooling station 400 kV D/C line





भारत सरकार
Government of India
केंद्रीय विद्युत प्राधिकरण
Central Electricity Authority
पश्चिम क्षेत्रीय विद्युत समिति

Western Regional Power Committee

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स्पीड पोस्ट SPEED POST



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ISO : 9001-2000

सं.: पक्षेविस/II वीं पक्षेविस बैठक / सहा. सचिव/2009/

11277

दिनांक:

No. WRPCII 1th WRPC Mtg./AS/2009/

Date:

28 अक्टूबर 2009

सेवा में / To,

(संलग्न सूची के अनुसार)
(As per enclosed list)

विषय: 25 सितंबर 2009 को रायपुर में आयोजित पश्चिम क्षेत्रीय विद्युत समिति की 11 वीं बैठक का कार्यवृत्त।
Sub: Minutes of the 11th meeting of Western Regional Power committee held on 25th September 2009 at Raipur.

महोदय / Sir,

इस पत्र के साथ दिनांक 25 सितंबर 2009 को रायपुर में आयोजित की गई पश्चिम क्षेत्रीय विद्युत समिति की 11 वीं बैठक का कार्यवृत्त संलग्न है।

Please find enclosed herewith the minutes of 11th meeting of Western Regional Power Committee held at Raipur on 25th September 2009.

भवदीय / Yours faithfully,

संलग्न /Encl.: उपरोक्तानुसार / As Above

(मनजीत सिंह / Manjit Singh)
सदस्य सचिव / Member Secretary

पत्र सं. ११२७७



2.4 AUFLS Performance in WR

The month-wise details relating to performance of AUFLS scheme in Western Region during the period June 2009 to August 2009 in terms of quantum of load relief obtained and number of occasions the UFR operated was noted by the Committee. The detail is at Annexure-2.4.

Member Secretary, WRPC stated that the AUFLS scheme, which is operational in Western Region, is essentially a defense mechanism for safeguarding the secured operation of the interconnected grid in the event of occurrence of any type of grid disturbance. It is therefore, requested that the WR beneficiaries may ensure to always keep the above scheme in operational readiness.

The Committee noted the same.

ITEM No.3: TRANSMISSION SYSTEM ASSOCIATED WITH IPPS LOCATED IN ORISSA, JHARKHAND, WEST BENGAL, MADHYA PRADESH AND CHATTISHGARH, MAUDA (2X500 MW), VINDHYACHAL-IV (1000MW) & RIHAND-III (1000MW) GENERATION PROJECTS OF NTPC

3.1 Transmission system associated with IPPs located in Orissa, Jharkhand, West Bengal, Madhya Pradesh and Chattishgarh

3.1.1 Member Secretary stated that during the 28th meeting of the SCM of WR held on 6th December 2008, comprehensive transmission system associated with Tilaiya UMPP (4000 MW), Nabinahgar (1000 MW) of Railways and NTPC, Barh-II (1320 MW), Rihand-III (1000 MW) Vindhyachal-IV (1000 MW) and Mauda (1000 MW) of NTPC and IPPs in Jharkhand, Orissa, Madhya Pradesh, Chhattisgarh and Maharashtra was deliberated and generation specific, System Strengthening Common to WR and NR and System Strengthening for WR were evolved and agreed. From the evolved transmission system, transmission elements to be associated with Vindhyachal-IV and Rihand-III were subsequently agreed along with its phasing during the Special meeting of the SCM held on 18th April 2009. It was also decided that based on latest status of various IPP projects, phasing of transmission works would be worked out. The above matter was deliberated in the TCC of WR held on 29th May 2009, the members had agreed to the scheme and stressed that the actual programme with each of the projects, once finalized, will be brought forth in the Standing Committee meeting and to WRPC meeting. Also, change in the transmission scheme, if any, subsequent to discussion in other region, will have to be brought to the notice of WRP Committee for its approval. It was also stressed that as discussed in the Special SCM, held on 18th April 2009, the details of cost of transmission scheme should be sent to all the constituents by PGCIL. The WRP Committee further discussed the matter in its 10th meeting held on 30th May 2009 at Diu and endorsed the views of the TCC. PGCIL representative had stated that the details of the transmission cost will be furnished to all the concerned by 5th June 2009.



3.1.2 In this meeting, Member (Power System), CEA stated that based on the review of progress of various IPPs in Chhattisgarh a list of 12 nos IPPS in Chhattisgarh who had made some progress which were likely to materialize during 11th plan / early 12th plan programme for which was drawn. The total installed capacity of these twelve (12) nos IPPs is 15485 MW out of which 7 no. IPPs with capacity 8540 MW are located near Raigarh complex and 5 no. IPPs with capacity 6945 MW are located near Jhangir-Champa complex. The target beneficiaries as indicated by these IPPs are 11143 MW to WR and 3742 MW to NR. For Orissa IPPs based on review with the project developers, OPTCL, CEA and POWERGRID had assessed and drawn a list of seven (7) projects with total capacity 10,090 MW which are likely to materialize by end of 11th Plan/ early 12th plan. The target beneficiaries indicated by these IPPs is 2340 MW to WR and 3315 MW to NR and balance to ER/SR. For Jharkhand and West Bengal (WBSEDCL) generation projects based on review the total installed capacity works to about 5465 MW. The target beneficiaries indicated by these IPPs is 1470 MW for WR and 2964 MW for NR and balance to ER. For IPP projects of Madhya Pradesh and Chhattisgarh (connected to Bilaspur pooling station) the total installed capacity is 3870 MW and the target beneficiaries indicated by these IPPs was 2375 MW for WR and 1095 for NR. Thus the total capacity of IPP projects in Chhattisgarh, Madhya Pradesh, Orissa, Jharkhand and West Bengal for which transmission system was considered during the 29th SCM of WR was of the order of 35,000 MW. Details of the projects is at Annex-3.1.2

He further stated that the transmission system associated with the various IPP projects located in different states was discussed during the 29th meeting of the Standing Committee on Power System Planning and the transmission system was evolved. Details of the evolved transmission are:

- i) For evacuating power from 12 no. of IPPs projects in Chattisgarh it was agreed to pool power at 3 nos 765/400 kV pooling stations at Raigarh (Kotra), Raigarh (Tanmar) and Champa. Two pooling stations Raigarh (Kotra) and Raigarh (Tanmar) pooling stations have been planned and interconnected to reduce the ROW requirements as there is difficulty in laying lines for projects located northern part of Raigarh. At present only Jindal Power project is connected to Raigarh (Tanmar). It is understood that Jindal Power is yet to get coal linkage. Therefore the implementation of Raigarh(Tanmar) pooling station should be linked with the progress of works at Jindal power. These three pooling stations would be interconnected through Raigarh (Kotra)- Champa 765 kV SIC and Raigarh (Kotra)-Raigarh(Tanmar) 765 kV D/C line. For onward transfer of power it was agreed to further pool power at another intermediate Raipur pooling station. Raigarh Pooling station (Kotra) would be connected to Raipur pooling station through 765 kV D/C line. Similarly Champa would be connected to Raipur through 765 kV D/C lines. To provide an alternate path Champa pooling station would also be connected to Dharamjaygarh where power from other IPP projects in Orissa, Jharkhand and W.Bengal would also be injected. For transfer of power beyond Raipur within WR, Raipur-Wardha- Aurangabad 765 kV 2xD/c lines were agreed to. Beyond Aurangabad power is proposed to be transferred through 765 kV Aurangabad-Padghe 765 kV D/C and Aurangabad- Dhule-Vadodra 765 kV SIC. For further dispersal of power at 400 kV, Aurangabad-Khargar 400 kV D/C (quad), Vadodra-Asoj 400 kV D/C



(quad), Dhule – Nasik 400 kV D/C (quad), Dhule – Malegaon 400 kV D/C (quad) were proposed. Also interconnection at 400 kV between the proposed 765 kV substations at Dhule, Padghe, Vadodara, Raipur pooling stations, Raigarh (Kotra) Pooling Stations to the existing substations was agreed. Also for bulk transfer of power from eastern part of Western Region to western part of Western Region a \pm 600 kV, 4000 MW HVDC bipole between Raigarh pooling station (Kotra) to Dhule was agreed and for bulk transfer of power to NR \pm 800 kV, 6000 MW HVDC bipole between Champa pooling station and around Kurushetra in Haryana was agreed with 3000 MW, 800 kV HVDC terminals at Champa and Kurushetra with provision to upgrade the terminals to 6000 MW.

- ii) For evacuation of power from IPP projects in Orissa it was agreed to pool power from various IPPs located in Orissa at three number 765/400 kV pooling stations at Jharsuguda, Dhenkanal and Angul. The proposed pooling stations would be interconnected through 765 kV 2xS/C ring network and for onward transfer of power to NR and WR it was proposed to inject power at new pooling station at Dharamjaygarh in Chhattisgarh through Jharsuguda pooling- Dharamjaygarh 765 kV 2x D/c lines. In the phased development of transmission pooling stations at Jharsuguda and Angul were agreed to be set up with the initial set of 7 no IPPs likely to materialise in Orissa, which are located near to these two pooling stations. These two pooling stations are initially proposed to be interconnected through 765 kV, 2x S/C line. For evacuation of power 2 no. 765 kV D/C lines from Jharsuguda to Dharamjaygarh were agreed, one D/C line is proposed to be associated with Orissa IPP projects who have sought open access for transfer to WR/NR and the 2nd D/C line is proposed with IPP projects in SR who have sought open access for selling power to N W R . From Dharamjaygarh power will be transferred to Jabalpur pooling station through 765 kV 2xD/C lines. Of the two D/c lines one D/C is associated with Orissa IPPs and the 2nd D/C line is proposed part of transmission system associated with Jharkhand IPPs and West Bengal projects who have sought open access for transfer of power to N W R . From Jabalpur pooling station power would be transferred to NR through the Jabalpur-Bina- Gwalior- Jaipur- Bhiwani 765 kV line. For transfer within WR Jabalpur-Bhopal-Indore- Vadodra 765 kV 1x S/C lines were agreed. The 765 kV Jabalpur-Bhopal-Indore section of line is covered with Orissa IPPs and 765 kV Indore-Vadodra section and Vadodra- Pirana 400 kV quad is covered with Madhya Pradesh generation projects and Chhattisgarh generation projects (pooled at Bilaspur). For IPP projects in Jharkhand and West Bengal in addition to the existing Ranchi-Sipat 400 kV and Ranchi-Sipat 765 kV S/c under construction a 765 kV Ranchi- Dharamjaygarh S/C line and a 765 kV Dharamjaygarh-Jabalpur 765 kV D/C line was agreed for transfer of power to NR/WR. For MP IPPs and Chhattisgarh IPPs (pooled at Bilaspur pooling station), Indore-Vadodra 765 kV S/C and Vadodra –Pirana 400 kV D/C quad lines were agreed to.
- Accordingly, the transmission system evolved and agreed in the 29th SCM of WR held at Ahmedabad on 10th Sept 2009 associated with various IPP projects is as under:

Minutes of 11th WRPC meeting held on 25th September 2009 at Raipur



Balco Ltd.	(i) LILO of both circuits of Korba - Birsinghpur 400kV D/c at Balco
RKM Powergen Ltd.	(i) LILO of Rourkela- Raigarh 400kV D/c at RKM Powergen
Vandana Vidyut Ltd	(i) LILO of one ckt of Korba – Birsinghpur 400kV D/c at Vandana Vidyut

*Above arrangement is temporary till the corresponding generation project gets interconnected at the identified pooling station.

B. Madhya Pradesh Generation Projects and Chattishgarh Generation Projects (pooled at Bilaspur Pooling Point)

9 System strengthening common for WR associated with above generation projects

- (i) Indore - Vadodara 765kV S/c
- (ii) Vadodara – Pirana 400kV D/c(Quad)
- (iii) Establishment of 765/400kV 2x1500MVA Vadodara substation

➤ Dedicated transmission System up to pooling point under the scope of Project Developer

Maruti Clean Coal & Power Ltd. (300 MW)	(i) Maruti – WR Pooling Station(Bilaspur) 400 kV D/c (ii) Two nos of 400kV bays at WR Pooling Station (Bilaspur)
Dheeru Powergen (450MW) and PTC India(600MW)	(i) Dheeru Power Gen – WR Pooling Station (Bilaspur) 400 kV D/c (high capacity) (ii) Two nos of 400kV bays each at WR Pooling Station (Bilaspur)
Jaiprakash Power Ventures Ltd. (1320MW)	(i) Jaiprakash – Satna 400kV D/c (high capacity) (ii) Two nos of 400kV bays at Satna(POWERGRID)
Aryan Coal Benefications Pvt. Ltd. (1200MW)	(i) Aryan Coal – Vindhyachal Pooling Station 400kV D/c (high capacity) (ii) Two nos of 400kV bays at Vindhyachal Pooling Station (iii) 1X 1500 MVA, 765/400 KV transformer at Vindhyachal Pooling Station (to be reviewed in light of 400 kV D/C interconnection between Vindhyachal pool and Sasan)

C. Orissa IPP Projects

9 System strengthening common for WR and NR associated with Orissa IPPs

- (i) Establishment of 765kV switching substation at Dharamjaygarh
- (ii) Establishment of 2x1500 MVA, 765/400kV Jabalpur Pooling Station
- (iii) Jharsuguda Pooling Station – Dharamjaygarh (WR) 765kV D/c
- (iv) LILO of Ranchi – Sipat (Bilaspur) PS 765kV S/c line at Dharamjaygarh
- (v) Dharamjaygarh– Jabalpur Pool 765kV D/c line
- (vi) Jabalpur Pooling station – Jabalpur 400 kV D/c (high capacity)
- (vii) Jabalpur Pooling station – Bina 765kV D/c line
- (viii) Bina – Gwalior 765kV S/c (3rd circuit)

Minutes of 11th WRPC meeting held on 25th September 2009 at Raipur



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➤ **System strengthening in WR associated with Orissa IPPs.**

- (i) Establishment of 2x1500MVA, 765/400kV Bhopal Pooling Station (Implementation by private sector through tariff based competitive bidding route)
- (ii) Jabalpur Pooling station – Bhopal 765kV S/c (Implementation by private sector through tariff based competitive bidding route)
- (iii) Bhopal – Indore 765kV S/c (Implementation by private sector through tariff based competitive bidding route)
- (iv) Bhopal New substation – Bhopal (M.P.) 400kV D/c (high capacity) (Implementation by private sector through tariff based competitive bidding route)

➤ **System strengthening in NR associated with Orissa IPP.**

- (i) Gwalior - Jaipur 765kV S/c line
- (ii) Jaipur - Bhiwani 765kV S/c line

➤ **Pooling Stations along with their interconnections for IPPs in Orissa**

- (i) Establishment of 765/400kV Pooling Station at Jharsuguda
- (ii) Establishment of 765/400kV Pooling Station at Angul
- (iii) Angul Pooling Station – Jharsuguda Pooling Station 765kV 2xS/c
- (iv) LILO of Rourkela – Raigarh 400kV 1xD/c at Jharsuguda Pooling station
- (v) *LILO of Meramundali – Jeypore 400kV S/c line at Angul pooling station
- (vi) *LILO of one ckt of Talcher - Meramundali 400kV D/c line at Angul pooling station.

* Interim arrangement. LILO to be removed after establishment of 765 kV pooling station at Angul

➤ **Dedicated transmission System up to pooling point under the scope of Project Developer for Orissa IPPs**

Sterlite (2400 MW)	(i) Sterlite- Jharsuguda Pooling station 400 kV D/C line with associated bays
Ind- Barath(700 MW)	(i) Ind-Barath- Jharsuguda Pooling station 400 kV D/C line with associated bays
Jindal Thermal (1200 MW)	(i) Jindal Thermal- Angul Pooling station 400 kV D/C line with associated bays
Monnet (1050 MW)	(i) Monnet- Angul Pooling station 400 kV D/C line with associated bays
GMR (1050 MW)	(i) GMR- Angul Pooling station 400 kV D/C line with associated bays
Lanco Babandh (2640 MW)	(i) Lanco Babandh- Angul Pooling station 400 kV 2XD/C line with associated bays (ii) 3X1500 MVA, 765/400 kV transformers at Angul along with associated bays
Navbharat Phase-I (1050 MW)	(i) Navbharat- Angul Pooling station 400 kV D/C line with associated bays



b. IPPs in M.P.

