

VIPL response to Data gap Set 1

For Vidarbha Industries Power Limited Petition for grant of transmission Licence and approval of provisional revenue gap for FY 2012-13 and FY 2013-14 and ARR for the period from FY 2014-15 to FY 2015-16

Case No. 60 of 2014

License Related

1. Page 17 – Para 4.2 – VIPL to submit the correspondence with MSETCL regarding the acceptance of the grid connectivity of generation units of VIPL with MSETCL's transmission system. Further, copy of letters mentioned as reference in Provisional Demand Note (Pg. 146 of petition) issued by MSETCL to VIPL should also be submitted.

VIPL Response:

VIPL hereby submits the required documents as Annexure A and Annexure B of Response to data-gaps.

2. Page 43 - Appendix – 1 - VIPL to submit the copies of the reference letters mentioned in the letter by SE, Nagpur Region (Electrical) Circle, PWD, Nagpur.

VIPL Response:

VIPL submits that the required references as observed by the Hon'ble Commission are in respect of compliances required by SE Nagpur Region (Electrical) Circle, PWD on the interconnecting transmission lines and the same were duly replied. Though the letters do not have any bearing on the technical and commercial aspects of the project, VIPL hereby submits the required documents as Annexure C.

3. Page 183 – Format submitted does not have signature of the Advocate accepting the appointment as advocates for appearing and pleading on behalf of VIPL in the present matter.

VIPL Response:

We have already complied with requirement.

4. Page 45 - The Annexure 2 mentioned in Appendix 2 and located at page no. 51 does not contain the Articles of Association. A copy of the same needs to be submitted by VIPL.

VIPL Response:

The Copy of Article of Association of VIPL is enclosed as Annexure-2 of application form for license.

5. Page 45 – Appendix – 2: In the Form for application of Licence under point 6 it is mentioned that one MIDC road is crossed by the transmission line and the permission

for the same has been obtained by VIPL. A copy of the said permission needs to be submitted by VIPL.

VIPL Response:

The Copy of relevant document is enclosed as Annexure-6 of application form for license.

6. Form for Application of Transmission Licence as per the Transmission Licence Conditions, Regulation 2004 mentions under the head "Other Enclosures Required" a copy of the Receipt for the Licence application processing fee. The same is not found in the Petition of VIPL. The same may be submitted.

VIPL Response:

VIPL has submitted the License application processing fee and filing fee for petition.

The details of demand drafts are as under:

A) Transmission License fees:

Name of Bank: Axis Bank, Nariman point, Mumbai.

Date: December 17, 2013

DD No. 61846

Amount: Rs. 5,00,000/- (Rupees Five Lakh only)

B) Petition filing fees:

Name of Bank: Axis Bank, Nariman point, Mumbai.

Date: February 11, 2014

DD No. 62331

Amount: Rs. 15,00,000/- (Rupees Fifteen Lakh only)

Copy of the above mentioned demand drafts submitted along with petition and receipt given by MERC is enclosed Annexure-D.

7. Page 2 – Point A.3 – The date of MERC Order in Case No. 34 of 2007 is mentioned as 13th November 2007 whereas the date of the same Order in Para A.1 in the executive summary Page 5 is mentioned as 13th September 2007. VIPL to rectify all such factual errors in the Petition.

VIPL Response:

VIPL submits that the issuance date of the aforementioned MERC Order in Case No. 34 of 2007 is 13th November, 2007, which was inadvertently mentioned as 13th September 2007. VIPL has rectified all such errors in the petition.

8. VIPL to submit the copies of correspondence with Maharashtra STU confirming put to use of its interconnecting transmission system from Unit 1 and Unit 2 of the VIPL's generating station to MSETCL's substations Butibori III and Butibori I respectively. VIPL has submitted that the same were tested by electrical inspector and charged on 29th June 2012 and 13th June 2013 respectively.

VIPL Response:

VIPL requests the Hon'ble Commission to kindly refer response in Query No 1.

Additional Information:

As per the minutes of meeting of Technical Validation Session held on 15th April , 2014, VIPL herewith submitting the copies of Connection agreements for Scheme-1 & Scheme-2. Copies of agreements are attached as Annexure-E.

Annexure-A

FROM : NCB KARM SHAKARI PAT

FAX NO. : 91 22 24380443

16 Nov. 2012 7:04AM P1

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.PHONE : (O) 022-2659 5000 / 8595
(P) 022-2659 2227

FAX : 022- 2659 2297

E-Mail: cestu@mahatransco.in

Office of the CE(STU)
'Prakashganga', MSETCL
Plot no. C-19, E-Block,
Bandra Kurla Complex, Bandra (E),
Mumbai - 400051

MSETCL/CO/STU/302B/ 15886

Date: 12-11-12

✓ To,
The Chief Engineer (SLDC),
MSETCL,
Airoli, Kalwa.

Sub: - Grid connectivity to M/s Vidarbha Industries Ltd for their 1 X 300 MW (Phase-I)
Group Captive Power Plant (GCPP) at Butibori MIDC, Nagpur.

Ref: - 1) Application No. VIPL/STU/2008-09; dated 13th November 2008, from VIPL.
2) This office intimation letter No. MSETCL/CO/STU/302B/7664; dated 19-05-2010.
3) Letter No. VIPL/Mum/MSETCL/ Mar 12/42; dated 31st March 2012 from VIPL.
4) Letter No. VIPL/Mum/MSETCL/ Sep.12/109; dated 12th Sept. 2012 from VIPL.
5) Letter No. VIPL/Mum/MSETCL/ Nov.12/119; dated 12th Nov. 2012 from VIPL.

Dear Sir,

This has reference to letter dated 31st March 2012 and subsequent their office letters under reference No.4 & 5 vide which M/s Vidarbha Industries Ltd have applied for grid connectivity under Short Term Open Access for their 1 X 300 MW (Phase-I) GCPP located at Butibori MIDC, Nagpur. M/s VIPL have submitted following documents.

- 1) Application for connection by M/s Vidarbha Industries Ltd, to Intra-State Transmission System.
- 2) Connection Agreement executed between M/s Vidarbha Industries Ltd and MSETCL for IPP Unit.
- 3) Site responsibility Schedule
- 4) Copy of PPA (for 56 MW)

Originally as per the intimation letter mentioned under reference No.2, the connectivity for 1 X 300 MW GCPP unit has been granted from 220 kV Butibori-III S/S, which is under construction. Hence, the grid connectivity to 1 X 300 MW (Phase-I) GCPP of M/s Vidarbha Industries Ltd, at Butibori MIDC, Nagpur is hereby granted from 220 kV Butibori MIDC S/S, for synchronisation, subject to the submission of following documents.

- 1) ABT meter and SCADA installation and commissioning report.(submitted for IPP unit)
- 2) Approved drawings from Trans-Project Dept for Synchronising Scheme.(submitted for IPP unit)

As the 220 kV Butibori-III S/S is delayed, this permission is granted only for test synchronisation of GCPP unit(1 X 300 MW) through existing arrangement of synchronisation of IPP Unit(1 X 300 MW). The IPP unit shall remain off during test synchronisation of GCPP Unit. In any case, both the units will not be in operation simultaneously.

Since, there is no long term PPA and BPTA, granting open access on short term basis, may be considered at your end.

Yours faithfully,


Chief Engineer (STU)

- Copy swrs to: 1) Director (Operations), MSETCL, Prakashganga.
2) Executive Director (Project), MSETCL, Prakashganga.

Copy fwcs to: 1) M/s Vidarbha Industries Ltd, at Butibori MIDC, Nagpur.

You may contact the Chief Engineer (SLDC), MSETCL, Kalwa at the below mentioned address for further needful in the matter.

(Address of the Chief Engineer (SLDC), Kalwa

Office of the Chief Engineer State Load Despatch Centre,

Thane-Belapur Road, Airoli, Post. Airoli, Navi Mumbai 400 708).

- 2) The Chief Engineer, MSETCL, EHV Const. Cum O&M Zone, Nagpur, It is requested to ensure that, metering arrangement shall be as per the metering code. Also the connection agreement for 1 X 300 MW (Phase-II) generator shall be executed with M/s VIPL.
- 3) The Chief Engineer (Trans-Project), MSETCL, Prakashganga, Bandra.
- 4) The Chief Engineer (Trans O&M), MSETCL, Prakashganga, Bandra.
- 5) The Chief Engineer (Comm), MSEDCL, Prakashgad, Bandra.
- 6) The Chief Engineer (PP), MSEDCL, Prakashgad, Bandra.

22-FEB-2012 12:18 From:

To: 30386799

P.1

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.

PHONE : (O) 022-2669 6000 / 8595
(P) 022-2669 2227
FAX : 022- 2669 2297
E-Mail cestu@mahatransco.in



Office of the CE(STU)
'Prakashganga', MSETCL
Plot no. C-19, E-Block,
Bandra Kurla Complex, Bandra (E),
Mumbai - 400051

MSETCL/CO/STU/302B/ 2610

Date: 21-02-2012

To,
The Chief Engineer (SLDC),
MSETCL,
Airoli, Kalwa.

Sub: - Grid connectivity to M/s Vidarbha Industries Ltd for their 1 X 300 MW(Phase-II)
IPP power plant at Butibori MIDC, Nagpur.