Sl. No.	Applicant	Gen. Project Capacity (MW)	LTOA Applied for (MW)	Location	Time Frame	Quantum allocated in the region	
						WR	NR
1.	Jaiprakash Power Ventures Ltd.	1320(2x660)	1320	Near Nigri	May'13, Nov'13	908	412
2.	Aryan Benefications	1200(4x300)	1200	Near Sidhi	Mar'13, Mar'14, Dec'14, Mar'15	900	300
Total		2520	2520			1808	712

C. Orissa Generation Projects:

Sl no	Projects	Generation Developer/ Open Access Applicant	Date of Commissioning	Installed Capacity (MW)	LTOA Required (MW)				
					NR	WR	ER	SR	Total
1	Sterite	Sterite Energy Ltd	Jun-09	2400	200	200	-	-	400
2	GMR	GMR Kamalanga Energy Ltd	Sept -11	1050	600	-	-	200	800
3	Navbharat	Navabharat Power Pvt. Ltd	Jul - 11	1050	465	255	-	-	720
4	Monnet	Monet Power Company Ltd	June-12	1050	300	375	225	-	900
5	Jindal	Jindal India Thermal Power Ltd	March-11	1200	834	210	-	-	1044
6	Lanco Babandh	Lanco Babandh Power Pvt Ltd	Dec-13	2640	650	950	-	-	1600
7	Ind Barath	Ind Barath Energy(Utkal) Ltd	Sept-11	700	266	350	-	-	616
Subtotal(Orissa)				10090	3315	2340	225	200	6080

D. Jharkhand and West Bengal (WBSEDCL) Generation Projects

Sl No	Projects	Developer/Applicant	Time Frame	Ins. Cap	LTOA	Allocation			
						NR	WR	ER	Total
A Jharkhand Projects									
1	Adhunik	Adhunik Thermal Energy Ltd	Mar-12	1005	910	500		350	850
2	Corporate	Corporate Power Ltd	Mar-12	660	594	594			594
3	ESSAR	Essar Power (Jharkhand) Ltd.	Dec-11	1200	1100	400	400	300	1100
5	Dumka	CESC Ltd.(Dumka)	Jun-12	600	540	270	270	0	540
Subtotal				3465	3144	1764	670	650	3084
B West Bengal Projects									
		WBPCL/WBSEDCL	2011-12	2000	2000	1200	800	-	2000
Total				5465	5144	2964	1470	650	5084



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CERTIFICATE OF CAPITAL COST

Project Name: **765/400 KV, 3*500 MVA (1 Ph.) ICT-1 along with 765 KV bay & 400 KV bay at Jabalpur Pooling SS (NEW) & Jabalpur 765/400 KV Pooling Substation(NEW) under ORISSA PART-B**

Date of Commercial Operation: **Anticipated DOCO 01.12.2013**

PARTICULARS	CAPITAL COST	IEDC	IDC	TOTAL
Expenditure up to 31.03.2013	5526.70	0.75	296.02	5823.47
Projected Expenditure from 01.04.2013 to 30.11.2013 (Up to DOCO)	6717.51	1.14	447.61	7166.26
projected Expenditure from 01.12.2013 to 31.03.2014	1289.29	0.00	0.00	1289.29
Projected Expenditure 2014-15	2862.50	0.00	0.00	2862.50
Projected Expenditure 2015-16	935.67	0.00	0.00	935.67
	17331.67	1.89	743.63	18077.19

This is to certify that the above summary has been prepared on the basis of the information drawn from the Audited Statement of Accounts of Power Grid Corporation of India Ltd., Western Region-II, Vadodara upto 31-03-2013. Projected expenditure is based on details furnished by the management.

Place : Jaipur
Date : 21/09/2013



For KG. Goyal & Associates
Cost Accountants

(Rajesh Goyal)

Partner

Membership No.10884



K. G. Goyal & Associates

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CERTIFICATE OF CAPITAL COST

Project Name: 7551400 KV, 3500 MVA (1 Ph.) ICT-1 along with 765 KV bay & 400 KV bay at Jabalpur PoolingSS (NEW) & Jabalpur 7651400 KV Pooling Substation(NEW) under ORISSA PART-B

Date of Commercial Operation: Anticipated DOCO 01 12.2013

(RS./LAKHS)

PARTICULARS	Expenditure up to 31.03.2013	Projected Expenditure from 01 04.2013 to 30.11.2013 (Up to DOCO)	Projected Expenditure from 01.12.2013 to 31.03 2014	Projected Expenditure 2014-15	Projected Expenditure 2015-16	Total
LAND	1172.96	0 00	0.00	0.00	0.00	1172.96
BUILDING ,CIVIL WORKS & COLONY	221.95	842.58	315 93	921.45	605.53	2907.44
TRANSMISSIONLINE	0.00	0.00	0.00	0.00	0.00	0.00
SUB-STATION	4428.56	6323.68	973.36	1941.05	330.15	13996.79
PLCC	0.00	0.00	0.00	0.00	0.00	0.00
	5823.47	7166.26	1289.29	2862.50	935.67	18077.19

Initial Spares included in the above: TL - - 0.00
 Sub station 349.92

This is to certify that the above summary has been prepared on the basis of the information drawn from the Audited Statement of Accounts of Power Grid Corporation of India Ltd., Western Region-II, Vadodara upto 31-03-2013. Projected expenditure is based on details furnished by the management.

Place : Jaipur
 Date : 21/09/2013



For K.G. Goyal & Associates
 Cost Accountants

(Signature)
 (Rajesh Goyal)
 Partner
 Membership No.10884

94.46.2



K. G. Goyal & Associates

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CERTIFICATE OF CAPITAL COST

Project Name **400 KV D/C (QUAD) Jabalpur Pooling Station-Jabalpur -**
Transmission Line along with associated Bays at Jabalpur
Existing Substation & Jabalpur **765/400 KV Pooling**
Substation(NEW) under ORISSA PART-B

Date of Commercial Operation. **Anticipated DOCO 01.12.2013**

(RS./LAKHS)

PARTICULARS	CAPITAL COST	IEDC	IDC	TOTAL
Expenditure up to 31.03.2013	972.04	0.17	66.09	1038.30
projected Expenditure from 01.04.2013 to 30.11.2013 (Up to DOCO)	3253.56	0.55	216.79	3470.90
Projected Expenditure from 01.12.2013 to 31.03.2014	375.32	0.00	0.00	375.32
Projected Expenditure 2014-15	983.25	0.00	0.00	983.25
Projected Expenditure 2015-16	204.98	0.00	0.00	204.98
	5789.15	0.72	282.88	6072.75

This is to certify that the above summary has been prepared on the basis of the information drawn from the Audited Statement of Accounts of Power Grid Corporation of India Ltd., Western Region-II, Vadodara upto 31-03-2013. Projected expenditure is based on details furnished by the management.

Place : Jaipur
Date : 21/09/2013



For K.G. Goyal & Associates
Cost Accountants

(Rajesh Goyal)

Partner

Membership No.10884



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CERTIFICATE OF CAPITAL COST

Project Name: 400 KV D/C (QUAD) Jabalpur Pooling Station- Jabalpur Transmission Line along with associated Bays at Jabalpur Existing Substation & Jabalpur 7651400 KV Pooling Substation(NEW) under ORISSA PART-B

Date of Commercial Operation: Anticipated DOCO 01.12.2013

(RS./LAKHS)

PARTICULARS	Expenditure up to 31.03.2013	Projected Expenditure from 01.04.2013 to 30.11.2013 (Up to DOCO)	Projected Expenditure from 01.12.2013 to 31.03.2014	Projected Expenditure 2014-15	Projected Expenditure 2015-16	Total
LAND	0.00	0.00	0.00	0.00	0.00	0.00
BUILDING ,CIVIL WORKS & COLONY	0.00	0.00	0.00	0.00	0.00	0.00
TRANSMISSIONLINE	260.63	2563.56	204.50	671.34	145.33	3845.36
SUB-STATION	777.67	827.02	158.50	264.00	58.28	2055.47
PLCC	0.00	80.32	12.32	47.91	1.37	141.92
	1038.30	3470.90	375.32	983.25	204.98	6072.75

Initial Spares included in the above: TL 28.84
 Sub station 55.68

This is to certify that the above summary has been prepared on the basis of the information drawn from the Audited Statement of Accounts of Power Grid Corporation of India Ltd., Western Region-II, Vadodara upto 31-03-2013. Projected expenditure is based on details furnished by the management.

Place : Jaipur
 Date : 21/09/2013



For K.G. Goyal & Associates
 Cost Accountants

 (Rajesh Goyal)
 Partner
 Membership No.10884




Summary Sheet

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
 Name of Region: WESTERN REGION
 Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
 Name of the Transmission Element: 7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S(New). Ant. :DOCO :01-DEC-2013

(Rs in Lacs)								
Sl.No.	Particulars	Form No.	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014(Pro Rata)
1	2	3	4	5	6	7	8	9
1	Depreciation	FORM-12	0.00					211.42
2	Interest on Loan	FORM-13A	0.00					199.95
3	Return on Equity	FORM-01A	0.00					238.34
4	Interest On Working Capital	FORM-13B	0.00					17.44
5	O & M Expenses		0.00					52.37
6	Total		0.00					719.52

Tariff for the period 2013-14 in this form is based on Anticipated DOCO of 01-DEC-2013 as per Auditor's Certificate. However, the tariff claimed in this petition has been made on the revised Anticipated DOCO of 01-FEB-2014 making pro-rata reduction of 2 months on this tariff.


Petitioner




End-5

Calculation Of Return On Equity

Name of the Transmission Licensee: **POWERGRID CORPORATION OF INDIA LTD.**
 Name of Region: **WESTERN REGION**
 Name of the Project: **Transmission System for Phase-I Generation Projects in Orissa-Part B**
 Name of the Transmission Element: **7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling SIS (New). Ant. :DOCO :01-DEC-2013**

Particulars	(Rs in Laes)					
	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
1	2	3	4	5	6	7
Equity as DOCO						3,896.92
Notional Equity for Add Cap						386.79
Total Equity						4,283.71
Return on Equity @ 17.481%						238.34


Petitioner

56



Details of Transmission Lines And Substations

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
 Name of Region: WESTERN REGION
 Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
 Name of the Transmission Element: 7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New). Ant. :DOCO :01-DEC-2013

Transmission Lines											
Sl.No.	Name of Line	Type of Line AC/HVDC	SIC or D/C	No. of Sub- Conductors	Voltage level kV	Line Length (Km.)	Date of Commercial operation	Covered in the present petition			
								Yes/No	If No, petition No.		
Substations											
Sl.No.	Name of Sub-station	Type of Substation Conventional /GIS/ HVDC Terminal/ HYDC Back to Back	Voltage level kV	No. of Transformers I Reactors/ SVC etc (with Capacity)	No. of Bays				Commercial operation (Anticipated)	Covered in the present petition	
					765 KV	400 KV	220 KV	132 KV & below		Yes/No	If No, petition No.
1	7651400 kV Jabalpur PS (New)	Conventional	7651400 kV								
	ICT-I Bay		765		1				01-DEC-2013	Yes	
	ICT-I Bay		400			1			01-DEC-2013	Yes	
Total					1	1					



Petitioner

Normative Parameters considered For tariff calculations

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
 Name of Region: WESTERN REGION
 Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
 Name of the Transmission Element: 7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New). Ant. :DOCO :01-DEC-2013

Year Ending March

Particulars	Unit	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
1	2	3	4	5	6	7	8
Base Rate of Return on Equity	%						17.481
Tax Rate	%						11.33
Target Availability	%						98.00
Normative O&M per Km.	Rs. lacs	Given Below					
Normative O&M per bay	Rs. lacs	Given Below					
Spares for WC as % of O&M	%						15.00
Receivables in Months' for WC	months						2.00
Prime lending Rate of SBI as on 01-APR-2009	%						13.20
Norms for O&M expenditure for Transmission System							
		2009-10	2010-11	2011-12	2012-13	2013-14	
Norms for sub-station (Rs Lakh per bay)							
765 KV		73.36	77.56	81.99	86.68	91.64	
400 KV		52.40	55.40	58.57	61.92	65.46	
220 KV		36.68	38.78	41.00	43.34	45.82	
132 KV and below		26.20	27.70	29.28	30.96	32.73	
Norms for AC and HVDC Lines (Rs Lakhs per km)							
Single Circuit (Bundled conductor with four or more sub-conductors)		0.537	0.568	0.600	0.635	0.671	
Single Circuit (Twin & Triple Conductor)		0.358	0.378	0.400	0.423	0.447	
Single Circuit (Single Conductor)		0.179	0.189	0.200	0.212	0.224	
Double Circuit (Bundled conductor with four or more sub-conductors)		0.940	0.994	1.051	1.111	1.174	
Double Circuit (Twin & Triple Conductor)		0.627	0.663	0.701	0.741	0.783	
Double Circuit (Single Conductor)		0.269	0.284	0.301	0.318	0.336	
Norm for HVDC Stations							
HVDC Back-to-back stations (Rs lakh per 500 MW)		443.00	468.00	495.00	523.00	553.00	
Rahand-Oudri HVDC bipole scheme (Rs Lakh)		1450.00	1533.00	1621.00	1713.00	1811.00	
Talcher-Kolar HVDC bipole scheme (Rs Lakh)		1699.00	1796.00	1899.00	2008.00	2122.00	



24.12.13

Abstract of **Capital Cost Estimates and Schedule of Commissioning** for the New **projects**

Name of the Transmission Licensee : POWER GRID CORPORATION OF INDIA
Name of Region: WESTERN
Name of the Project : TRANSMISSION SYSTEM FOR PHASE-I GENERATION PROJECTS IN ORISSA (PART. 765/400 KV, 4*500 MVA (1 Ph.) ICT-1 along with 765 KV bay & 400 KV bay at Jabalpur Pooling SS (NEW) & Jabalpur 765/400 KV Pooling Substation(NEW) under ORISSA PART-B

Name of Element:
Capital Cost Estimates

Board of Director/ Agency approving the Capital cost estimates: Board of Directors of POWERGRID

Date of approval of the Capital cost estimates: Memo No. C/CP/ Orissa Ph-I IPPs (Part-B) dated 15.12.2010

	Present Day Cost	Completed Cost
price level of approved estimates	As of End 3rd Qtr. Of the year 2010	As on Scheduled COD (FR)

Foreign Exchange rate considered for the Capital cost estimates

Capital Cost excluding IDC & FC

Foreign Component, if any (In Million US \$ or the relevant Currency) 0 0.00

Domestic Component (Rs. Cr.) 132.85 149.69

Capital cost excluding IDC & FC (Rs. Cr) 132.85 149.69

IDC & FC

Foreign Component, if any (In Million US \$ or the relevant Currency) 0 0.00

Domestic Component (Rs. Cr.) 8.88 10.00

Total IDC & FC (Rs.Cr.) 8.88 10.00

Rate of taxes & duties considered

Capital cost Including IDC & FC

Foreign component, if any (In Million US \$ or the relevant Currency) 0.00 0.00

Domestic Component (Rs. Cr.) 141.73 159.69

Total Capital cost Including IDC & FC (Rs. Cr) 141.73 159.69

Schedule of Commissioning 01.01.2014 01.12.2013(anticipated)

(Scheduled DOCO elementwise)

(COD of **Unit-1/Block-1**)

(COD of **Unit-1/Block-2**)

(COD of **Unit-1/Block-3**)

Note:

1. Copy of approval letter should be enclosed.
2. Details of Capital cost are to be furnished as per FORM-5B or 5C as applicable.
3. Details of IDC & Financing Charges are to be furnished as per FORM-16.



Name of the Transmission Licensee :

Name of the Transmission Licensee : POWER GRID CORPORATION OF INDIA

Name of Region: WESTERN REGION -II

Name of the Project : TRANSMISSION SYSTEM FOR PHASE-I GENERATION PROJECTS IN ORISSA (PART-B)

Name of the Element: 7651400 KV, 4500 MVA (1 Ph.) ICT-1 along with 765 KV bay & 400 KV bay at Jabalpur Pooling SS (NEW) & Jabalpur 7651400 KV Pooling Substation(NEW) under ORISSA PART-B

Sl.No	Break Down	As per Original Estimate (2nd Qtr.2011)	As on COD 01.12.2013 (Anticipated)	Liabilities Provision	Variation	Reasons for Variation
1	2	3	4	5	6=(4+5-3)	7
A	TRANSMISSION LINE					
1.0	Preliminary works					
1.1	Design & Engineering	0.00	0.00	0.00	0.00	
1.2	Preliminary investigation, Right of way, forest clearance, PTCC, general civil works, compensation etc.				0.00	
1.3	Total Preliminary works	0.00	0.00	0.00	0.00	
2.0	Transmission Lines material					
2.1	Towers Steel				0.00	
2.2	Conductor				0.00	
2.3	Earth Wire				0.00	
2.4	Insulators				0.00	
2.5	Hardware Fittings				0.00	
2.6	Conductor & Earthwire accessories				0.00	
2.7	Spares				0.00	
2.8	erection, stringing & civil works including foundations				0.00	
2.9	Total Transmission Lines material	0.00	0.00	0.00	0.00	
3.0	Taxes and Duties					
3.1	Custom Duty	0.00	0.00	0.00	0.00	
3.2	Other Taxes & Duties	0.00	0.00	0.00	0.00	
	Total Taxes & Duties	0.00	0.00	0.00	0.00	
	Total -Transmission lines	0.00	0.00	0.00	0.00	
B.	SUBSTATIONS					
4.0	Preliminary works & land					
4.1	Design & Engineering	0.00	0.00	0.00	0.00	
4.2	Land	575.00	1172.96	0.00	597.96	As per actual paid
4.3	Site preparation	20.00			-20.00	
	Total Preliminary works & land	595.00	1172.96	0.00	577.96	
5.0	Civil Works					
5.1	Control Room & Office Building including HVAC				0.00	
5.2	Township & Colony	2116.00	997.60	1842.90	724.51	As per estimated cost
5.3	Roads and Drainage	0.00	0.00	0.00	0.00	Included in township and colony
5.4	Foundation for structures	0.00	0.00	0.00	0.00	Included in township and colony
5.5	Misc civil works	0.00	0.00	0.00	0.00	Included in township and colony
	Total Civil Works	2116.00	997.60	1842.90	724.51	