- Ref:-1) Application dated 22-11-2010 from M/s VIPL for evacuation of 300 MW(Phase-II)
power from their plant at MIDC Butibori, Dist. Nagpur.
2) This office intimation letter No. MSETCL/CO/STU/302B/19391, dated 16-12-
2010.
3) Letter No. VIPL/MUM/MSETCL/Jan-12/08; dated 31-01-2012, from M/s VIPL.

Dear Sir,

This has reference to letter dated 31st January 2012, vide which M/S Vidarbha Industries Ltd have applied for grid connectivity under Short Term Open Access for their 1 X 300 MW (Phase-II) IPP power plant at Butibori MIDC, Nagpur. Along with the application M/s VIPL have submitted following documents.

- 1) Application for connection by M/s Vidarbha Industries Ltd, to Intra-State Transmission System.
- 2) Connection Agreement executed between M/s Vidarbha Industries Ltd and MSETCL for startup power of 10 MW, 12.5MVA
- 3) Site responsibility Schedule
- 4) Copy of PPA

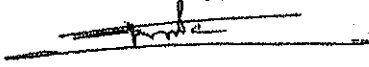
The grid connectivity to 1 X 300 MW (Phase-II) IPP of M/s Vidarbha Industries Ltd, at Butibori MIDC, Nagpur is hereby granted from 220 kV Butibori MIDC S/S, for availing Short Term Open Access subject to the submission of following documents.

- 1) Connection Agreement for connectivity of 300 MW generator (Phase-II) with intra state transmission system, in the standard format which is available on our website:
www.maharashtrastu.com.

- 2) ABT meter and SCADA installation and commissioning report.
- 3) Approved drawings from Trans-Project Dept for Synchronising Scheme.

Thanking You,

Yours faithfully,


Chief Engineer (STU)

- Copy swrs to: 1) Director (Operations), MSETCL, Prakashganga.
2) Executive Director (Project), MSETCL, Prakashganga.

Copy fwcs to: 1) M/s Vidarbha Industries Ltd, at Butibori MIDC, Nagpur.

✓ You may contact the Chief Engineer (SLDC), MSETCL, Kalwa at the below mentioned address for further needful in the matter.
(Address of the Chief Engineer (SLDC), Kalwa
Office of the Chief Engineer State Load Despatch Centre,
Thane-Belapur Road, Airoli, Post. Airoli, Navi Mumbai 400 708).

- 2) The Chief Engineer, MSETCL, EHV Const. Cum O&M Zone, Nagpur, It is requested to ensure that, metering arrangement shall be as per the metering code. Also the connection agreement for 1 X 300 MW (Phase-II) generator shall be executed with M/s VIPL.
- 3) The Chief Engineer (Trans-Project), MSETCL, Prakashganga, Bandra.
- 4) The Chief Engineer (Trans O&M), MSETCL, Prakashganga, Bandra.
- 5) The Chief Engineer (Comm), MSEDCL, Prakashgad, Bandra.
- 6) The Chief Engineer (PP), MSEDCL, Prakashgad, Bandra.

Annexure-B

Vidarbha Industries Power Limited

Dhirubhai Ambani Knowledge City
I Block, 2nd Floor, North Wing
Thane Belapur Road, Koparkhairane
Navi Mumbai 400 710

Tel: +91 22 3038 6838
Fax: +91 22 3038 6739/6999

Date: June 18, 2010

Ref.: VIPL/MUM/MSETCL/June10/46

To,
Shri. Arvind Singh
The Managing Director,
Prakashganga (MSETCL),
Plot No. C-19, E Block
Bandra - Kurla Complex
Bandra, Mumbai (400 051)

Sub.: To seek your appointment for discussing the issues related to 300 MW (1x300 MW)
Group Captive Power Project (GCPP) at Butibori, Nagpur.

Ref.:

1. VIPL letter vide no. VIPL/NGP/RS/MSETCL/112 dated February 09, 2010 regarding Revenue loss for shifting 220 kV D/C line.
2. MSETCL, Nagpur letter no. 1264 dated March 26, 2010 regarding the review of outages charges.

Respected Sir,

As you must be aware, we are in advance stage of development for 1x300 MW Group Captive Power Plant (GCPP) at Butibori, Nagpur. In this regard we would like to discuss some of the following issues.

1. We had submitted an application to MSETCL for shifting / raising of the Khaperkheda-Wardha 220KV D/C line crossing proposed Railway siding of VIPL. Accordingly, MSETCL had carried out survey and EE(O&M-EHV) had issued a demand note Dt. 03.02.2010 for Rs.3,84,00,314/- towards supervision and Revenue loss.