Sl.No	Break Down	As per Original Estimate (2nd Qtr.2011)	As on COD 01.12.2013 (Anticipated)	Liabilities 1		Reasons for Variation
1	2	3	4	5	6=(4+5-3)	7
6.0	Substation Equipments					
6.1	Switchgear (CT,PT, Circuit Breaker, Isolator etc)	1264.48	1490.341	1083.45	1309.31	As per actual execution of works, which includes mandatory spares. Cost has been increased as per actual awarded cost.
6.2	Transformers	5305.36	3247.98	1508.50	-548.89	As per actual execution of works, which includes mandatory spares. Cost has been decreased as per actual awarded cost.
6.3	Compensating Equipment(Reactor, SVCs etc)		0.00	0.00	0.00	As per actual execution of works, which includes mandatory spares. Cost has been decreased as per actual awarded cost.
6.4	Control . Relay & Protection Panel	296.99	525.25	257.86	486.12	As per actual execution of works including associated allied work and mandatory spares. Cost has been increased as per awarded cost
6.5	PLCC	0.00	0.00	0.00	0.00	As per actual execution of works including associated allied works and mandatory spares. Cost has been decreased as per awarded cost
6.6	HVDC package	0.00			0.00	
6.7	Bus Bars/ conductors/insulators	359.18	982.94	252.48	679.64	As per actual execution of works including associated allied work and mandatory spares. Cost has been increased as per awarded cost
6.8	outdoor lighting	52.31	86.86	22.31	56.85	As per actual execution of works including associated allied work and mandatory spares. Cost has been increased as per awarded cost
6.9	Emergency DG set	49.44	86.62	22.25	59.43	As per actual execution of work including associated allied works and mandatory spares. Cost has been increased as per awarded cost
6.10	Grounding System	0.00			0.00	Included in bus bars and conductors
6.11	Structure for Switch yard	1253.95	1899.13	70.00	715.19	As per actual execution of works including associated allied work and mandatory spares. Cost has been increased as per awarded cost
6.12	Auxiliary System	1081.73	1754.53	27.72	700.53	As per actual execution of works including associated allied work and mandatory spares. Cost has been increased as per awarded cost
	Total Substation Equipments	9663.44	10073.65	3244.56	3654.77	
7.0	Spares (incl in eqpt. cost)			0.00	0.00	Included in associated equipments
8.0	Taxes and Duties				0.00	
8.1	Custom Duty	0.00			0.00	
8.2	Other Taxes & Duties	0.00	0.00		0.00	
8.3	Total Taxes & Duties	0.00	0.00	0.00	0.00	
	Total (Sub-station)	12374.44	12244.21	5087.47	4957.24	
9.0	Construction and pre-commissioning expenses					
9.1	Site supervision & site admn.etc. (Payable to SEBs)			0.00	0.00	
9.2	Tools and Plants			0.00	0.00	
9.3	construction Insurance			0.00	0.00	
	Total Construction and pre commissioning	0.00	0.00	0.00	0.00	
10.0	Overheads					
10.1	Establishment	0.00	0.00	0.00	0.00	
10.2	Audit	0.00	0.00	0.00	0.00	
10.3	Contingency	910.74	1.89	0.00	-908.85	
	Total Overheads	910.74	1.89	0.00	-908.85	
11.0	Project cost without IDC, FC, FERV & Hedging cost	13285.18	12246.11	5087.47	4048.39	
12.0	Total Cost (Plant & Equipment)			0.00	0.00	
12.1	Interest During Construction (IDC)	887.93	743.63	0.00	-144.30	
12.2	Financing Charges (FC)			0.00	0.00	
12.3	Foreign Exchange Rate Variation (FERV)			0.00	0.00	
12.4	Hedging Cost			0.00	0.00	
13.0	Project cost including IDC, FC, FERV & Hedging cost	14173.11	12989.74	5087.47	3904.10	



Name of the Transmission Licensee :
 Name of Region :
 Name of the Project :
 Name of the Transmission Element :

POWER GRID CORPORATION OF INDIA
 WESTERN
 TRANSMISSION SYSTEM FOR PHASE-I GENERATION PROJECTS IN ORISSA (PART-B)
 7651400 KV, 3*500 MVA (1 Ph.) ICT-1 along with 765 KV bay & 400 KV bay at labalpur Pooling SS (NEW) & labalpur 765/400 KV Pooling Substation(NEW) under ORISSA PART-B

01.12.2013
 (Anticipated)

000

Break-up Of Construction/Supply/Service packages

FORM-5C

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Name/No. of Construction/supply/ service package	Scope of works (In line with head or sort break-ups as applicable)	Whether awarded through ICB/DCB/ Departmentally/Deposit Work etc & No. of bids received.	No. of bids received.	Date of Award	Date of start of work	Date of completion of work	Value of Award In (Rs/ Euro/ \$) Lakhs	Firm or with Escalation in percent.	Actual expenditure till the completion or up to COD whichever is earlier. (Rs Lakhs)	Taxer 6 Excise, customs duty 6 others and IEDC	IDC, FC, FERV 6 Hedging cost	Sub-Total
Substation Pkg. SS02 for Construction of 765/400kv Jabalpur Pooling Station and Ext. of 400kv Jabalpur S/S. -M/s. JSL NOA-I 11/3765 8 3766 Dtd 26.07 2011	Supply and Erection package	Domestic	7	26 07 2011	28 07 2011	26 10 2013	Supply- 17,29,167+INR 66 02,08,553 /- Erection - Rs 32,67,00,818/-	Escalation	6825.67	1.21	474.63	7301.51
Auto Trans. Pkg. AT01 for 765/400/3KV Single Phase Trans. At Jabalpur Pooling Station.-JV of ABB Ltd, India & ABB Ltd, Sweden. . NOA-I 6 1113702 6 3703 Dtd 24 01 2011	Supply and Erection package	Domestic	5	24 03 2011	24 03 2011	24 04 2013	Supply- Rs 63,93,66,027. /- Erection- Rs 7,47,74,300/-	Escalation	2908.37	340.13	202.24	3450.73
LAND									1172.96	0.05	0.05	1172.96
CNIL WORKS									997.60	0.17	66.76	1064.53
GRAND TOTAL									11904.601	341.51	743.62	12989.73

62

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DETAILS OF ELEMENTWISE COST

Name of the Transmission Licensee : POWER GRID CORPORATION OF INDIA LTD.
Name of Region: WESTERN

400 KV D/C (QUAD) Jabalpur Pooling Station-Jabalpur
Transmission Line along with associated Bays at
Jabalpur Existing Substation & Jabalpur 7651400 KV
Pooling Substation(NEW) under ORISSA PART-B

Name of the Project :

Transmission lines

S.NO.	Name of line	Apportioned approved Cost (Rs. Lacs)(FR) 31st Oct-2014	Completed Cost (Rs. Lacs)	Covered in the present petition	
				yes/no	if no, petition no.
	ORISSA PART-B				
1	400 K V D/C (QUAD)Jabalpur Pooling Station- Jabalpur Transmission Line	3,590.31	3,845.36		
2	Remaining Portion	188,796.97			
	Total TL ORISSA PART-B	192,387.28	3,845.36		

Substations

S.NO.	Name of Substation	Apportioned approved Cost (Rs. Lacs)(FR)	Completed Cost (Rs. Lacs)	Covered in the present petition	
				yes/no	if no, petition no.
	ORISSA PART-B				
1	765 K V bay & 400 K V bay at Jabalpur Pooling S S (NEW) for 765kV ICT#1 (7651400 KV, 4*500 MVA (1 Ph.) } including 400kV bays for Jabalpur-Jabalpur tr. Line	14,173.11	13996.79		
2	JABALPUR 400 K V EXTN. S/S (DOC: 01.02.2014)	841.06	2227.38		
3	Remaining Portion	66,917.61			
	Total SS ORISSA PART-B	81931.78	16224.18		
	Total Project cost for TL & Bays under ORISSA-PART-B	274319.06	20069.54		

Petitioner



Financial package upto COD

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
Name of Region: WESTERN REGION
Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
Name of the Transmission Element: 7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New). Ant. :DOCO :01-DEC-2013
Project Cost as on COD131.03.2009: 12989.73 (Rs. in Lakhs)
Date of Commercial Operation of the Transmission element: 01-DEC-2013

(Rs in Lacs)

Transmission Lines	Financial Package as apporportioned1 Approved		Financial Package as on COD		As Admitted on COD	
	Currency and Amount		Currency and Amount		Currency and Amount	
Loans						
Loans - Domestic	INR	9921.18	MR	5002.81		
Loans - Foreign			MR	4090.00		
Total Loans		9921.18		9092.81		
Equity						
Foreign						
Domestic	MR	4251.93	INR	3896.92		
Notional				0.00		
Total Equity		4251.93		3896.92		
Debt Equity Ratio		70.00:30.00		70.00:30.00		
Total Cost		14173.11		12989.73		
	Debt	Equity	Total			
Add Cap For 2013-2014			1289.29			
Add Cap For 2013-2014	Actual	Normative				
Debt		902.50				
Equity		386.79				
Total		1289.29				
Total Capital Cost with ADDCAP upto 01.04.2014			14279.02			


Petitioner



Statement of Additional Capitalisation after COD

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
 Name of Region: WESTERN REGION
 Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
 Name of the Transmission Element: 7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New). Ant. :DOCO :01-DEC-2013
 COD: 01-DEC-2013

(Rs in Lacs)

Sl.No.	Year	Work/Equipment proposed to be added after COD upto cut off date/ beyond cut off date	Amount capitalised and proposed to be capitalised	Justification as per propose	Regulation under which covered	Admitted Cost
1	2	3	4	5	6	7
1.	2013-2014	BUILDING	315.93	Balance & Retention Payments	9(i)	
		SUB STATION	973.36	Balance & Retention Payments	9(i)	
	Total		1289.29			
2.	2014-2015	BUILDING	921.45	Balance & Retention Payments	9(i)	
		SUB STATION	1941.05	Balance & Retention Payments	9(i)	
	Total		2862.50			
3.	2015-2016	BUILDING	605.53	Balance & Retention Payments	9(i)	
		SUB STATION	330.15	Balance & Retention Payments.	9(i)	
	Total		935.68			



Petitioner

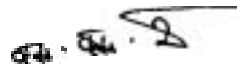
Statement of Capital Cost

Name of the Transmission Licensee: **POWERGRID CORPORATION OF INDIA LTD.**
 Name of Region: **WESTERN REGION**
 Name of the Project: **Transmission System for Phase-I Generation Projects in Orissa-Part B**
 Name of the Transmission Element: **765/400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New). Ant. :DOCO :01-DEC-2013**

Statement of Capital Cost

(To be given for relevant dates and year wise)

		(Rs. in Crores)				
		01-APR-2009- 31-Mar-2010	01-APR-2010- 31-Mar-2011	01-APR-2011- 31-Mar-2012	01-APR-2012- 31-Mar-2013	01-DEC-2013- 31-Mar-2014
A	a) Opening Gross Block Amount as per books					129.9
	b) Amount of capital liabilities in A(a) above					
	c) Amount of IDC, FC, FERV & Hedging cost included in A(a) above					7.44
	d) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in A(a) a					0.02
B	a) Addition in Gross Block Amount during the period					12.89
	b) Amount of capital liabilities in B(a) above					
	c) Amount of IDC, FC, FERV & Hedging cost included in B(a) above					
	d) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in B(a) a					
C	a) Closing Gross Block Amount as per books					142.79
	b) Amount of capital liabilities in C(a) above					
	c) Amount of IDC, FC, FERV & Hedging cost included in C(a) above					7.44
	d) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in C(a) a					0.02


Petitioner



Financing of Additional Capitalisation

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
 Name of Region: WESTERN REGION
 Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
 Name of the Transmission Element: 7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New). Ant. :DOCO :01-DEC-2013

(Rs in Lacs)

Financial Year (Starting from COD)	Projected/Actual					Admitted				
	From COD to31- Mar-2014	Year2	Year3	Year4	Year5& So on	Year1	Year2	Year3	Year4	Year5 & so on
1	2	3	4	5	6	7	8	9	10	11
Amount capitalised in Work/Equipment	1289.29									
Financing Details										
Loan-1										
Loan-2										
Loan-3 and so on										
Total Loan	902.50									
Equity	386.79									
Internal Resources										
Others										
Total	1289.29									



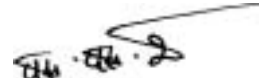
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Petitioner

Calculation of Depreciation Rate

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
Name of Region: WESTERN REGION
Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
Name of the Transmission Element: 7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New). Ant. :DOCO :01-DEC-2013

(Rs in Lacs)

Sl.No.	Name of the Assets	Gross Block as on 31.03.2013 or as on COD, whichever is later	Addcap during the year	Gross Block as on 31.03.2014 or as on COD, whichever is later	Depreciation Rates as per CERC's Depreciation Rate Schedule	Depreciation Amount up to 31.03.2014
	1	2	3	4	5	6=Col.4 X Col.5
2013-2014						
1	FREEHOLD LAND	1172.96	0.00	1172.96	0.00%	0.00
2	BUILDING	1064.53	315.93	1380.46	3.34%	13.61
3	TRLINE	0.00	0.00	0.00	5.28%	0.00
4	SUB STATION	10752.24	973.36	11725.60	5.28%	197.80
5	PLCC	0.00	0.00	0.00	6.33%	0.00
6	LEASEHOLD LAND	0.00	0.00	0.00	3.34%	0.00
	Total	12989.73	1289.29	14279.02		211.42
Weighted Average Rate of Depreciation (%)						1.55.
Elapsed Life						0


Petitioner



Statement of Depreciation

Name of the Transmission Licensee: ? POWERGRID CORPORATION OF INDIA LTD.
 Name of Region: WESTERN REGION
 Name of the Project: Transmission System for Phase-I Generation projects in Orissa-Part B
 Name of the Transmission Element: 7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New). Ant. :DOCO :01-DEC-2013

(Rs in Lacs)

Financial Year	Upto 2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Depreciation on Capital Cost														201.09
Depreciation on Additional Capitalisation														
Amount of Additional Capitalisation														1,289.29
Depreciation Amount														10.32
Details of FERV														
Amount of FERV on which depreciation charged														
Depreciation Amount														
Depreciation Recovered during the year														211.42
Advance against Depreciation recovered during the year														
Depreciation and Advance against Depreciation recovered during the year														211.42
Cumulative Depreciation And Advance against Depreciation recovered upto the year														211.42



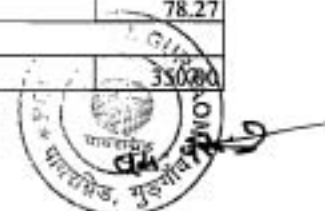
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 Petitioner

Calculation of Weighted Average Rate of Interest on Actual Loans

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
Name of Region: WESTERN REGION
Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
Name of the Transmission Element: 7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New). Ant. :DOCO :01-DEC-2013

(Rs in Lacs)

Particulars	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Proposed Loan 2013-14 (8.70%)						
Gross Loan Opening						4002.81
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						4002.81
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						4002.81
Average Net Loan						4002.81
Rate of Interest on Loan		0%	0%	0%	0%	8.7%
Interest on Loan						348.24
IFC (IFC - B LOAN) (31419-01)						
Gross Loan Opening						1210.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						1210.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						1210.00
Average Net Loan						1210.00
Rate of Interest on Loan		0%	0%	0%	0%	2.435%
Interest on Loan						29.46
IFC (ICFF LOAN) (31419-02)						
Gross Loan Opening						510.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						510.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						510.00
Average Net Loan						510.00
Rate of Interest on Loan		0%	0%	0%	0%	3.285%
Interest on Loan						16.75
FC - BOND (17.01.2013)						
Gross Loan Opening						2020.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						2020.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						2020.00
Average Net Loan						2020.00
Rate of Interest on Loan		0%	0%	0%	0%	3.875%
Interest on Loan						78.27
IFC (IFC - A LOAN) (31419-00)						
Gross Loan Opening						3500.00



Calculation of Weighted Average Rate of Interest on Actual Loans

Name of the Transmission Licensee: **POWERGRID CORPORATION OF INDIA LTD.**
 Name of **Region**: **WESTERN REGION**
 Name of the Project: **Transmission System for Phase-I Generation Projects in Orissa-Part B**
 Name of the Transmission Element: **7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New). Ant. :DOCO :01-DEC-2013**

(Rs in Lacs)

Particulars	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						350.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						350.00
Average Net Loan						350.00
Rate of Interest on Loan		0%	0%	0%	0%	3.285%
Interest on Loan						11.50
BOND XXXVIII						
Gross Loan Opening						10.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						10.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						10.00
Average Net Loan						10.00
Rate of Interest on Loan		0%	0%	0%	0%	9.25%
Interest on Loan						0.92
SBI (21.03.2012)						
Gross Loan Opening						220.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						220.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						220.00
Average Net Loan						220.00
Rate of Interest on Loan		0%	0%	0%	0%	10.05%
Interest on Loan						22.11
BOND-XXXIV						
Gross Loan Opening						225.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						225.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						225.00
Average Net Loan						225.00
Rate of Interest on Loan		0%	0%	0%	0%	8.84%
Interest on Loan						19.89
BOND XXXVII						
Gross Loan Opening						50.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						50.00



Calculation of Weighted Average Rate of Interest on Actual Loans

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
Name of Region: WESTERN REGION
Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
Name of the Transmission Element: 7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling SIS (New). Ant. :**DOCO :01-DEC-2013**

(Rs in Laes)

Particulars	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						50.00
Average Net Loan						50.00
Rate of Interest on Loan		0%	0%	0%	0%	9.25%
Interest on Loan						4.62
BOND XL						
Gross Loan Opening						410.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						410.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						410.00
Average Net Loan						410.00
Rate of Interest on Loan		0%	0%	0%	0%	9.3%
Interest on Loan						38.13
BOND XXXIX						
Gross Loan Opening						85.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						85.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						85.00
Average Net Loan						85.00
Rate of Interest on Loan		0%	0%	0%	0%	9.4%
Interest on Loan						7.99
Total						
Gross Loan Opening						9092.81
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						9092.81
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						9092.81
Average Net Loan						9092.81
Interest on Loan						577.90
Weighted Average Rate of Interest on Loans						6.3556%


Petitioner





POWER GRID CORPORATION OF INDIA LIMITED

(incorporated with limited liability in India)

U.S. \$500,000,000 3.875 per cent Notes due 2023

Issue price: 98.954 per cent.

The U.S. \$500,000,000 3.875 per cent. notes due 2023 (the Notes) are issued by Power Grid Corporation of India Limited (the Issuer).

The Issuer may, at its option, redeem all, but not some only, of the Notes at any time at par plus accrued interest, in the event of certain tax changes as described under "Conditions of the Notes - Redemption and Purchase". The Notes mature on 17 January 2023.

Approval-in-principal has been received for the listing of the Notes on the Singapore Exchange Securities Trading Limited (the SGX-ST). The SGX-ST assumes no responsibility for the correctness of any statements made, opinions expressed or reports contained herein. Admission of the Notes to the Official List of the SGX-ST is not to be taken as an indication of the merits of the Issuer or the Notes.