We had carried out load flow through PRDC, Bangalore, our consultants and it is observed that there is no overloading of the lines with the outage of Khaperkheda-Wardha 220KV D/C line. In view of the above, we have made requested to CE (EHV-CC, O&M), MSETCL, Nagpur for review the basis for revenue losses. The proposal of the same is forwarded to CE-Trans (O&M) MSETCL, Mumbai office for review.

2. We have obtained connectivity from MSETCL, Butibori-III substation. The contract has been awarded by MSETCL for the construction of substation & associated line. The work for the same has not started since the MERC approval is pending from last six months.

In order to get the start up power, it is necessary to start the construction of the associated line between Butibori-I to Butibori-III on priority basis.

Vidarbha Industries Power Limited

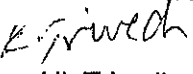
We wanted to seek your guideline on the above two issues. In this regard we would like to meet you at tomorrow (June 19, 2010) in the afternoon at around 3.00 pm and apprise you regarding the above points along with the progress of the our project. We would appreciate receiving a line of confirmation in this regard.

Following persons from our side wanted to meet you.

- I. Kaushik Trivedi.
- II. Mahesh Ghagare.
- III. Pradeep Deshpande.

Thanking You,

Yours truly,
For Vidarbha Industries Power Limited


Kaushik Trivedi
(Director)

Vidarbha Industries Power Limited

Dhirubhai Ambani Knowledge City
I Block, 2nd Floor, North Wing
Thane Belapur Road, Koparkhairane
Navi Mumbai 400 710

Tel: +91 22 3038 6838
Fax: +91 22 3038 6739/6999

Ref: VIPL/MUM/MSETCL/May11/21

Date: May 11, 2011

To,
The Chief Engineer (Tr. Projects),
Prakashganga, MSETCL,
Plot no. C-19, E- Block,
Bandra Kurla Complex,
Bandra (E),
Mumbai- 400 051

Sub: Grid Connectivity for 300 MW, Phase-II, Coal Based Power Plant by Vidarbha Industries Power Limited at Butibori, Nagpur

Ref.:

1. MSETCL letter no. MSETCL/CO/STU/302B/19391 dt 16/12/2010 regarding the intimation for connectivity of 300 MW.
2. Our letter no. VIPL/MUM/MSETCL/DEC10/114 dt 21/12/2010 regarding acceptance for intimation letter
3. MSETCL letter no. MSETCL/CO/Tr.Proj/S&CI/VIPL/378/3670 dt 07/03/2011 regarding technical feasibility
4. Our letter no. RIL/CTS/BUTI/ENGG/ T/01 dt 04/03/2011 regarding concept note for connectivity at Butibori-1 (MIDC) Substation (Copy attached)

Dear Sir,

With reference to above 1 & 2, we have obtained the Grid Connectivity for our 300 MW (Phase II) Coal Based Power project at Butibori-1 (MIDC) substation, Nagpur and we have also given our acceptance for the same. The copy of the Intimation letter is attached as Annexure-1.

As per reference no 2 &3, the feasibility for connectivity has been evaluated for various feasible options

As per the point no. 6 of Intimation letter, we need to construct 220 kV D/C line with AL 59 conductor from our plant at Butibori MIDC upto the point of injection at MSETCL proposed 220 kv Butibori-III S/s.

As per reference no 3 above, It was advised to construct GIS bays and cables if there is space constraint. The copy of the letter is attached as Annexure-2.

We have erected many 220 kV Transmission lines (including Phase-1 transmission line which is under construction) and 220 kV GIS (6 Nos) along with 220 kV cables in Mumbai city.

With this rich experience we will execute the entire work required for connectivity.

Vidarbha Industries Power Limited

The works to be executed by VIPL are:


Design, engineering, procurement, erection, supervision of erection & commissioning of

1. 220 kV Feeder bays at VIPL's premises – 2 Nos
2. Metering CT, PT at M/s VIPL's premises-2 Sets
3. Metering Room (A.C.)
4. Bus Bar Protection for 220 kV Bus at M/s VIPL's premises
5. Control Room and allied works in M/s VIPL's premises
6. SCADA for remote monitoring
7. ABT metering/Energy Metering at VIPL's premises
8. 220 kV Double Circuit Transmission Line from M/s VIPL's switchyard to Butibori-1 substation with AL59 conductor (with OPGW for data transfer and pilot wire protection)- 1.65 km
9. Under ground 220 kV Cables- 0.2 km in Butibori-1 (MIDC) premises
10. 220 kV GIS bays at Butibori-1 (MIDC) substation-2 Nos
11. Connection of Main-1 & Main-2 Bus to GIS by 220 kV Cables in Butibori-1 (MIDC) premises
12. Control & Relay panels for feeder bays in Butibori-1 (MIDC) premises – 2 Sets
13. Connection of feeder bus protection to Butibori-1 (MIDC) Bus bar protection in Butibori-1 (MIDC) premises
14. Extension of AC/DC supply to GIS bays in Butibori-1 (MIDC) premises
15. ABT metering/Energy Metering at Butibori-1 (MIDC) premises

This is for your information and to give the approval for the feasibility which has been sent by MSETCL, Nagpur in this regard.