The Notes will be rated BBB- by Standard & Poor's (S&P) and BBB- by Fitch Ratings (Fitch). A rating is not a recommendation to buy, sell or hold securities and may be subject to revision, suspension or withdrawal at any time by the assigning rating organisation.

The Notes have not been and will not be registered under the United States Securities Act of 1933, as amended (the Securities Act) and may not be offered or sold within the United States except in certain transactions exempt from the registration requirements of the Securities Act. This offering circular (Offering Circular) has not been and will not be registered as a prospectus or a statement in lieu of a prospectus with the Registrar of Companies in India in accordance with the Companies Act, 1956 and other laws for the time being in force. This Offering Circular has not been and will not be reviewed or approved by any regulatory authority in India, including, but not limited to, the Securities and Exchange Board of India (SEBI), any Registrar of Companies or any stock exchange in India. This Offering Circular and the Notes are not and should not be construed as an advertisement, invitation, offer or sale of any securities to the public or any person resident in India. The Notes have not been and will not be, offered or sold to any person resident in India. If you purchase any of the Notes, you will be deemed to have acknowledged, represented and agreed that you are eligible to purchase the Notes under applicable laws and regulations and that you are not prohibited under any applicable law or regulation from acquiring, owning or selling the Notes.

The Notes will initially be represented by a global certificate in registered form (the Global Certificate) which will be registered in the name of a nominee of a common depositary for Euroclear Bank SA/NV (Euroclear) and Clearstream Banking, société anonyme (Clearstream, Luxembourg). It is expected that delivery of the Global Certificate will be made on 17 January 2013 or such later date as may be agreed (the Closing Date) by the Issuer and the Joint Lead Managers (as defined under "Subscription and Sale").

An investment in Notes involves certain risks. Prospective investors should have regard to the factors described under the heading "Risk Factors" on page 11.

Joint Lead Managers and Joint Bookrunners

Barclays

The Royal Bank of Scotland

Standard Chartered Bank

The date of this Offering Circular is 10 January 2013.



2121 Pennsylvania Avenue, NW
Washington, DC 20433
USA

DATE: Thursday, September 12, 2013

FROM: Financial Operations Officer
Fax: 1-202-974-4371

TO: POWER GRID CORPORATION OF INDIA LIM
NEW DELHI,
INDIA

ATTN: Singhal Ak
Fax: 011-91-124-257-1877

SUBJ: Investment Agreement Number - 31419

PAGES: 1 Total (Including this page)

We provide rate settings for all interest payment dates Please refer to the investment agreement to determine whether this is the last principal maturity date.

Please disregard this notice if the above-mentioned loan will be fully repaid or fully prepaid on or before the start of this rollover period.

Facility	Loan	Cncy	Index	Quote	Spread	Loan Rate	Date From	Date To
31419-00	000251476	USD	TELERATE-US DOLLAR-06 MONTHS	0.385	29	3.285	9/16/2013	3/18/2014
31419-01	000251898	USD	TELERATE-US DOLLAR-06 MONTHS	0.385	2.05	2.435	9/16/2013	3/18/2014
31419-02	000251901	USD	TELERATE-US DOLLAR-06 MONTHS	0.385	29	3.285	9/16/2013	3/18/2014

Thank you.






भारतीय स्टेट बैंक
State Bank of India
एन सी ई डी

कॉर्पोरेट जेका ब्यूरो शाखा, एन सी ई डी ग्रुप, 11-12 वा फ्लोर, 1, टॉलस्टोव मार्ग, नई दिल्ली-110 001

कॉर्पोरेट अकाउंट्स ग्रुप प्रेशन, जेकरा एन सी ई डी ग्रुप, 11th & 12th Floor, 1, Tolstoy Marg, New Delhi-110 001

Tel: 23374326, 23374505, 23374541 (AMT-1), 23353101 (AMT-2) & COO, 23701043, 23350506 (A & A), 23352995 (CS), 23352968 (IB)
Fax: 23353101, 23353102, 23352793 (CS), 23353029 (IB)

The Dy. General Manager (Finance),
Power Grid Corporation of India Ltd.,
Corporate Office,
Gandhinagar, Plot No 2
Sec-29, Gurgaon-122001
Haryana

Fax No. 0124-2571869

CAG/AMT-1/2013-14/479

23.09.2013

Dear Sir,

PAYMENT OF MONTHLY INTEREST ON TERM LOANS

INTEREST FOR THE MONTH OF SEP 2013

With reference to above, an interest calculated on daily products basis, as detailed below is payable on 01.10.2013. We give below the term loan-wise/account-wise break up enabling you to make the payment online.

Term Loan

Account No	Amount	Per	Days	Interest Rate(%)	Amount Payable(INR)
32247673988	2355000000	01.09.13 to 13.09.13	12	9.95	115956301
	2355000000	13.09.13 to 30.09.13	18	10.05	77811781
		TOTAL	30		193368082

Short Term Loan

Account No	Amount	Period	Days	Interest Rate(%)	Amount Payable(INR)
32842014906	2000000000	01.09.13 to 18.09.13	18	9.7	95671233
	2000000000	19.09.13 to 30.09.13	12	9.8	64438356
		TOTAL	30		160109589

GRAND TOTAL

353477671

We, therefore, request you to make suitable arrangements to fund your current account, so that we receive the credit into your TL account on 01.10.2013.

Yours faithfully

Dy. General Manager & RM(AMT-1)

Handwritten initials/signature





Ref.: NSE/LIST/211749-W

July 30, 2013

The Dy. General Manager (Finance),
Power Grid Corporation of India Limited
"Saudamini", Plot No.2, Sector - 29,
Gurgaon - 122 001.

Kind Attn. : Mr. Sandeep Kumar Jain *

Dear Sir,

Sub: Listing of Secured, Redeemable, **Non-Convertible**, Non-Cumulative,
Taxable Bonds (Series - XLIV) issued by Power Grid Corporation of
India **Limited**

This has reference to your listing application for the listing of **Secured** Redeemable, Non
- Convertible, Non - Cumulative, Taxable Bonds (Series - XLIV).

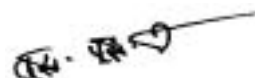
In this connection, we are **pleased to inform** you that the securities as specified in the
application are duly listed on the WDM segment with effect from July 30, 2013 and all
members have been suitably informed as per details given below:

Sr. No	Security Description	Set Type	Security	Issue	Issue Size (Rs. in lakhs)	Maturity Date
1	Power Grid Corp 8.70% 2018 (S-XLIV)	PT	PGC18	8.70%	132200	15-Jul-2018
2	Power Grid Corp 8.70% 2023 (S-XLIV)	PT	PGC23	8.70%	132200	15-Jul-2023
3	Power Grid Corp 8.70% 2028 (S-XLIV)	PT	PGC28	8.70%	132200	15-Jul-2028

A Trade Statistics report will be **provided** to you on a monthly basis in the first week of
the **following** month, if the security **was** traded during the previous month. This report
will contain price **volume** details for each day traded.

Yours truly,
For National Stock Exchange of India Limited


Samir Rajdev
Manager







NATIONAL STOCK EXCHANGE
OF INDIA LIMITED



Stock of the nation

Ref: NSE/LIST/ 151475-T

November 15, 2010

The Manager (Finance)
Power Grid Corporation Limited
Saudamini,
Plot No.2, Sector -29,
Gurgaon(Haryana) – 122 001.

Kind Attn. : Mr. K.C. Pant

Dear Sir,


Sub: Listing of Secured Redeemable, Non-Convertible, Non Cumulative, Redeemable, Taxable Bonds (Series – XXXIV) issued by Power Grid Corporation of India Limited

This has reference to your listing application for the listing of Secured Redeemable, Non-Convertible, Non Cumulative, Redeemable, Taxable Bonds (Series-XXXIV), issued by you.

In this connection, we are pleased to inform you that the securities as specified in the application are duly listed on the WDM segment with effect from November 15, 2010 and all members have been suitably informed as per details given in Annexure I.

A Trade Statistics report will be provided to you on a monthly basis in the first week of the following month, if the security was traded during the previous month. This report will contain price volume details for each day traded.

Yours truly,
For National Stock Exchange of India Limited


Johnson Joseph
Chief Manager





Annexure I
Power Grid Corporation of India Limited
Details of Securities

Sr. No.	Issue Description	Security Type	Security	Issue	Allotment amount (In lakhs)	Maturity date
1	POWER GRID CORP 8.84% 2014 (S-XXXIV, STRPP-A)	PT	PGC14A	8.84%	29062.5	21-Oct-2014
2	POWER GRID CORP 8.84% 2015 (S-XXXIV, STRPP-B)	PT	PGC15A	8.84%	29062.5	21-Oct-2015
3	POWER GRID CORP 8.84% 2016 (S-XXXIV, STRPP-C)	PT	PGC16A	8.84%	29062.5	21-Oct-2016
4	POWER GRID CORP 8.84% 2017 (S-XXXIV, STRPP-D)	PT	PGC17A	8.84%	29062.5	21-Oct-2017
5	POWER GRID CORP 8.84% 2018 (S-XXXIV, STRPP-E)	PT	PGC18A	8.84%	29062.5	21-Oct-2018
6	POWER GRID CORP 8.84% 2019 (S-XXXIV, STRPP-F)	PT	PGC19A	8.84%	29062.5	21-Oct-2019
7	POWER GRID CORP 8.84% 2020 (S-XXXIV, STRPP-G)	PT	PGC20A	8.84%	29062.5	21-Oct-2020
8	POWER GRID CORP 8.84% 2021 (S-XXXIV, STRPP-H)	PT	PGC21A	8.84%	29062.5	21-Oct-2021
9	POWER GRID CORP 8.84% 2022 (S-XXXIV, STRPP-I)	PT	PGC22A	8.84%	29062.5	21-Oct-2022
10	POWER GRID CORP 8.84% 2023 (S-XXXIV, STRPP-J)	PT	PGC23A	8.84%	29062.5	21-Oct-2023
11	POWER GRID CORP 8.84% 2024 (S-XXXIV, STRPP-K)	PT	PGC24A	8.84%	29062.5	21-Oct-2024
12	POWER GRID CORP 8.84% 2025 (S-XXXIV, STRPP-L)	PT	PGC25A	8.84%	29062.5	21-Oct-2025





**NATIONAL STOCK EXCHANGE
OF INDIA LIMITED**



Stock of the nation

Ref.: NSE/LIST/155559-V

January 4, 2012

The Manager (Finance)
Power Grid Corporation Limited
Saudamini,
Plot No.2, Sector - 29,
Gurgaon(Haryana) - 122 001.

Kind Attn. : Mr. K.C. Pant

Dear Sir,


**Sub: Listing of Secured Redeemable, Non-Convertible, Non Cumulative,
Redeemable, Taxable Bonds (Series-XXXVII) issued by Power Grid
Corporation of India Limited**

This has reference to your listing application for the listing of Secured Redeemable, Non-Convertible, Non Cumulative, Redeemable, Taxable Bonds (Series-XXXVII), issued by you.

In this connection, we are pleased to inform you that the securities as specified in the application are duly listed on the WDM segment with effect from January 4, 2012 and all members have been suitably informed as per details given in Annexure I.

A Trade Statistics report will be provided to you on a monthly basis in the first week of the following month, if the security was traded during the previous month. This report will contain price volume details for each day traded.

Yours truly,
For National Stock Exchange of India Limited


Johnson Joseph
Chief Manager





Annexure I
Power Grid Corporation of India Limited
Details of Securities

Sr. No.	Issue Description	Security Type	Security	Issue	Allotment amount (In lakhs)	Maturity date
1	POWER GRID CORP 9.25% 2015 (S-XXXVII, STRPP-A)	PT	PGC15B	9.25%	16625	26-Dec-2015
2	POWER GRID CORP 9.25% 2016 (S-XXXVII, STRPP-B)	PT	PGC16B	9.25%	16625	26-Dec-2016
3	POWER GRID CORP 9.25% 2017 (S-XXXVII, STRPP-C)	PT	PGC17B	9.25%	16625	26-Dec-2017
4	POWER GRID CORP 9.25% 2018 (S-XXXVII, STRPP-D)	PT	PGC18B	9.25%	16625	26-Dec-2018
5	POWER GRID CORP 9.25% 2019 (S-XXXVII, STRPP-E)	PT	PGC19B	9.25%	16625	26-Dec-2019
6	POWER GRID COW 9.25% 2020 (S-XXXVII, STRPP-F)	PT	PGC20B	9.25%	16625	26-Dec-2020
7	POWER GRID COW 9.25% 2021 (S-XXXVII, STRPP-G)	PT	PGC21B	9.25%	16625	26-Dec-2021
8	POWER GRID COW 9.25% 2022 (S-XXXVII, STRPP-H)	PT	PGC22A	9.25%	16625	26-Dec-2022
9	POWER GRID COW 9.25% 2023 (S-XXXVII, STRPP-I)	PT	PGC23	9.25%	16625	26-Dec-2023
10	POWER GRID CORP 9.25% 2024 (S-XXXVII, STRPP-J)	PT	PGC24	9.25%	16625	26-Dec-2024
11	POWER GRID CORP 9.25% 2025 (S-XXXVII, STRPP-K)	PT	PGC25	9.25%	16625	26-Dec-2025
12	POWER GRID COW 9.25% 2026 (S-XXXVII, STRPP-L)	PT	PGC26	9.25%	16625	26-Dec-2026





Ref.: NSE/LIST/163951-H

March 29, 2012

The Manager (Finance)
Power Grid Corporation of India Limited
Saudamini,
Plot No.2, Sector - 29,
Gurgaon(Haryana) - 122 001.

Kind Attn. : Mr. KC. Pant

Dear Sir,

Sub: Listing of Secured, Redeemable, Non-Convertible, Non Cumulative, Redeemable, Taxable Bonds (Series-XXXVIII) issued by Power Grid Corporation of India Limited

This has reference to your listing application for the listing of secured redeemable, non-convertible, non cumulative, redeemable, taxable Bonds (Series-XXXVIII).

In this connection, **we** are pleased to inform you that the securities as specified in the application are duly listed on the WDM segment with effect from March 29, 2012 and all members **have been** suitably informed as per **details** given below:

Sr. No	Security Description	Sec Type	Security	Issue	Issue Size (Rs. in lakhs)	Maturity Date
1	POWER GRID CORP 9.25% 2027 (S-XXXVIII)	PT	PGC27	9.25%	85500	09-Mar-2027

A Trade Statistics report will be provided to you on a **monthly** basis in the first week of the following month, if the security was traded during the previous month. This report will **contain** price volume details for **each** day traded.

Yours truly,
For National Stock Exchange of India Limited

Johnson Joseph
Chief Manager





Ref.: NSE/LIST/166892-S

Aptil 26, 2012

The Manager (Finance)
Power Grid Corporation of India Limited
Saudamini,
Plot No.2, Sector - 29,
Gurgaon(Haryana) - 122 001.

Kind Attn. : Mr. K.C. Pant

Dear Sir,

Sub: Listing of Secured, Redeemable, Non-Convertible, Non Cumulative, Redeemable, Taxable Bonds (Series-XXXIX) issued by Power Grid Corporation of India Limited

This has reference to your listing application for the listing of secured redeemable, non-convertible, non cumulative, redeemable, taxable Bonds (Series-XXXIX).

In this connection, we are pleased to inform you that the securities as specified in the application **arc duly** listed on **the** WDM segment with effect from April 26, 2012 and all **members** have been suitably informed as **per details** given below:

Sr. No	Security Description	Sec Type	Security	Issue	Issue Size (Rs. in lakhs)	Maturity Date
1	POWER GRID CORP 9.40% 2027 (S- XXXIX)	PT	PGC27	9.40%	180000	29-Mar-2027

A Trade Statistics report will be **provided** to you on a monthly basis in the first **week** of the following month, if the security was traded during the previous month. This report will contain price volume details for each day traded.

Yours faithfully,
For National Stock Exchange of India Limited


Johnson Joseph
Chief Manager





Ref: NSE/LIST/ 175394-C

July 19, 2012

The Manager (Finance)
Power Grid Corporation of India Limited
Saudamini,
Plot No.2, Sector - 29,
Gurgaon(Haryana) - 122 001.

Kind Attn. : Mr. K.C. Pant

Dear Sir,


Sub: Listing of Secured Redeemable, Non-Convertible, Non Cumulative, Redeemable, Taxable Bonds (Series – XL) issued by Power Grid Corporation of India Limited

This has reference to your application for the listing of secured redeemable, non-convertible, non cumulative, redeemable, taxable Bonds (Series-XL).

In this connection, we are pleased to inform you that the securities as specified in the application are duly listed on the WDM segment with effect from July 19, 2012 and all members have been suitably informed as per details given in the annexure below:

A Trade Statistics report will be provided to you on a monthly basis in the first week of the following month, if the security was traded during the previous month. This report will contain price volume details for each day traded.