Thanking You,

Yours truly,
For Vidarbha Industries Power Limited


Ramachandra Garladanne
(Authorised Signatory)

Encl.

Annexure 1- Copy of the Intimation letter regarding the Grid Connectivity from MSETCL dated December 16, 2010.

Annexure 2- Copy of the letter regarding the feasibility from MSETCL dated March 07, 2011.

Annexure 3- Copy of the letter regarding the concept note for connectivity at Butibori-1 S/s from Reliance Infrastructure dated March 04, 2011.

Annexure-C



GOVERNMENT OF MAHARASHTRA
Office of the Superintending Engineer, Nagpur Region (Electrical) Circle,
Public Works Department, Nagpur

Phone : (0712) 2560289/ Fax : 2565432
 E mail : enagpur.se@mahapwd.com

B.No.39/I, P.W.D.Compound,
 Civil Lines, Nagpur-440 001.

No.SEN/D-IX/ 501 /2013,

Dated the : 11/3/2012

To,

M/s Vidarbha Industries Power Ltd.
 MIDC Butibori, Dist. Nagpur.

Subject: - Annual Inspection for the year 2012-2013.

With respect to the above subject the detailed information about the electrical installation shall be furnished within 30 days for the annual inspection for the year 2012-2013 to observe the periodical maintenance and safety as per the provisions of Central Electricity Authority Regulations, 2010.

- | | | | |
|-----|---|----|-------|
| 1. | Name of the Power Plant/Company | :- | ..... |
| 2. | Address of the Power Plant /Company | :- | ..... |
| 3. | Telephone No. | :- | ..... |
| 4. | Email ID | :- | ..... |
| 5. | An up to date Single Line Diagram of the plant | :- | ..... |
| 6. | Voltage Level of the Consumer | :- | ..... |
| 7. | Sanctioned Connected Load in KW | :- | ..... |
| 8. | Sanctioned M.D. in KVA | :- | ..... |
| 9. | Monthly consumption for through out the Year | :- | ..... |
| 10. | M.D. in KVA | :- | ..... |
| 11. | Power Factor | :- | ..... |
| 12. | Incase of Captive Power Plant | | |
| | *Monthly Generation Profile Import/Export :- |  | ..... |
| 13. | Details of interruption more than (half & hour) along with reason | :- | ..... |
| 14. | Details of major break down/shut down of any through out the year | :- | ..... |

15. Transformer Installed Capacity

S. N.	Voltage Level Ratio	Rating in MVA	Location	Make	Sr.No.	Year of Manufacturing
1						

16. TG/DG Installed Capacity

S.N.	Voltage Level of T.G./D.G. Set	Rating in KVA/MVA	Make	Sr.No.	Year of Manufacturing
1					
2					

17. List of connected load

S.N.	Type of Motor	Rating in HP	Make	Sr.No.	Year of Manufacturing

18. Periodical Maintenance schedule of the transformer**a) Transformer Oil test reports :-**

(BDV test, Acidity test, Moisture test, Corrosive Sulphur, Oxidation Stability)

b) DGA (Dissolved Gas Analysis) :-**c) Insulation Resistance test report :-****d) Earth Resistance test report :-**

(Body Neutral shall be specify)

e) Tandelata test results :-**f) Magnetizing Balance test results :-****g) Oil level in conservator tank :-****h) Oil level in breather cup :-****i) OTI/WTI settings A/T C A/T C****j) OTI/WTI alarm and trip. Configure the proper functioning.****k) Confirm the performance of Buchholz relay****l) Confirm the performance of PRV.****m) Manual and remote performance of the OLTC panel shall be get confirmed.****19. Maintenance schedule of linked switch with fuse :-**

Confirm the mechanical operation. Rating of fuse in amp.

20. Maintenance schedule of Isolator :-**a) Measure the contact resistance and submit the test results.****b) IR values in open and closed condition shall be submitted.****c) Make the arrangement for the motorized operation.****d) Confirm the interlocking with earth switch.**

21. Maintenance schedule of circuit breaker :-

Details of circuit breaker

S.N.	Type	Voltage	Normal Current	Rupturing Capacity

- a) Conduct the IR test under open and closed condition and submit the test results.
- b) Measure the contact resistance (DCRM) and submit the test results.
- c) Confirm the interlocking with Isolator.
- d) Submit the relaying settings and submit the periodical test results.
(Earth fault relay, Over current relay, under voltage relay, and SF6 pressure alarms trip operation test.)