Yours truly,
For National Stock Exchange of India Limited



Vishal Patelia
Manager





Annexure I
Power Grid Corporation of India Limited
Details of Securities

Sr. No.	Issue Description	Security Type	Security	Issue	Allotment amount (In lakhs)	Maturity date
1	POWER GRID CORP 9.30% 2016 (S-XI, STRPP-A)	PT	PGC16A	9.30%	33312.5	28-Jun-2016
3	POWER GRID CORP 9.30% 2017 (S-XI, STRPP-B)	PT	PGC17A	9.30%	33312.5	28-Jun-2017
3	POWER GRID CORP 9.30% 2018 (S-XI, STRPP-C)	PT	PGC19A	9.30%	33312.5	28-Jun-2018
	POWER GRID CORP 9.30% 2019 (S-XI, STRPP-D)	PT	PGC19A	9.30%	33312.5	28-Jun-2019
5	POWER GRID CORP 9.30% 2020 (S-XI, STRPP-E)	PT	PGC20A	9.30%	33312.5	28-Jun-2020
	POWER GRID CORP 9.30% 2021 (S-XI, STRPP-F)	PT	PGC21A	9.30%	33312.5	28-Jun-2021
	POWER GRID CORP 9.30% 2022 (S-XI, STRPP-G)	PT	PGC22A	9.30%	33312.5	28-Jun-2022
8	POWER GRID CORP 9.30% 2023 (S-XI, STRPP-H)	PT	PGC23A	9.30%	33312.5	28-Jun-2023
9	POWER GRID CORP 9.30% 2024 (S-XI, STRPP-I)	PT	PGC24	9.30%	33312.5	28-Jun-2024
10	POWER GRID CORP 9.30% 2025 (S-XI, STRPP-J)	PT	PGC25	9.30%	33312.5	28-Jun-2025
11	POWER GRID CORP 9.30% 2026 (S-XI, STRPP-K)	PT	PGC26	9.30%	33312.5	28-Jun-2026
12	POWER GRID CORP 9.30% 2027 (S-XI, STRPP-L)	PT	PGC27	9.30%	33312.5	28-Jun-2027



Calculation of Interest on Normative Loan

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
 Name of Region: WESTERN REGION
 Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
 Name of the Transmission Element: 7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New). Ant. :DOCO :01-DEC-2013

(Rs in Lacs)

Particulars	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
1	2	3	4	5	6	7
Gross Normative Loan - Opening						9,092.81
Cumulative repayment of Normative Loan upto previous year						
Net Normative loan - Opening						9,092.81
Increase/Decrease due to ACE during the Year						902.50
Repayments of Normative Loan during the year						211.42
Net Normative loan - Closing						9,783.89
Average Normative Loan						9,438.35
Weighted average Rate of Interest on actual Loans						6.3556%
(Interest on Normative loan						199.95


Petitioner



Loans in Foreign Currency

Name of the Transmission Licensee: **POWERGRID CORPORATION OF INDIA LTD.**
 Name of Region: **WESTERN REGION**
 Name of the Project: **Transmission System for Phase-I Generation Projects in Orissa-Part B**
 Name of the Transmission Element: **7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New). Ant. :DOCO :01-DEC-2013**

Particulars	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
1	2	3	4	5	6	7
IFC (IFC - B LOAN) (31419-01) (USD in LACs) EXCHANGE RATE : 63.12						
Gross Loan Opening						19.17
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						19.17
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						19.17
Average Net Loan						19.17
Rate of Interest on Loan						2.435%
Interest on Loan						0.47
IFC (ICFF LOAN) (31419-02) (USD in LACs) EXCHANGE RATE : 63.12						
Gross Loan Opening						8.08
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						8.08
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						8.08
Average Net Loan						8.08
Rate of Interest on Loan						3.285%
Interest on Loan						0.27
FC - BOND (17.01.2013) (USD in LACs) EXCHANGE RATE : 63.12						
Gross Loan Opening						32.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						32.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						32.00
Average Net Loan						32.00
Rate of Interest on Loan						3.875%
Interest on Loan						1.24
IFC (IFC - A LOAN) (31419-00) (USD in LACs) EXCHANGE RATE : 63.12						
Gross Loan Opening						5.54
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						5.54
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						5.54
Average Net Loan						5.54
Rate of Interest on Loan						3.285%
Interest on Loan						0.18


Petitioner



Calculation of Interest on Working Capital

Name of the Transniission Licensee: POWERGRID CORPORATION OF INDIA LTD.
Name of Region: WESTERN REGION
Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
Name of the Transmission Element: 7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New). Ant. :DOCO :01-DEC-2013

(Rs in Lacs)							
SLN o.	Particulars	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
1	2	3	4	5	6	7	8
1	O and M Expenses						13.09
2	Maintenance Spares						23.57
3	Recievables						359.76
4	Total Working Capital						396.42
5	Rate of Interest						13.20
6	Interest on Working Capital						17.44

[Signature]
Petitioner



Draw Down Schedule for **Calculation** of **IDC** & Financing Charges

Name of the Transmission Licensee: **POWERGRID CORPORATION OF INDIA LTD.**
 Name of Region: **WESTERN REGION**
 Name of the Project: **Transmission System for Phase-I Generation Projects in Orissa-Part B**
 Name of the Transmission Element: **7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New). Ant. :DOC0 :01-DEC-2013**

(Rs in Laacs)

Draw Down Schedule for Calculation of IDC & Financing Charges										
Sl.No	Drawn Down	Quarter 1			Quarter 2			Quarter n(COD)		
Sl.No.	Particulars	Quantum In Foreign Currency	Exchange Rate on Draw Down Date	Amount In Indian Rupee	Quantum In Foreign Currency	Exchange Rate on Draw Down Date	Amount In Indian Rupee	Quantum In Foreign Currency	Exchange Rate on Draw Down Date	Amount In Indian Rupee
1.	Loans									
1.1	Foreign Loans									
1.2	Indian Loans									
1.2.1	IFC (IFC - A LOAN) (31419-00)									
	Draw Down Amount									350.00
	IDC									
	Financing Charges									
1.2.2	IFC (IFC - B LOAN) (31419-01)									
	Draw Down Amount									1210.00
	IDC									
	Financing Charges									
1.2.3	IFC (ICFF LOAN) (31419-02)									
	Draw Down Amount									510.00
	IDC									
	Financing Charges									
1.2.4	FC - BOND (17.01.2013)									
	Draw Down Amount									2020.00
	IDC									
	Financing Charges									
	Total Foreign Loans									
	Draw Down Amount									4090.00
	IDC									0.00
	Financing Charges									0.00
1.2	Indian Loans									
1.2.1	BOND-XXXIV									
	Draw Down Amount									225.00
	IDC									
	Financing Charges									
1.2.2	BOND XXXVII									
	Draw Down Amount									50.00
	IDC									
	Financing Charges									
1.2.3	BOND XXXVIII									
	Draw Down Amount									10.00
	IDC									
	Financing Charges									
1.2.4	BOND XXXIX									
	Draw Down Amount									85.00
	IDC									
	Financing Charges									
1.2.5	SBI (21.03.2012)									
	Draw Down Amount									220.00
	IDC									
	Financing Charges									
1.2.6	BOND XL									
	Draw Down Amount									410.00
	IDC									
	Financing Charges									
1.2.7	Proposed Loan 2013-14 (8.70%)									
	Draw Down Amount									4902.81



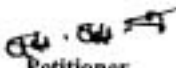
Draw Down Schedule for Calculation of IDC & Financing Charges

Name of the Transmission Licensee: **POWERGRID CORPORATION OF INDIA LTD.**
 Name of Region: **WESTERN REGION**
 Name of the Project: **Transmission System for Phase-I Generation Projects in Orissa-Part B**
 Name of the Transmission Element: **7651400 kV, 3*500 MVA (1 ph.) ICT-I alongwith 765 kV bay & 400 kV bay at Jabalpur Pooling S/S (New). Ant. :DOC0 :01-DEC-2013**

(Rs in Lacs)

Draw Down Schedule for Calculation of IDC & Financing Charges										
Sl.No	Drawn Down	Quarter 1			Quarter 2			Quarter n(COD)		
Sl.No.	Particulars	Quantum In Foreign Currency	Exchange Rate on Draw Down Date	Amount In Indian Rupee	Quantum In Foreign Currency	Exchange Rate on Draw Down Date	Amount In Indian Rupee	Quantum In Foreign Currency	Exchange Rate on Draw Down Date	Amount In Indian Rupee
	IDC									
	Financing Charges									
	Total Indian Loans									
	Draw Down Amount									5002.81
	IDC									0.00
	Financing Charges									0.00
	Total of Loans Drawn									
	Draw Down Amount									9092.81
	IDC									743.63
	Financing Charges									0.00
2	Equity									
2.1	Foreign Equity Drawn									
2.2	Indian Equity Drawn									0
	Total Equity Deployed									0.00

The project has been funded through domestic loans and foreign loans allocated from the common pool based on the phasing of expenditure and IDC has been booked accordingly. As the loans are allocated from common pool, quarter wise drawl is not furnished.


 Petitioner



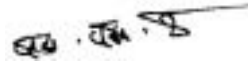
Summary Sheet

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
 Name of Region: WESTERN REGION
 Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
 Name of the Transmission Element: 400 kV DIC (Quad) Jabalpur Pooling SIS (New) - Jabalpur (Existing) SIS T/L alongwith associated bays at Jabalpur (Existing) S/S & Jabalpur 7651400 kV Pooling SIS (New) :DOCO :01-DEC-2013

(Rs in Lacs)

Sl.No.	Particulars	Form No.	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014(Pro Rata)
1	2	3	4	5	6	7	8	9
1	Depreciation	FORM-12	0.00					82.97
2	Interest on Loan	FORM-13A	0.00					78.93
3	Return on Equity	FORM-01A	0.00					82.11
4	Interest on Working Capital	FORM-13B	0.00					10.53
5	O & M Expenses		0.00					93.30
6	Total		0.00					347.87

Tariff for the period 2013-14 in this form is based on Anticipated DOCO of 01-DEC-2013 as per Auditor's Certificate. However, the tariff claimed in this petition has been made on the revised Anticipated DOCO of 01-JAN-2014 making pro-rata reduction of 1 month on this tariff.


 Petitioner


Calculation Of Return On Equity

Name of the Transmission Licensee:

POWERGRID CORPORATION OF INDIA LTD.

Name of Region:

WESTERN REGION


Name of the Project:

Transmission System for Phase-I Generation Projects in Orissa-Part B

Name of the Transmission Element:

400 kV D/C (Quad) Jabalpur Pooling S/S (New) - Jabalpur (Existing) S/S T/L alongwith associated bays at Jabalpur (Existing) S/S & Jabalpur 765/400 kV Pooling S/S (New) :DOCO :01-DEC-2013

Particulars	(Rs in Laacs)					
	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
1	2	3	4	5	6	7
Equity as DOCO						1,352.76
Notional Equity for Add Cap						112.60
Total Equity						1,465.36
Return on Equity @ 17.481%						82.11



Petitioner


Details of Transmission Lines And Substations

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
 Name of Region: WESTERN REGION
 Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
 Name of the Transmission Element: 400 kV D/C (Quad) Jabalpur Pooling S/S (New) - Jabalpur (Existing) S/S T/L alongwith associated bays at Jabalpur (Existing) S/S & Jabalpur 7651400 kV Pooling S/S (New) :DOC0 :01-DEC-2013

Transmission Lines											
Sl.No.	Name of Line	Type of Line AC/HVDC	S/C or D/C	No. of Sub-Conductors	Voltage level kV	Line Length (Km.)	Date of Commercial operation	Covered in the present petition			
							(Anticipated)	Yes/No	If No, petition No.		
1	400 kV D/C (Quad-ACSR Moose) Jabalpur Pooling S/S (New) - Jabalpur (Existing)	AC	D/C	4	400	15.456	01-DEC-2013	Yes			
Substations											
Sl.No.	Name of Sub-Station	Type of Substation Conventional /GIS/ HVDC Terminal/ HVDC Back to Back	Voltage level kV	No. of Transformers / Reactors/ SVC etc (with Capacity)	No. of Bays				Date of Commercial operation	Covered in the present petition	
					765 KV	400 KV	220 KV	132 KV & below		Yes/No	If No, petition No.
1	7651400 kV Jabalpur PS (New)	Conventional	7651400 kV								
	Jabalpur (Existing) Line Bay # 1		400			1			01-DEC-2013	Yes	
	Jabalpur (Existing) Line Bay # 2		400			1			01-DEC-2013	Yes	
3	Jabalpur 400 kV Extn SIS (Existing)	Conventional	400 kV								
	Jabalpur (PS) Line Bay # 1		400			1			01-DEC-2013	Yes	
	Jabalpur (PS) Line Bay # 2		400			1			01-DEC-2013	Yes	
Total						4					




 Petitioner

Normative Parameters considered For tariff calculations

Name of the Transmission Licensee: **POWERGRID CORPORATION OF INDIA LTD.**
 Name of Region: **WESTERN REGION**
 Name of the Project: **Transmission System for Phase-I Generation Projects in Orissa-Part B**
 Name of the Transmission Element: **400 kV D/C (Quad) Jabalpur Pooling S/S (New) - Jabalpur (Existing) S/S T/L alongwith associated bays at Jabalpur (Existing) S/S & Jabalpur 765/400 kV Pooling S/S (New) :DOCO :01-DEC-2013**

Particulars	Unit	Year Ending March					
		Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
1	2	3	4	5	6	7	8
Base Rate of Return on Equity	%						17.481
Tax Rate	%						11.33
Target Availability	%						98.00
Nonnative O&M per Km.	Rs. lacs	Given Below					
Normative O&M per bay	Rs. lacs	Given Below					
Spares for WC as % of O&M	%						15.00
Receivables in Months for WC	months						2.00
Prime lending Rate of SBI as on 01-APR-2009	%						13.20
Norms for O&M expenditure for Transmission System							
		2009-10	2010-11	2011-12	2012-13	2013-14	
Norms for sub-station (Rs Lakh per bay)							
765 KV		73.36	77.56	81.99	86.68	91.64	
400 KV		52.40	55.40	58.57	61.92	65.46	
220 KV		36.68	38.78	41.00	43.34	45.82	
132 KV and below		26.20	27.70	29.28	30.96	32.73	
Norms for AC and HVDC Lines (Rs Lakhs per km)							
Single Circuit (Bundled conductor with four or more sub-conductors)		0.537	0.568	0.600	0.635	0.671	
Single Circuit (Twin & Triple Conductor)		0.358	0.378	0.400	0.423	0.447	
Single Circuit (Single Conductor)		0.179	0.189	0.200	0.212	0.224	
Double Circuit (Bundled conductor with four or more sub-conductors)		0.940	0.994	1.051	1.111	1.174	
Double Circuit (Twin & Triple Conductor)		0.627	0.663	0.701	0.741	0.783	
Double Circuit (Single Conductor)		0.269	0.284	0.301	0.318	0.336	
Norm for HVDC Statioqs							
HVDC Back-to-back stations (Rs lakh per 500 MW)		443.00	468.00	495.00	523.00	553.00	
Rihand-Dadri HVDC bipole scheme (Rs Lakh)		1450.00	1533.00	1621.00	1713.00	1811.00	
Talcher-Kolar HVDC bipole scheme (Rs Lakh)		1699.00	1796.00	1899.00	2008.00	2122.00	



Abstract of **Capital Cost Estimates and Schedule** of Commissioning for the New **projects**

Name of **the Transmission** Licensee : POWER GRID CORPORATION OF INDIA
 Name of Region: WESTERN
 Name of the Project : TRANSMISSION SYSTEM FOR PHASE-I GENERATION PROJECTS IN ORISSA (PART-B)

400 KV D/C (QUAD) Jabalpur Pooling Station-Jabalpur Transmission Line along with associated Bays at Jabalpur Existing Substation & Jabalpur 765/400 KV Pooling Substation(NEW) under ORISSA PART-B

Name of **Element**:
Capital Cost Estimates

Board of Director/ Agency approving the Capital cost estimates:	Govt. of India	
Date of approval of the Capital cost estimates:	Memo No. C/CP/ Orissa Ph-I IPPs (Part-B) dated 15.12.2010	
	Present Day Cost	Completed Cost
Price level of approved estimates	As of End 3Rd Qtr. Of the year 2010	As on Scheduled COD (FR)
Foreign Exchange rate considered for the Capital cost estimates		
Capital Cost excluding IDC & FC		
Foreign Component, if any (In Million US \$ or the relevant Currency)	0	0.00
Domestic Component (Rs. Cr.)	41.37	46.61
Capital cost excluding IDC & FC (Rs. Cr)	41.37	46.61
IDC & FC		
Foreign Component, if any (In Million US \$ or the relevant Currency)	0	0.00
Domestic Component (Rs. Cr.)	2.94	3.32
Total IDC & FC (Rs.Cr.)	2.94	3.32
Rate of taxes & duties considered		
Capital cost Including IDC & FC		
Foreign Component, if any (In Million US \$ or the relevant Currency)	0.00	0.00
Domestic Component (Rs. Cr.)	44.31	49.93
Total Capital cost Including IDC & FC (Rs. Cr)	44.31	49.93
Schedule of Commissioning (Scheduled DOCO elementwise)	01.01.2014	01.12.2013(anticipated)
(COD of Unit-1/Block-1)		
(COD of Unit-1/Block-2)		
(COD of Unit-1/Block-3)		

Note:

1. Copy of approval letter should be enclosed.
2. Details of Capital cost are to be furnished as per FORM-SB or 5C as applicable.
3. Details of IDC & Financing Charges are to be furnished as per FORM-16.



Name of the Transmission Licensee :

Name of the Transmission Licensee : POWER GRID CORPORATION OF INDIA

Name of Region: WESTERN REGION-II

Name of the Project : TRANSMISSION SYSTEM FOR PHASE-I GENERATION PROJECTS IN ORISSA (PART-B)

Name of the Element: 400 KV D/C (QUAD) Jabalpur Pooling Station-Jabalpur Transmission Line along with associated Bays at Jabalpur Existing Substation & Jabalpur 7651400 KV Pooling Substation (NEW) under ORISSA PART-B

(As in detail)

Sl.No	Break Down	As per Original Estimate (3rd Qtr-2010)	As on COD 01.12.2013 (Anticipated)	Liabilities / Provision	Variation	Reasons for Variation
1	2	3	4	5	6=(4+5-3)	7
A	TRANSMISSION LINE					
1.0	Preliminary works					
1.1	Design & Engineering	0.00	0.00	0.00	0.00	
1.2	Preliminary investigation, Right of way, forest clearance, PTCC, general civil works, compensation etc.	33.51	263.36	61.64	291.49	1. Revised estimate for Right of way and compensation got increased as per revised rates. 2. Revised estimate for Compensation got increased as per revised rates. 3. Revised estimate for Right of way got increased as per revised rates. 4. Revised estimate for PTCC got increased as per revised rates. 5. Revised estimate for general civil works got increased as per revised rates.
1.3	Total Preliminary works	33.51	263.36	61.64	291.49	
2.0	Transmission Lines material					
2.1	Towers Steel	979.63	934.41	214.31	169.09	The steel weight for transmission line increased because of increase in tower height and length of tower. The steel weight for tower increased because of increase in tower height and length of tower. The steel weight for tower increased because of increase in tower height and length of tower.
2.2	Conductor	1066.05	721.98	590.71	246.65	Quantity of conductor got reduced due to increase in tower height and length of tower. The steel weight for tower increased because of increase in tower height and length of tower.
2.3	Earth Wre	14.31	1.347	309	2.25	Total quantity of earth wire got increased due to increase in tower height and length of tower.
2.4	Insulators	213.13	540.4	0.11	-158.98	Quantity of insulators got increased due to increase in tower height and length of tower.
2.5	Hardware Fittings	149.98	173.45	39.78	63.25	Total quantity of hardware got increased due to increase in tower height and length of tower.
2.6	Conductor & Earthwire accessories	75.48	43.24	9.92	-17.25	Total quantity of accessories got increased due to increase in tower height and length of tower.
2.7	Spares	0.00	0.00	0.00	0.00	
2.8	Erection, Stringing & Civil works including foundation	580.10	443.08	101.62	-35.40	Quantity of erection, stringing & civil works got increased due to increase in tower height and length of tower.
2.9	Total Transmission Lines material	3373.61	2383.67	959.54	269.60	
3.0	Taxes and Duties					
3.1	Custom Duty	0.00	0.00	0.00	0.00	
3.2	Other Taxes & Duties	0.00	0.00	0.00	0.00	
	Total Taxes & Duties	0.00	0.00	0.00	0.00	
	Total - Transmission lines	3167.12	2647.03	1021.18	561.09	As per actual
B.	SUBSTATIONS					
4.0	Preliminary works & land					
4.1	Design & Engineering	0.00	0.00	0.00	0.00	
4.2	Land					
4.3	Site preparation					
	Total Preliminary works & land	0.00	0.00	0.00	0.00	
5.0	Civil Works					
5.1	Control Room & Office Building including HVAC					0.00
5.2	Township & Colony	0.00	0.00	0.00	0.00	
5.3	Roads and Drainage	0.00	0.00	0.00	0.00	
5.4	Foundation for structures	0.00	0.00	0.00	0.00	
5.5	Misc. civil works	20.00	74.25	0.75	55.00	
	Total Civil Works	20.00	74.25	0.75	55.00	

82.04.2



Sl.No	Break Down	As per Original Estimate (3rd Qtr-2019)	As on COD 31.12.2013 (Anticipated)	Liabilities / Provision	Variation	Reasons for Variation
1	2	3	4	5	6=(4+5-3)	7
6.0	Substation Equipments					
6.1	Switchgear (CT,PT, Circuit Breaker, Isolator etc)	350.10	585.58	190.70	423.00	As per actual execution of works, which includes mandatory spares. Cost has been decreased as per actual awarded cost.
6.2	Transformers	0.00	0.00	0.00	0.00	As per actual execution of works, which includes mandatory spares. Cost has been increased as per actual awarded cost.
6.3	Compensating Equipment(Reactor, SVCs etc)	0.00	0.00	0.00	0.00	As per actual execution of works, which includes mandatory spares. Cost has been decreased as per actual awarded cost.
6.4	Control , Relay & Protection Panel	54.15	0.00	0.00	-54.15	As per actual execution of works including associated allied works and mandatory spares. Cost has been decreased as per awarded cost.
6.5	PLCC	36.18	75.29	61.60	100.74	As per actual execution of works including associated allied works and mandatory spares. Cost has been increased as per awarded cost.
6.6	HVDC package				0.00	
6.7	Bus Bars/ conductors/insulators	40.40	252.00	84.96	297.49	As per actual execution of works including associated allied works and mandatory spares. Cost has been increased as per awarded cost.
6.8	outdoor lighting	8.00	0.00	0.00	-8.00	As per actual execution of works including associated allied works and mandatory spares. Cost has been decreased as per awarded cost.
6.9	Emergency DG set	0.00	0.00	0.00	0.00	As per actual execution of works including associated allied works and mandatory spares. Cost has been decreased as per awarded cost.
6.10	Grounding System	0.00	0.00	0.00	0.00	Included in bus bars and conductors
6.11	Structure for Switch yard	169.52	407.32	136.82	374.52	As per actual execution of works including associated allied works and mandatory spares. Cost has been increased as per awarded cost.
6.12	Auxiliary System	40.40	162.22	61.21	203.00	As per actual execution of works including associated allied works and mandatory spares. Cost has been increased as per awarded cost.
	Total Substation Equipments	707.92	1504.32	541.63	1338.03	
7.0	Spares (incl in eqpt. cost)			0.00	0.00	Included in awarded equipment
8.0	Taxes and Duties				0.00	
8.1	Custom Duty				0.00	As per actual
8.2	Other Taxes & Duties	0.00	0.00		0.00	
8.3	Total Taxes & Duties	0.00	0.00	0.00	0.00	
	Total (Sub-station)	727.92	1578.32	542.38	1363.33	
9.0	Construction and pre-commissioning expenses					
9.1	Site supervision & site admn.etc. (Payable to SEBs)			0.00	0.00	
9.2	Tools and Plants			0.00	0.00	
9.3	construction insurance			0.00	0.00	
	Total Construction and pre-commissioning	0.00	0.00	0.00	0.00	
10.0	Overheads					
10.1	Establishment	0.00	0.00	0.00	0.00	
10.2	Audit & Accounts	0.00	0.00	0.00	0.00	
10.3	Contingency	302.07	0.72	0.00	-301.35	
	Total Overheads	302.07	0.72	0.00	-301.35	
11.0	Project cost without IDC, FC, FERV & Hedging cost	4137.90	4226.32	1563.56	1652.78	
12.0	Total Cost (Plant & Equipment)			0.00	0.00	
12.1	Interest During Construction (IDC)	294.25	282.88	0.00	-11.38	
12.2	Financing Charges (FC)			0.00	0.00	
12.3	Foreign Exchange Rate Variation (FERV)			0.00	0.00	
12.4	Hedging Cost			0.00	0.00	
13.0	Project cost including IDC, FC, FERV & Hedging cost	4432.15	4509.20	1563.56	1641.40	

44.46.2



Statement of Additional Capitalisation after COD

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
 Name of Region: WESTERN REGION
 Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
 Name of the Transmission Element: 400 kV D/C (Quad) Jabalpur Pooling S/S (New) - Jabalpur (Existing) S/S T/L alongwith associated bays at Jabalpur (Existing) SIS & Jabalpur 7651400 kV Pooling SIS (New) :DOCO :01-DEC-2013
 COD: 01-DEC-2013

(Rs in Lacs)

Sl.No.	Year	Work/Equipment proposed to be added after COD upto cut off date/ beyond cut off date	Amount capitalised and proposed to be capitalised	Justification as per propose	Regulation under which covered	Admitted Cost
1	2	3	4	5	6	7
1.	2013-2014	TR LINE	204.50	Balance & Retention Payments	9(i)	
		SUB STATION	158.50	Balance & Retention Payments	9(i)	
		PLCC	12.32	Balance & Retention Payments	9(i)	
	Total		375.32			
2.	2014-2015	TR LINE	671.34	Balance & Retention Payments	9(i)	
		SUB STATION	264.00	Balance & Retention Payments	9(i)	
		PLCC	47.91	Balance & Retention Payments.	9(i)	
	Total		983.25			
3.	2015-2016	TR LINE	145.33	Balance & Retention Payments	9(i)	
		SUB STATION	58.28	Balance & Retention Payments	9(i)	
		PLCC	1.37	Balance & Retention Payments	9(i)	
	Total		204.98			



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Statement of Capital Cost

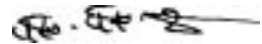
Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
 Name of Region: WESTERN REGION
 Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
 Name of the Transmission Element: 400 kV D/C (Quad) Jabalpur Pooling S/S (New) - Jabalpur (Existing) SIS T/L alongwith associated bays at Jabalpur (Existing) S/S & Jabalpur 7651400 kV Pooling SIS (New) :DOCO :01-DEC-2013

Statement of Capital Cost

(To be given for relevant dates and year wise)

(Rs. in Crores)

		01-APR-2009- 31-Mar-2010	01-APR-2010- 31-Mar-2011	01-APR-2011- 31-Mar-2012	01-APR-2012- 31-Mar-2013	01-DEC-2013- 31-Mar-2014
A	a) Opening Gross Block Amount as per books					45.09
	b) Amount of capital liabilities in A(a) above					
	c) Amount of IDC, FC, FERV & Hedging cost included in A(a) above					2.83
	d) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in A(a) a					0.72
B	a) Addition in Gross Block Amount during the period					3.75
	b) Amount of capital liabilities in B(a) above					
	c) Amount of IDC, FC, FERV & Hedging cost included in B(a) above					
	d) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in B(a) a					
C	a) Closing Gross Block Amount as per books					48.84
	b) Amount of capital liabilities in C(a) above					
	c) Amount of IDC, FC, FERV & Hedging cost included in C(a) above					2.83
	d) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in C(a) a					0.72


Petitioner



Financing of Additional Capitalisation

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
 Name of Region: WESTERN REGION
 Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
 Name of the Transmission Element: 400 kV D/C (Quad) Jabalpur Pooling S/S (New) - Jabalpur (Existing) S/S T/L alongwith associated bays at Jabalpur (Existing) S/S & Jabalpur 7651400 kV Pooling S/S (New) :DOCO :01-DEC-2013

(Rs in Lacs)

Financial Year (Starting from COD)	Projected/Actual					Admitted				
	From COD to 31- Mar-2014	Year2	Year3	Year4	Year5 & So on	Year1	Year2	Year3	Year4	Year5 & so on
1	2	3	4	5	6	7	8	9	10	11
Amount capitalised in Work/Equipment	375.32									
Financing Details										
Loan-1										
Loan-2										
Loan-3 and so on										
Total Loan	262.72									
Equity	112.60									
Internal Resources										
Others										
Total	375.32									




[Signature]
Petitioner

Calculation of Depreciation Rate

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
Name of Region: WESTERN REGION
Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
Name of the Transmission Element: 400 kV DIC (Quad) Jabalpur Pooling S/S (New) - Jabalpur (Existing) SIS TIL alongwith associated bays at Jabalpur (Existing) SIS & Jabalpur 7651400 kV Pooling S/S (New) :DOCO :01-DEC-2013

(Rs in Lacs)

Sl.No.	Name of the Assets	Cross Block as on 31.03.2013 or as on COD, whichever is later	Addcap during the year	Cross Block as on 31.03.2014 or as on COD, whichever is later	Depreciation Rates as per CERC's Depreciation Rate Schedule	Depreciation Amount up to 31.03.2014
	1	2	3	4	5	6=Col.4 X Col.5
2013-2014						
1	FREEHOLD LAND	0.00	0.00	0.00	0.00%	0.00
2	BUILDING	0.00	0.00	0.00	3.34%	0.00
3	TR. LINE	2838.19	204.50	3028.69	5.28%	51.51
4	SUB STATION	1606.69	158.50	1763.19	5.28%	29.64
5	PLCC	80.32	12.32	92.64	6.33%	1.82
6	LEASEHOLD LAND	0.00	0.00	0.00	3.34%	0.00
	Total	4559.20	375.32	4884.52		82.97
Weighted Average Rate of Depreciation (%)						1.77
Elapsed Life						0


Petitioner



Statement of Depreciation

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
 Name of Region: WESTERN REGION
 Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
 Name of the Transmission Element: 400 kV DIC (Quad) Jabalpur Pooling S/S (New) - Jabalpur (Existing) S/S T/L alongwith associated bays at Jabalpur (Existing) SIS & Jabalpur 7651400 kV Pooling S/S (New) :**DOCO :01-DEC-2013**

(Rs in Lacs)

Financial Year	Upto 2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Depreciation on Capital Cost														79.64
Depreciation on Additional Capitalisation														
Amount of Additional Capitalisation														375.32
Depreciation Amount														3.32
Details of FERV														
Amount of FERV on which depreciation charged														
Depreciation Amount														
Depreciation Recovered during the year														82.97
Advance against Depreciation recovered during the year														
Depreciation and Advance against Depreciation recovered during the year														82.97
Cumulative Depreciation And Advance against Depreciation recovered upto the year														82.97



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Petitioner

Calculation of Weighted Average Rate of Interest on Actual Loans

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
Name of Region: WESTERN REGION
Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
Name of the Transmission Element: 400 kV D/C (Quad) Jabalpur Pooling S/S (New) - Jabalpur (Existing) S/S T/L alongwith associated bays at Jabalpur (Existing) S/S & Jabalpur 7651400 kV Pooling S/S (New) :DOC0 :01-DEC-2013

(Rs in Lacs)

Particulars	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Proposed Loan 2013-14 (8.70%)						
Gross Loan Opening						1796.44
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						1796.44
Add : Drawal(s) during the year	-					
Less : Repayments(s) of Loans during the year						
Net Loan Closing						1796.44
Average Net Loan						1796.44
Rate of Interest on Loan		0%	0%	0%	0%	8.7%
Interest on Loan						156.29
IFC (IFC - A LOAN) (31419-00)						
Gross Loan Opening						75.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						75.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						75.00
Average Net Loan						75.00
Rate of Interest on Loan		0%	0%	0%	0%	3.285%
Interest on Loan						2.46
IFC (IFC - B LOAN) (31419-01)						
Gross Loan Opening						260.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						260.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						260.00
Average Net Loan						260.00
Rate of Interest on Loan		0%	0%	0%	0%	2.435%
Interest on Loan						6.33
IFC (ICFF LOAN) (31419-02)						
Gross Loan Opening						110.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						110.00
Add : Drawal(s) during the year						
Less : Repayments(-) of Loans during the year						
Net Loan Closing						110.00
Average Net Loan						110.00
Rate of Interest on Loan		0%	0%	0%	0%	3.285%
Interest on Loan						3.61
FC • BOND (17.01.2013)						
Gross Loan Opening						440.00



Calculation of Weighted Average Rate of Interest on Actual Loans

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
Name of Region: WESTERN REGION
Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
Name of the Transmission Element: 400 kV D/C (Quad) Jabalpur Pooling S/S (New) - Jabalpur (Existing) S/S T/L alongwith associated bays at Jabalpur (Existing) S/S & Jabalpur 765/400 kV Pooling S/S (New) :DOC0 :01-DEC-2013

Particulars	(Rs in Lacs)					
	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						440.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						440.00
Average Net Loan						440.00
Rate of Interest on Loan		0%	0%	0%	0%	3.875%
Interest on Loan						17.05
BOND XXXVIII						
Gross Loan Opening						10.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						10.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						10.00
Average Net Loan						10.00
Rate of Interest on Loan		0%	0%	0%	0%	9.25%
Interest on Loan						0.92
SBI (21.03.2012)						
Gross Loan Opening						100.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						100.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						100.00
Average Net Loan						100.00
Rate of Interest on Loan		0%	0%	0%	0%	10.05%
Interest on Loan						10.05
BOND-XXXIV						
Gross Loan Opening						100.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						100.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						100.00
Average Net Loan						100.00
Rate of Interest on Loan		0%	0%	0%	0%	8.84%
Interest on Loan						8.84
BOND XXXVII						
Gross Loan Opening						25.00
Cumulative Repayments of Loans upto Previous Year						



Calculation of Weighted Average Rate of Interest on Actual Loans

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
 Name of Region: WESTERN REGION
 Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
 Name of the Transmission Element: 400 kV D/C (Quad) Jabalpur Pooling S/S (New) - Jabalpur (Existing) S/S TIL alongwith associated bays at Jabalpur (Existing) S/S & Jabalpur 765/400 kV Pooling S/S (New) :DOCO :01-DEC-2013

Particulars	(Rs in Laacs)					
	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Net Loans Opening						25.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						25.00
Average Net Loan						25.00
Rate of Interest on Loan		0%	0%	0%	0%	9.25%
Interest on Loan						2.31
BOND XL						
Gross Loan Opening						200.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						200.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						200.00
Average Net Loan						200.00
Rate of Interest on Loan		0%	0%	0%	0%	9.3%
Interest on Loan						18.60
BOND XXXIX						
Gross Loan Opening						40.00
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						40.00
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						40.00
Average Net Loan						40.00
Rate of Interest on Loan		0%	0%	0%	0%	9.4%
Interest on Loan						3.76
Total						
Gross Loan Opening						3156.44
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						3156.44
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						3156.44
Average Net Loan						3156.44
Interest on Loan						230.24
Weighted Average Rate of Interest on Loans						7.2942%

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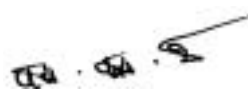


Calculation of Interest on Normative Loan

Name of the Transmission Licensee: **POWERGRID CORPORATION OF INDIA LTD.**
 Name of Region: **WESTERN REGION**
 Name of the Project: **Transmission System for Phase-I Generation Projects in Orissa-Part B**
 Name of the Transmission Element: **400 kV D/C (Quad) Jabalpur Pooling S/S (New) - Jabalpur (Existing) SIS TIL alongwith associated bays at Jabalpur (Existing) S/S & Jabalpur 7651400 kV Pooling SIS (New) :DOCO :01-DEC-2013**

(Rs in Lacs)

Particulars	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
1	2	3	4	5	6	7
Gross Normative Loan - Opening						3,156.44
Cumulative repayment of Normative Loan upto previous year						
Net Normative loan - Opening						3,156.44
Increase/Decrease due to ACE during the Year						262.72
Repayments of Normative Loan during the year						82.97
Net Normative loan - Closing						3,336.19
Average Normative Loan						3,246.32
Weighted average Rate of Interest on actual Loans						7.2942%
Interest on Normative loan						78.93


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Loans in Foreign Currency

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
Name of Region: WESTERN REGION
Name of the Project: Transmission System for **Phase-I** Generation Projects in Orissa-Part B
Name of the Transmission Element: 400 kV D/C (Quad) Jabalpur Pooling S/S (New) - Jabalpur (Existing) S/S T/L alongwith associated bays at Jabalpur (Existing) S/S & Jabalpur 7651400 kV Pooling S/S (New) :**DOCO :01-DEC-2013**

Particulars	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
1	2	3	4	5	6	7
IFC (IFC - A LOAN) (31419-00) (USD in LACs) EXCHANGE RATE : 63.12						
Gross Loan Opening						1.19
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						1.19
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						1.19
Average Net Loan						1.19
Rate of Interest on Loan						3.285%
Interest on Loan						0.04
IFC (IFC - B LOAN) (31419-01) (USD in LACs) EXCHANGE RATE : 63.12						
Gross Loan Opening						4.12
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						4.12
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						4.12
Average Net Loan						4.12
Rate of Interest on Loan						2.435%
Interest on Loan						0.10
IFC (ICFF LOAN) (31419-02) (USD in LACs) EXCHANGE RATE : 63.12						
Gross Loan Opening						1.74
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						1.74
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						1.74
Average Net Loan						1.74
Rate of Interest on Loan						3.285%
Interest on Loan						0.06
FC - BOND (17.01.2013) (USD in LACs) EXCHANGE RATE : 63.12						
Gross Loan Opening						6.97
Cumulative Repayments of Loans upto Previous Year						
Net Loans Opening						6.97
Add : Drawal(s) during the year						
Less : Repayments(s) of Loans during the year						
Net Loan Closing						6.97
Average Net Loan						6.97
Rate of Interest on Loan						3.875%
Interest on Loan						0.27

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Calculation of Interest on Working Capital

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
 Name of Region: WESTERN REGION
 Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
 Name of the Transmission Element: 400 kV D/C (Quad) Jabalpur Pooling S/S (New) - Jabalpur (Existing) S/S T/L alongwith associated bays at Jabalpur (Existing) S/S & Jabalpur 7651400 kV Pooling S/S (New) :DOCO :01-DEC-2013

(Rs in Lacs)

SlN o.	Particulars	Existing 2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
1	2	3	4	5	6	7	8
1	O and M Expenses						23.33
2	Maintenance Spares						42.00
3	Receivables						173.94
4	Total Working Capital						239.27
5	Rate of Interest						13.20
6	Interest on Working Capital						10.53


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Draw Down Schedule for Calculation of IDC & Financing Charges

Name of the Transmission Licensee:

POWERGRID CORPORATION OF INDIA LTD.