22. T.G./D.G. set :-

- a) Baroscopic Inspection Report of T.G. set shall be submitted.
- b) Harmonic analysis report carried out on load for T.G. set shall be submitted.
- c) Routine maintenance schedule shall be submitted for the governing system and AVR. Submit the test reports.
- d) Clarify the interlocking with other supply source.
- e) Turbovisory of T.G. shall be submitted.
- f) Protection settings (REM) for T.G. shall be submitted.
- g) Maintain the antivibration pad in good physical condition.
- h) Details of fire escape staircases provided in TG building with fire doors at each landing shall be furnished.
- i) Measure the noise level in (dB) as required by the norms of pollution control board and submit the test results.
- j) Measure the earth resistance of the alternator and engine.
(Body earth resistance and neutral earth resistance)

23. Cables :-

- a) Measure the IR values and submit the test results.
- b) Conduct the thermography for every individual cable termination for the identification of hot spot. (if any)
- c) **Cables and Cable galleries:** The fire protection requirement for cable galleries, cable runs, etc shall confirm to the provisions contained in IS:12459 including the fire protection requirements such as segregation of cable runs in to compartments, use of fire resistant cables in critical areas and groups of cables, sealing of penetrations in the walls, and floors by use of fire stops, fire detection and alarm systems, and the extinguishing systems.

24. Earthing :-

- a) Conduct the equipment pit wise earth test and submit the test results.
- b) All the earth pits shall be made as per the provision of IS-3043.
- c) Conduct the earth test of the mat and submit the test results.

25. CT's/PT's :-

- a) Conduct the BDV test of oil and submit the test results.
- b) Conduct the phase wise IR test and submit the test results.

26. Switchyard Lighting :-

Lighting fixture shall be provided at appropriate location to improve the illumination and to achieve the comfort lux level in view of safe working operation.

27. Cable trench in the switchyard :-

- a) Cable trench shall be fully covered with non flammable slabs.
- b) Passive fire protection measures such as fire barriers for cable galleries and shaft etc fire retardant coatings, fire resistant penetration sealing for all openings in floors, ceiling, walls etc shall be made and submit the details.

28. To avoid the manual winching the adequate arrangement of rail shall be made for loading and unloading of power transformer as required under regulations 2010 and complies accordingly.

29. The earth metal of adequate size (i.e. 25 to 40mm, 100mm thick layer) shall be spread in the substation so as to keep the values of step and touchpotential within permissible limit.

30. The power station buildings and switchyards shall be provided with lightning protection conforming to IS:2309.

31. The oil soak pit of adequate capacity shall be constructed as per relevant IS specification.

32. Control Room :-

- a) Provide the numerical relaying system for the power transformer, line bay and outgoing line (feeder) etc. Conduct the routine test regarding sensitivity and submit the test results.
- b) Arrangement shall be made for maintaining the comfort lux level and cooling in the control room.
- c) Provide Insulating floor or mats conforming to IS -15652:2006.
- d) Furnished the major events recorded through numerical relaying system or event logger.
- e) Authorization chart shall be got approved in the prescribed format and display it in view of routine operation.

- f) Provide smoke detector/heat detector and fire extinguishers of adequate capacity at appropriate location in view of fire safety.
- g) Details of PLCC, SCADA shall be submitted.

33. Battery Room :-


- a) Maintain the periodical records of charging/discharging of the battery in view of smooth function and to enhance the life of the battery.
- b) Maintain up to date testing equipment in the plant viz. megger, earth tester, Thermography camera, leakage detector.
- c) Standby arrangement of the battery charger shall be made for maintaining the reliability of D.C. source.

34. Metering:-

- a) Submit the details about the main and check metering arrangement.
- b) The accuracy/error of the meter shall be got tested ones in a year from the concern billing/metering authority and submit the test reports accordingly.
- c) Maintain the metering room clean, illuminating and cooling with locking arrangement.
- d) Consumption profile of both the main and check metering shall be submitted for ease of comparisons.

35. Other Safety Provisions:-

- a) Maintain the external fire hydrant system in view of fire safety.
- b) Conduct the thermography of the switchyard, overhead structure, cable termination etc. in view of identification of the hot spot.
- c) Conduct the energy audit, fire audit in view of life safety fire hazard and submit the same.
- d) Fire station and fire tenders along with trained staff shall be provided for the station.
- e) Conduct harmonic analysis and submit the test results.
- f) Suitable gas mask shall be kept at appropriate location.
- g) First aid box/shock treatment chart/training to person shall be made in view of preventive measure. Details of same shall be submitted.