Name of Region:

WESTERN REGION

Name of the Project:

Transmission System for Phase-I Generation Projects in Orissa-Part B

Name of the Transmission Element:

400 kV D/C (Quad) Jabalpur Pooling S/S (New) - Jabalpur (Existing) S/S T/L alongwith associated bays at Jabalpur (Existing) S/S & Jabalpur 7651400 kV Pooling S/S (New) :DOC0 :01-DEC-2013

(Rs in Lacs)

Draw Down Schedule for Calculation of IDC & Financing Charges										
Sl.No	Drawn Down	Quarter 1			Quarter 2			Quarter n(COD)		
Sl.No	Particulars	Quantum In Foreign Currency	Exchange Rate on Draw Down Date	Amount In Indian Rupee	Quantum In Foreign Currency	Exchange Rate on Draw Down Date	Amount In Indian Rupee	Quantum In Foreign Currency	Exchange Rate on Draw Down Date	Amount In Indian Rupee
I.	Loans									
1.1	Foreign Loans									
1.2	Indian Loans									
1.2.1	IFC (IFC - A LOAN) (31419-00)									
	Draw Down Amount									75.00
	IDC									
	Financing Charges									
1.2.2	IFC (IFC - B LOAN) (31419-01)									
	Draw Down Amount									260.00
	IDC									
	Financing Charges									
1.2.3	IFC (ICFF LOAN) (31419-02)									
	Draw Down Amount									110.00
	IDC									
	Financing Charges									
1.2.4	FC - BOND (17.01.2013)									
	Draw Down Amount									440.00
	IDC									
	Financing Charges									
	Total Foreign Loans									
	Draw Down Amount									885.00
	IDC									0.00
	Financing Charges									0.00
1.2	Indian Loans									
1.2.1	BOND-XXXIV									
	Draw Down Amount									100.00
	IDC									
	Financing Charges									
1.2.2	BOND XXXVII									
	Draw Down Amount									25.00
	IDC									
	Financing Charges									
1.2.3	BOND XXXVIII									
	Draw Down Amount									10.00
	IDC									
	Financing Charges									
1.2.4	BOND XXXIX									
	Draw Down Amount									40.00
	IDC									
	Financing Charges									
1.2.5	SBI (21.03.2012)									
	Draw Down Amount									100.00
	IDC									
	Financing Charges									
1.2.6	BOND XL									
	Draw Down Amount									200.00
	IDC									
	Financing Charges									
1.2.7	Proposed Loan 2013-14 (8.70%)									



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Draw Down Schedule for Calculation of IDC & Financing Charges

Name of the Transmission Licensee: POWERGRID CORPORATION OF INDIA LTD.
Name of Region: WESTERN REGION
Name of the Project: Transmission System for Phase-I Generation Projects in Orissa-Part B
Name of the Transmission Element: 400 kV D/C (Quad) Jabalpur Pooling SIS (New) - **Jabalpur** (Existing) S/S T/L alongwith associated bays at Jabalpur (Existing) S/S & Jabalpur 7651400 kV Pooling SIS (New) :**DOCO :01-DEC-2013**

(Rs in Lacs)

Draw Down Schedule for Calculation of IDC & Financing Charges										
Sl.No	Drawn Down	Quarter 1			Quarter 2			Quarter n(COD)		
Sl.No.	Particulars	Quantum In Foreign Currency	Exchange Rate on Draw Down Date	Amount In Indian Rupee	Quantum In Foreign Currency	Exchange Rate on Draw Down Date	Amount In Indian Rupee	Quantum In Foreign Currency	Exchange Rate on Draw Down Date	Amount In Indian Rupee
	Draw Down Amount									1796.44
	IDC									
	Financing Charges									
	Total Indian Loans									
	Draw Down Amount									2271.44
	IDC									0.00
	Financing Charges									0.00
	Total of Loans Drawn									
	Draw Down Amount									3196.44
	IDC									282.88
	Financing Charges									0.00
2	Equity									
2.1	Foreign Equity Drawn									
2.2	Indian Equity Drawn									0
	Total Equity Deployed									0.00

The project has been funded through domestic loans and foreign loans allocated from the common pool based on the phasing of expenditure and IDC has been booked accordingly. As the loans are allocated from common pool, quarter wise drawl is not furnished.


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AGREEMENT FOR LONG TERM ACCESS

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. BETWEEN

POWER GRID CORPORATION OF INDIA LTD.

AND

FOUR LONG TERM TRANSMISSION CUSTOMERS

This Bulk Power Transmission Agreement entered into on the 24th day of February Two thousand Ten between **POWER GRID CORPORATION OF INDIA LIMITED**, a company incorporated under the Companies Act, 1956, having its registered office at B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110 016 (hereinafter called "**POWERGRID**") which expression shall unless repugnant to the context or meaning thereof include its successors and assigns) as party of the firstpart;

and

GMR Kamalanga Energy Ltd., a company incorporated under the companies Act. 1956 having its office at Skip House, 25/1, Museum Road, Bangalore – 560025 and



Monnet Power Company Limited., a company incorporated under the companies Act, 1956 having its office at **Monnet Marg, Mandir Hasaud, Raipur -- 492101.** and

Lanco Babandh Power Ltd., a company incorporated under the companies Act, 1956 having its office at **Plot No. 397, Phase-III, 2nd Floor, Udyog Vihar, Gurgaon-122016** and

Ind-Barath Energy (Utkal) Ltd., a company incorporated under the companies Act, 1956 having Its office at **Plot No. 30-A, Road No. I, Film Nagar, Jubilee Hills. Hyderabad – 500 033 (A.P.)**

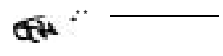
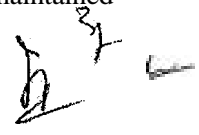
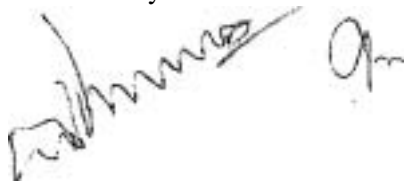
(hereinafter collectively referred to as Long Term Transmission Customer and individually referred to as **GMR Kamalanga Energy Ltd., Monnet Power Company Limited., Lanco Babandh Power Ltd. and Ind-Barath Energy(Utkal) Ltd** respectively) which expression shall unless repugnant to the context or meaning thereof include its successors and assigns as party of the second, third, fourth and fifth respectively.

A) Whereas Long Term Transmission Customers are the Power Project **Developers/state agency/consumer/electricity trader/distribution** licensee and are desirous to **avail** Long Term Open Access in accordance with Central Electricity Regulatory Commission (**Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-State Transmission and related matters**) Regulations, 2009 **herinafter** referred to as "Regulations", and Electricity Act 2003 (including their amendments if any) to Transmission System of POWERGRID for **transfer** of power from the respective places of generation to the places of delivery as per the details contained in the **Annexure-1.**

B) Whereas the comprehensive transmission system for above Long Term Open Access was evolved by CEA, developers, Constituents and POWERGRID which was discussed and finalized in various meetings.

C) The transmission system required for direct evacuation / dispatch of power from respective generating units to the pooling points of POWERGRID has been finalized in consultation with CEA, developers and Constituents and shall be built, owned, operated and maintained **by** respective Long Term Transmission Customers as indicated at **Annexure-2.**

D) **The** common transmission system: to evacuate and dispatch power to respective beneficiaries from the generation projects, has been finalized in **consultation** with CEA, developers and Constituents and **shall** be built, owned, operated and maintained by POWERGRID as indicated at **Annexure- 3.**



E) Each of the project developers i.e. the Long term transmission customer has agreed to share and bear the applicable transmission charges as decided by Central Electricity Regulatory Commission of the total transmission scheme as per Annexure-3 from the scheduled date of commissioning of respective generating units, corresponding to the capacity of power contracted from the said generation project through open access as indicated at Annexure-1 irrespective of their actual date of commissioning. The sharing mechanism for these transmission charges has been agreed to be as per Annexure- 4 of this agreement.

F) AND WHEREAS in accordance with Central Electricity Regulatory Commission Regulations 2009 and Electricity Act 2003(including their amendment if any) and in accordance with the terms mentioned above, POWERGRID has agreed to provide such open access required by these Long Term Transmission Customers from the date of availability of evacuation transmission system for the transfer of power as mentioned in Annexure 2 and Annexure 3 of this agreement.

G) AND WHEREAS the parties have agreed that in case any of the asset mentioned at Annexure 3 are executed, owned and operated by any agency(ies) other than POWERGRID, as per the directives of competent authority (for which POWERGRID would immediately inform all the parties) then the tariff of the same would be payable by the long term customer directly to the concerned agency(ies) through a separate Agreement to be entered by the Long term customer with the concerned agency(ies).

H) AND WHEREAS Long term transmission customers have agreed to share and pay all the transmission charges of POWERGRID in accordance with the regulation/tariff order issued by Central Electricity Regulatory Commission from time to time for the use of its Transmission System of the concerned Regions including inter regional links/ULDC/NLDC charges and any additions thereof in proportion to their proposed capacity addition as indicated at Annexure-1 of this Agreement. These charges would be shared and paid from the scheduled date of commissioning of respective generating units as indicated at Annexure-1.

I) AND WHEREAS it has become incumbent upon Long term Transmission Customers and POWERGRID to enter in to Bulk Power Transmission Agreement envisaged under the Central Electricity Regulatory Commission Regulations, 2009 (including their amendments if any) for payment of above transmission charges.

J) AND WHEREAS the Bulk Power Transmission Agreement has already been entered into between POWERGRID and Bulk Power Beneficiaries of all the regions. A copy of BPTA entered into with constituents of Northern Region (with HVPNL) dated 16.10.2003, Western Region dated 31.3.1999, Eastern Region dated 16.09.2004 and Southern Region (with TNEB) dated 4.3.2006 are enclosed at Annexure A, Annexure B, Annexure C and Annexure D respectively. These

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agreements are likely to be replaced on its renewal. The **renewed/modified** agreements would be generally in line with the Transmission Service Agreement (TSA) issued by Ministry of Power as part of standard bid documents for competitive bidding for transmission in accordance with Section **63** of the Act. Accordingly, on replacement of **renewed/modified** agreement in line with TSA, the same would become part of this agreement.

K) AND WHEREAS the Long term transmission customer is desirous of wheeling its power to its consumers through long term open access on the same **terms** and conditions as contained in the Bulk Power Transmission Agreement of the respective Region. Words and expressions used and defined in the Bulk Power Transmission Agreement at Annexure A, B, C and D shall have the same meaning assigned to them under the Electricity Act **2003** or **Grid** code or Central Electricity Regulatory Commission (Open Access in Inter-state transmission) Regulations, 2009, as the case may be (including their amendments if any).

Now, **therefore** in consideration of the premises and mutual agreements, covenants and conditions set forth herein, and in the Agreement as contained in the Annexure A, B, C and D attached hereto which shall **form** an **integral** part of this Agreement, it is hereby agreed by and between the parties as follows:

1.0 In accordance with **Central** Electricity Regulatory Commission Regulations 2009 and Electricity Act **2003** (including there amendment if any) and in accordance with **the** term mentioned above, **YOWERGRID** agrees to provide such open access required by these Long Term Transmission Customers from the date and in the manner mentioned in the Annexure 1, Annexure **2**, Annexure **3** and Annexure 4 of this agreement for a period of **25** years from the schedule **date** of open access of individual long-term open access customers (as specified in Annexure D).

2.0 (a) Long term transmission customer shall share and pay the transmission charges in accordance with the **regulation/tariff** order issued by Central Electricity Regulatory Commission from time to time of POWERGRID transmission system of concerned applicable Region i.e. Northern Region / Western **Region/Eastern** Region and Southern Region including charges for inter regional links/ULDC/NLDC charges and any additions thereof. These **charges** would be applicable corresponding to the capacity of power **contracted** from the said generation project through open access from the scheduled date of commissioning of generating projects as indicated at **Annexure-1** irrespective of their actual date of commissioning.

(b) Long term transmission customer shall share and pay the **transmission** charges of the transmission system detailed in Annexure-3 in accordance with the sharing mechanism detailed in

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Annexure-4. In case, in future, any other long-term transmission customer(s) is/are granted open access through the transmission system detailed at Annexure-3 (subject to technical feasibility), he/they would also share the applicable transmission charges.

- (c) Each Long term transmission customer (including its successor/assignee) shall pay the applicable transmission charges from the date of commissioning of the respective transmission system which would not be prior to the schedule commissioning date of generating units as indicated by the respective developer as per Annexure-1. The commissioning of transmission system would be preponed only if the same is agreed mutually by concerned parties.
- (d) In addition to opening of LC for 105% of estimated average monthly billing for charges mentioned at 2(a) and 2(b) above, Long-Term Transmission customer would provide security in the form of irrevocable Bank Guarantee (BG), in favor of POWERGRID, equivalent to two months estimated average monthly billing, three months prior to the scheduled date of commissioning of generating units as indicated at Annexure-1. Initially the security mechanism shall be valid for a minimum period of three (3) years and shall be renewed from time to time till the expiry of the open access.
- (e) The estimated average transmission charges would be reviewed every six months and accordingly the amount of security would be enhanced/ reduced by long term transmission customers.
- (f) In case the long term transmission customer defaults in payment of the monthly charges of POWERGRID bills then, POWERGRID shall be entitled to encash/adjust the BG immediately.
- (g) In case of encashment / adjustment of BG by POWERGRID against non-payment of monthly charges by long-term transmission customer, the same should be immediately replenished/recouped by long-term transmission customers before the next billing cycle.
- (h) The format for bank guarantee is enclosed as Annexure-X. The Bank Guarantee shall be issued by
- i) A Public Sector Bank or
 - ii) Scheduled Indian Bank having paid up capital (net of accumulated losses) of Rs.100 crore or above (duly supported by latest annual report) and also satisfying the minimum capital adequacy requirement

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or

- iii) Any foreign Bank with overall International corporate rating or rating of long term debt not less than A – (A minus) or equivalent by reputed rating agency.

3.0 POWERGRID agrees to provide Long Term Access required by Long term transmission customer as per the details mentioned above and in accordance with the Regulations under the Central Electricity Regulatory Commission (Open Access in Interstate Transmission -Regulations 2009) and conditions specified by the CERC from time to time.

However, during the tenure of this agreement if any of the covenants and conditions recited in this agreement including agreements at Annexure- A, B, C and D found inconsistent with the provisions of the Electricity Act 2003 and/or applicable notifications/rules/regulations issued either by CERC or by GOI as per the provisions of the Electricity Act then notwithstanding any thing contained in the agreement referred to above, the said rules and regulations shall prevail.

4.0 Copy of the Agreements entered with Northern Region (with HVPNL) dated 16.10.2003 (Annexure-A), Western Region dated 31.03.1999 (Annexure-B), Eastern Region dated 16.9.2004 (Annexure-C) and Southern Region (with TNEB) dated 4.3.2006 (Annexure-D) shall form part and parcel of this Agreement and accordingly, all terms and conditions of Agreements dated 16.10.2003, 31.03.1999, 16.9.2004 and 4.3.2006, shall mutatis mutandis apply to the Long term transmission customer. Any revision, replacement, modification and extension of these Agreements shall also apply to the Long term transmission customer.

5.0 The Long term transmission customer shall not relinquish or transfer its rights and obligations specified in the Bulk Power Transmission Agreement, without prior approval of POWERGRID and CERC and subject to payment of compensation in accordance with the CERC Regulations issued from time to time.