Superintending Engineer
Nagpur Region (Electrical) Circle,
Nagpur.

Vidarbha Industries Power Limited

11, Daga, Layout
Ambazari Road
Nagpur 440 010

Tel: 0712 226 0055
Fax: 0712 226 0041/42

Ref: VIPL/NRP/PWB/2013/030

To,

26-Mar-2013

The Superintending Engineer,
Nagpur Region (Electrical) Circle,
Public Works Department,
Nagpur

Sub: Annual Inspection for the year 2012 – 13

Ref: Your office letter no: SEN/D-IX/501/2013 dated 11.03.2013

Respected Sir,

With respect to the above subject, the detailed information about the electrical installation is hereby being furnished for your review:

- 1) Name of the Power Plant / Company: Vidarbha Industries Power Limited
- 2) Address of the Power Plant / Company: Plot No - D3, MIDC, Butibori Industrial Area, Butibori, Nagpur – 441122
- 3) Telephone No: 9324564947
- 4) Email ID: kartik.sinha@relianceada.com,
- 5) An up-to-date Single Line Diagram of the Plant: Refer Annexure 1
- 6) Voltage Level of the Consumer: 220 kV
- 7) Sanctioned Connected Load in kW: 30,000
- 8) Sanctioned M.D. in kVA: 37,500

Vidarbha Industries Power Limited

11, Daga, Layout
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Nagpur 440 010

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9) Monthly Consumption for throughout the year:

Month	Consumption (kWh)
March, 2012	314,200
April, 2012	672,500
May, 2012	1,355,200
June, 2012	1,060,900
July, 2012	3,013,400
August, 2012	1,780,000
September, 2012	1,400,000
October, 2012	740,000
November, 2012	1,670,000
December, 2012	2,090,000
January, 2013	2,150,000
February, 2013	1,240,000

10) M.D. in kVA:

11) Power Factor:

12) In case of Power Plant *Monthly Generation Profile Import / Export:

Month	Import (kWh)	Export (kWh)
March, 2012	314,200	0
April, 2012	672,500	0
May, 2012	1,355,200	0
June, 2012	1,060,900	0
July, 2012	3,013,400	430,000
August, 2012	1,780,000	3,160,000
September, 2012	1,400,000	0
October, 2012	740,000	0

Vidarbha Industries Power Limited

11, Daga, Layout
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November, 2012	1,670,000	0
December, 2012	2,090,000	0
January, 2013	2,150,000	150,000
February, 2013	1,240,000	0

13) Details of Interruption more than half & hour along with reason: None

14) Details of major breakdown / shutdown (if any) throughout the year:

Bay	Feeder Name	Shutdown From		Shutdown To	
		Date	Time	Date	Time
201	VIPL Ckt 2	21-Jan-13	10:22	24-Jan-13	18:25
202	VIPL Ckt 1	23-Jan-13	09:15	24-Jan-13	18:25

15) Transformer Installed Capacity:

16)

Sr. No.	Voltage Level Ratio	Rating in MVA	Location	Make	Sr. No.	Year of Manufacturing
1	20/220 kV	370 MVA	Transformer Yard	Areva T&D	B-30502	2011
2	220/6.9 kV	25 MVA	Transformer Yard	Bharat Bijlee Ltd	5177/1	2011
3	20/6.9 kV	25 MVA	Transformer Yard	Areva T&D	D-10348	2011
4	20/6.9 kV	25 MVA	Transformer Yard	Areva T&D	D-10347	2011
5	6.6 kV / 433 V	2 MVA	LT Switchgear Room	Kirloskar	10COC052/4	2011
6	6.6 kV / 433 V	2 MVA	LT Switchgear Room	Kirloskar	10COC052/3	2011
7	6.6 kV / 433 V	2 MVA	LT Switchgear Room	Kirloskar	10COC052/2	2011
8	6.6 kV / 433 V	2 MVA	LT Switchgear Room	Kirloskar	10COC052/1	2011
Sr. No.	Voltage Level Ratio	Rating in MVA	Location	Make	Sr. No.	Year of Manufacturing
9	6.6 kV / 433 V	1.25 MVA	Raw Water Pump House	Sudhir Intra Vidyut	B0-10-050-1	2011

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Vidarbha Industries Power Limited