- 6.0 (a) In case any of the developers fail to construct the generating station /dedicated transmission system or makes an exit or abandon its project, POWERGRID shall have the right to collect the transmission charges and, or damages as the case may be in accordance with the notification/regulation issued by CERC from time to time. The developer shall furnish a Bank guarantee from a nationalized bank for an amount which shall be equivalent to Rs.5 (five) Lakhs/MW to compensate such damages. The bank guarantee format is enclosed as Annexure-Y. The details and categories of bank would be in accordance with clause 2 (h) above. The Bank guarantee would be furnished in favour of



POWERGRID in accordance with the time **frame** agreed during the meeting held at CEA on **1.2.2010**.

(b) This bank **guarantee** would be initially valid for a **period upto** six months after the expected date of commissioning schedule of generating **unit(s)** mentioned at **Annexure-1** (however, for existing **commissioned units**, the validity shall be the same as applicable to the earliest validity applicable to the generator in the group mentioned at Annexure 1). The bank guarantee ~~would~~ be **encashed** by **POWERGRID** in case of adverse progress of individual generating **unit(s)** **assessed** during coordination **meeting** as per para 7 below. However, the validity should be extended by concerned Long **Term** transmission **customer(s)** as per the requirement to be indicated during co-ordination meeting.

(c) **The** **POWERGRID** shall build transmission system included at Annexure-3 keeping view of various commissioning schedules, however, till the completion of identified transmission elements the transfer of power will be based on the availability of system on short term basis.

(d) In the event of delay in commissioning of concerned transmission system from its schedule, as indicated at Annexure-4 **POWERGRID** shall pay proportionate transmission charges to concerned Long Term Access **Customer(s)** **proportionate** to its commissioned capacity (which otherwise would have **been** paid by the concerned Long Term Access Customer (s) to **POWERGRID**) provided generation is ready and **POWERGRID** fails to make alternate arrangement for dispatch of power.

7.0. In order to **monitor/** review the progress of generating units **along** with its direct evacuation lines and also the common transmission system, Joint co-ordination meeting with the representative of each developers and **POWERGRID** shall be held at regular interval (preferably quarterly) after signing of this Agreement.

8.0 All **differences/** disputes between the parties arising out of or in connection with **this** Agreement shall be resolved in **terms** of the Redressal Mechanism provided under Regulation 35 of the CERC (open access in Inter-state Transmission) Regulations **and** under Electricity Act 2003 (including any amendments **thereof**).

9.0 The parties shall ensure due compliance with the terms of this Agreement. However, no party **shall** be liable for any claim for any Loss or damage whatsoever arising out of failure to carry out the terms of the Agreement to the extent that such a failure is due to force **majeure events** such as war, rebellion, mutiny, civil **commotion**, riot, strike, lock out, fire, flood, forces of nature, major accident, act of God, change of law and any other causes beyond the control of the defaulting **party**. But any party **claiming** the benefit of this clause **shall** satisfy the other party of ~~the exist~~ **the** existence of such an event and **give** written notice of 30 days to the other

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party to this effect. Transmission/drawal of power shall be started as soon as practicable by the parties concerned after such eventuality has come to an end or ceased to exist.

10. In the event of finalisation of beneficiaries by the developers, the applicable transmission charges and other charges covered under this agreement would be payable by the concerned beneficiary. These charges would be effective only from the date of signing of agreement by concerned beneficiary with POWEKGRID for the validity period of open access.

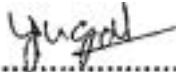
11. This Agreement shall be valid from the date of signing of this agreement till the validity of open access subject to its revision as may be made by the parties to this Agreement provided that this Agreement may be mutually extended, renewed or replaced by another Agreement on such terms and for such further period as the parties may mutually agree: In case Long Term Transmission Customers continue to get transmission services from the POWERGRID even after expiry of this Agreement without further renewal or formal extension thereof, then all the provisions of this Agreement shall continue to operate till this Agreement is formally renewed, extended or replaced.

In witness whereof both the parties have executed this Agreement through their authorized representative.

Witness

1.

For and on behalf of
POWER GRID CORPN.OF INDIA LTD.

Signature : 

Signature: 

Name: Y. K. Sehgal
Executive Director (SEF & C&T)

Name: 
ARUN KUMAR

Designation: Power Grid Corporation of India Ltd.
Plot No.2, Sector-29, Gurgaon-122001 (Haryana)

Designation: 
ARUN KUMAR
अधीनस्थ निदेशक (वणिज्यिक)
Executive Director (Commercial)





2.

For and on behalf of
GMR Kamalanga Energy Ltd

[Handwritten Signature]

Signature:.....

Name: G.M. GUPTA.....

Designation: MANAGER.....

&-:

Signature:.....

Name: K V V RAO.....

Designation: Managing Director.....

3.

on behalf of
Monnet Power Company Limited.

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Signature:.....

Name: BIMAL DHAR.....

Designation: V.P. (Comm.)
MPCL.....

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Signature:.....

Name: AVDESH K. 1012
Chief Executive.....

Designation: Monnet Power Company Limited
MONNET HOUSE, 11 Masjid Moth,
Greater Kailash Part-II, New Delhi-110 048.....

4.

For and on behalf of
Lanco Babandh Power Ltd.

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Signature:.....

Name: J. Ravi.....

Designation: J.G.M......

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Signature:.....

Name: Pradeep Lenka.....

Designation: CEO.....



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5.

For and on behalf of
Ind-Barath Energy (Utkal) Ltd.

Signature :.....
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Signature:.....
[Handwritten Signature]

Name:.....
[Handwritten Name]

Name:.....**J. MOHAPATRA**

Designation.....
[Handwritten Designation]

Designation.....**DIRECTOR**
Ind-Barath Energy (Utkal) Lt

Plot No.30-A, Road No.1, Film Nagar
Jubilee Hills, Hyderabad-500 033 (AP)

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Annexure-I

List of Gen Projects and their beneficiaries

Details of Generation Projects in Orissa

St No.	Applicant	Gen. Project Capacity (MW)	LTOA Applied for (MW)	Location	Time Frame (Unit wise)	Long Term Access granted				Period Of Long Term Access
						WR	SR	NK	ER	
1.	GMR Kamalanga Energy Ltd	1050	800	Kamalanga Dt.	Unit#1 : 350 MW : Nov., 2011 Unit#2 : 350 MW : Jan, 2012 Unit#3 : 350 MW : March, 2012		200	600		25
2.	Monnet Power Company Ltd		900	Angul Dt.	Unit#1 : 525 MW : June, 2012 Unit#2 : 525 MW : Sepr. 2012	225	150	300	225	25
3.	Lanco Babandh Power Ltd	2640	1600 (4* 660)	Dhenkanal dt.	Unit 1 Dec 2013 Unit 2 April 2014 Unit 3 Aug. 2014 Unit 4 Dec. 2014	950		650		25
4.	Ind Barath Energy(Utkal) Ltd	700	616	Jharsuguda Dt.	Unit#1 : 350 MW : Dec., 2011 Unit#2 : 350 MW : Feb., 2012	350		266		25
Total		5440	3916			1525	350	1816	225	

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Transmission system to be implemented by Generation project developer and its and its schedule of commissioning

I Transmission System Under the Scope of Generation Developer

IA Upto Pooling Station at Jharsuguda

1. Ind-Barath (700 MW) (Schedule commissioning : on or before Dec, 2011)
Iad-Barath – Jharsuguda Pool 400KV D/c line with associated line bays

IB Upto Pooling Station at Angul

1. Monnet (1050 MW) (Schedule commissioning: on or before June 2012)
Monet – Angul Pool 400KV D/c line with associated line bays
2. GMR (1050 MW) (Schedule commissioning: on or before Nov., 2011)
GMR – Angul Pool 400KV D/c line with associated line bays
3. Lanco Babandh(2640 MW) (Schedule commissioning: on or before Dec, 2013)
Lanco Babandh – Angul Pool 400KV 2xD/c line
3x1500MVA, 765/400kV ICT at Angul with associated line bays

Note:

1. The termination of the line as well as location of pooling station is subject to minor changes depending upon final survey and physical constraint, if any.
2. In case of any major development, if there is any change in the transmission system to achieve overall optimization of the system, then, above details would be modified an mutual consent.
3. In case, in future, any other long-term transmission customer(s) is/are granted open access through the transmission system detailed above (subject to technical feasibility), he/they would also share the applicable transmission charges.



II Transmission System under the Scope of POWERGRID

IIA Strengthening System in Orissa

- 1 Establishment of 765/400kV Pooling Station at Jharsuguda
- 2 Establishment of 765/400kV Pooling Station at Angul
- 3 Angul Pooling Station – Jharsuguda Pooling Station 765kV 2xS/c
- 4 LILO of Rourkela – Raigarh 400kV D/c at Jharsuguda Pooling station
- 5 LILO of Meramundali – Jeypore 400kV S/c line at Angul pooling station
- 6 LILO of one ckt of Talcher - Meramundali 400kV D/c line at Angul pooling station

II B Strengthening System (ER-WR AC Corridor)

- 1 Establishment of 765/400kV substation at Dharamjaygarh
- 2 Jharsuguda Pooling Station – Dharamjaygarh (WR) 765kV D/c
- 3 LILO of Ranchi – WR Pooling near Sipat 765kV S/c line at Dharamjaygarh
- 4 Dharamjaygarh – Jabalpur Pool 765kV D/c line
- 5 Establishment of 2x1500 MVA, 765/400kV Pooling Station near Jabalpur
- 6 Jabalpur Pool – Jabalpur 400 kV D/c (high capacity)
- 7 Jabalpur Pool – Bina 765kV D/c line
- 8 Bina – Gwalior 765kV S/c (3rd circuit)
- 9 Jabalpur – Bhopal – Indore – Vadodara 765kV S/c
- 10 Establishment of 2x1500 MVA, 765/400kV sub-station at Bhopal
- 11 Bhopal New substation – Bhopal (M.P.) 400kV D/c (high capacity)
- 12 Establishment of 2x1500 MVA, 765/400kV sub-station at Vadodara
- 13 Vadodara – Pirana 400kV D/c (high capacity)

Note :

1. The termination of the line as well as location of pooling station is subject to minor changes depending upon final survey and physical constraint, if any.
2. In case of any major development, if there is any change in the transmission system to achieve overall optimization of the system, then, above details would be modified on mutual consent.
3. In case, in future, any other long-term transmission customer(s) is/are granted open access through the transmission system detailed above subject to technical feasibility), he/they would also share the applicable transmission charges.



Transmission Charges for the transmission system of respective Generation Projects

The transmission charges for different stages of the transmission system would be borne by the generation **developers** / beneficiaries as given below :

- The dedicated transmission system indicated at **Annexure-2** i.e. from the generation switchyard up to **various pooling points/substations** shall be built, owned and operated by the generation project developer.
- However, some of the dedicated transmission system indicated at **Annexure-3** i.e. from the generation switchyard up to various pooling **points/substations** shall be built, owned and operated by POWERGRID. The transmission charges for these **dedicated** transmission system shall be paid by the concerned generation developers.

The charges for the transmission system (other than the dedicated system) indicated at Annexure-3 would be borne by the generation developers in proportion to capacity for which **long** term open access has been sought. The transmission charges **will** be corresponding to phased development of transmission system **and** in each time frame, charges should be shared by all the generation **developer**, whose **generation** projects are scheduled to come up in that time frame or earlier.

- The long term Access Applicants would also have to share the applicable Regional transmission charges in proportion to the Long term capacity sought by them as per CERC norm.
- As the **transmission** system has been evolved considering target beneficiaries and tentative **allocation** indicated by the **developer(s)** in their application, some transmission strengthening may be required in the receiving **end/region** once the **beneficiaries/quantum** of allocation is finalized. The **cost/tariff** of such system strengthening would also have to be borne by the **developer(s)** as and when identified.

In the event of default by any developer under Clause 5 and 6 of this Agreement, the transmission charges for the **system** mentioned at Annexure-3 **would** be shared by balance developers. However, the damages collected (if any) from the **defaulting developer(s)** under clause 5 & 6 of this agreement shall be adjusted for the purpose of claiming transmission charges from the balance (remaining) developer(s).



The composite transmission scheme would be developed in phases keeping in view the commissioning schedule of generation project. Depending upon the status of various generation projects as informed by different generation developers, the details of phasing of development of transmission system has been evolved. Details of staging are described as follows –

1.0 Stage – I

1.1 Generation Projects and its schedule

Generation	Capacity	Commissioning Schedule
IND-BARATH	350 MW	Dec 2011
IND-BARATH	350 MW	Feb., 2012

1.2 Transmission System

1.2.1 Transmission System to be developed by the generation developer

With Ind-Barath Generation Project

- Ind-Barath-Jharsuguda 400 kV D/c line
- 2 nos. 400kV line bays at Jharsuguda S/s (along with commissioning of the same) for termination of 400 kV D/c line from Ind-Barath project

1.2.2 Transmission System to be developed by POWERGRID

A. 30 months from the date of regulatory approval.

- LILO of one circuit of Rourkela-Raigarh 400 kV D/c line upto Jharsuguda

Note : As the Jharsuguda Substation would not be ready by this time, the line from Ind-Barath generation would be temporarily connected to the LILO section directly so as to form Ind-Barath-Rourkela and Ind-Barath-Raigarh 400kV lines.

B. 42 months from the date of regulatory approval.

- Establishment of 765/400 kV Jharsuguda Substation
- LILO of 2nd circuit of Rourkela-Raigarh 400 kV D/c line at Jharsuguda
- Termination of LILO of 1st ckt of Rourkela-Raigarh 400kV D/c line at Jharsuguda

Sharing of Transmission Charges : The transmission charges are to be shared Initially by Ind-Barath Energy (Utkal) Ltd.

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2.0 Stage – II

2.1 Generation Projects

Generation	Capacity	Commissioning Schedule
GMR Unit #1	350 MW	Nov. 2011
Ind-Barath #1	350 MW	Dec.2011
GMR Unit #2	350 MW	Jan. 2012
Ind-Barath #2	350 MW	Feb. 2012
GMR Unit #3	350 MW	March 2012
Monnet Unit #1	525 MW	June 2012
Monnet Unit # 2	525MW	Sept.2012
Lanco Unit # 1,2,3,4	4x660 = 2640 MW	Progressively onwards of Dec 13

2.2 Transmission System

2.2.1 Transmission System to be developed by the generation developer With GMR Generation Project

- GMR-Angul 400 kV D/c line
- 2 nos 400kV line bays for connecting 400 kV lines from **GMR** to Angul switchyard (along with commissioning of Angul substation)

With Monnet Generation Project

- Monnet-Angul 400 kV D/c line-
- 2 nos 400kV line bays for connecting 400 kV lines from Monnet to Angul switchyard (along with commissioning of Angul substation)

With Lanco Babandh Generation Project

- Lanco – Angul 400 kV 2xD/c



- 2 no 400kV bays at Angul for termination of Lanco – Angul 400kV D/c line
- 3x1500MVA, 765/400kV ICT at Angul along with associated bays

With Ind-Barath Generation Project

- Ind-Barath - Jharsuguda 400 kV 2xD/c
- 2 no 400kV bays at Jharsuguda for termination of Ind-Barath–Jharsuguda 400kV D/c line

Note : As the Angul Substation would not be ready the Meramundali-Jeypore 400-kV S/C line would be looped in and looped out at Angul depending upon the project commissioning schedule. As GMR project is coming up early, the Talchar-Meramundali line would be Looped in and Looped out at GMR project as dedicated portion, This line route will be later utilized to terminate GMR project at Angul and loop in loop out of Talchar-Meramundali 400kV will be restored.

2.22 Transmission System to be developed by POWERGRID

A. 30 months from the date of regulatory approval.

- LILO of Jeypore-Meramundali 400kV S/c at Angul.
- LILO of one ckt of Talcher-Meramundali 400kV D/c at Angul

Note :

1. As the Angul Substation would not be ready by this time, the lines from generation projects to Angul S/s may be joined temporarily with LILO of Talcher – Meramundali 400kV one ckt and/or LILO of Meramundali – Jeypore 400kV S/c line at Angul depending upon the commissioning of the generation projects and its dedicated transmission system.
2. As mentioned above, these LILOs would also help in evacuation of power before commissioning of Angul S/s.
3. These LILOs are provided for better grid connectivity as well as reliability and security of power supply.
4. These LILOs would be withdrawn at appropriate time in order to reduce the short-circuit level.

B. 42 months from the date of regulatory approval.

- Establishment of 765/400kV Pooling Station at Angul

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- Angul Pooling Station – Jharsuguda Pooling Station 765kV 2xS/c
- Establishment of 765/400kV substation at Dharamjaygarh
- Jharsuguda Pooling Station – Dharamjaygarh (WR) 765kV D/c LILO of Ranchi – WR Pooling near Sipat 765kV S/c line at Dharamjaygarh
- Dharamjaygarh – Jabalpur Pool 765kV D/c line
- Establishment of 2x1500 MVA, 765/400kV Pooling Station near Jabalpur
- Jabalpur Pool – Jabalpur 400 kV D/c (high capacity)
- Jabalpur Pool – Bina 765kV D/c line
- Bina – Gwalior 765kV S/c (3rd circuit)
- Jabalpur – Bhopal – Indore – Vadodara 765kV S/c
- Establishment of 2x1500 MVA, 765/400kV sub-station at Bhopal
- Bhopal New substation – Bhopal (M.P.) 400kV D/c (high capacity)
- Establishment of 2x1500 MVA, 765/400kV sub-station at Vadodara
- Vadodara – Pirana 400kV D/c (high capacity)

Sharing of Transmission Charges : The transmission charges for Stage-I and Stage-II transmission system are to be shared by GMR Kamalanga Energy Ltd., Monnet Power Company Ltd., Lanco Babandh Power Pvt. Ltd. and Ind-Barath Energy (Utkal) Ltd. in proportion to the MW capacity to be injected matching with the commissioning schedule.

Note: In case, in future, any other long-term transmission customer(s) is/are granted open access through the transmission system detailed above (subject to technical feasibility), he/they would also share the applicable transmission charges.

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Page 18 of 18