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10	6.6 kV / 433 V	1.25 MVA	Raw Water Pump House	Sudhir Intra Vidyut	B0-10-050-2	2011
11	6.6 kV / 433 V	1.6 MVA	Cooling Water Pump House	Sudhir Intra Vidyut	B0-10-051-1	2011
12	6.6 kV / 433 V	1.6 MVA	Cooling Water Pump House	Sudhir Intra Vidyut	B0-10-051-2	2011
13	6.6 kV / 433 V	2 MVA	Cooling Water Pump House	Sudhir Intra Vidyut	B0-10-052-1	2011
14	6.6 kV / 433 V	2 MVA	Cooling Water Pump House	Sudhir Intra Vidyut	B0-10-052-2	2011
15	6.6 kV / 433 V	2.5 MVA	CHP Control Room	Sudhir Intra Vidyut	B0-11-142-1	2011
16	6.6 kV / 433 V	2.5 MVA	CHP Control Room	Sudhir Intra Vidyut	B0-11-142-2	2011
17	6.6 kV / 433 V	1.6 MVA	AHP Control Room	Sudhir Intra Vidyut	B0-10-051-7	2011
18	6.6 kV / 433 V	1.6 MVA	AHP Control Room	Sudhir Intra Vidyut	B0-10-051-8	2011
19	6.6 kV / 433 V	2.5 MVA	ESP Control Room	Kirloskar	10CPC013/1	2011
20	6.6 kV / 433 V	2.5 MVA	ESP Control Room	Kirloskar	10CPC013/2	2011

17) TG / DG Installed Capacity:

Sr. No.	Voltage Level of TG / DG Set	Rating in kVA / MVA	Make	Sr. No.	Year of Manufacturing
1	20 kV	353 MVA	Shanghai Electric Corporation	B0300SHE 10197	2011 - 12
2	415 V	1.01 MVA	Stanford	N111364781	2011
3	415 V	1.01 MVA	Stanford	N111364801	2011
4	415 V	1.01 MVA	Stanford	N111364757	2011

18) List of Connected Load:

Sr. No.	Type of Motor	Rating in hp	Make	Sr. No.	Year of Manufacturing
1	Induction	3352.2	Shanghai Electric	560H1110215	2011 - 12
2	Induction	3352.2	Shanghai Electric	560H1110218	2011 - 12
3	Induction	1206.9	Shanghai Electric	500Y1120287/1	2011 - 12
4	Induction	1206.9	Shanghai Electric	500Y1120287/2	2011 - 12
5	Induction	3218.4	Shanghai Electric	50H11120284/1	2011 - 12
6	Induction	3218.4	Shanghai Electric	50H11120284/2	2011 - 12

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7	Induction	750.96	Shanghai Electric	1120292/01	2011 - 12
8	Induction	750.96	Shanghai Electric	1120292/02	2011 - 12
9	Induction	750.96	Shanghai Electric	1120292/03	2011 - 12
10	Induction	750.96	Shanghai Electric	1120292/04	2011 - 12
Sr. No.	Type of Motor	Rating in hp	Make	Sr. No.	Year of Manufacturing
11	Induction	750.96	Shanghai Electric	1120292/05	2011 - 12
12	Induction	750.96	Shanghai Electric	1120292/06	2011 - 12
13	Induction	7506.6	Shanghai Electric	80Y1130142/2	2011 - 12
14	Induction	7506.6	Shanghai Electric	80Y1130142/1	2011 - 12
15	Induction	7506.6	Shanghai Electric	80Y1130142/3	2011 - 12
16	Induction	1206.9	Shanghai Electric	1120484/1	2011 - 12
17	Induction	1206.9	Shanghai Electric	1120484/2	2011 - 12
18	Induction	636.97	CGL	2091494/1	2011
19	Induction	636.97	CGL	2091494/2	2011
20	Induction	1984.68	CGL	2091492/1	2011
21	Induction	1984.68	CGL	2091492/2	2011
22	Induction	1984.68	CGL	2091492/3	2011
23	Induction	643.68	CGL	2101484/1	2011
24	Induction	643.68	CGL	2101484/2	2011
25	Induction	516.285	ABB	2010271/1	2011
26	Induction	516.285	ABB	2010271/2	2011
27	Induction	516.285	ABB	2010271/3	2011

19) Periodical Maintenance Schedule of the Transformers: Refer Annexure 2

20) Maintenance schedule of linked switch with fuse: Rating of fuse is 6 - 400 Amps
Confirm the mechanical operation: Confirmed

21) Maintenance schedule of Isolator:

- Measure the contact resistance & submit the test results: Refer Annexure 3
- IR values in open & closed condition shall be submitted: Refer Annexure 3
- Make the arrangement for the motorized operation: Arranged
- Confirm the interlocking with earth switch: Confirmed

22) Maintenance schedule of circuit breaker: Details of Circuit Breaker

Sr. No.	Type	Voltage	Normal Current	Rupturing Capacity
---------	------	---------	----------------	--------------------

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1	SF6 Gas	220 kV	2000 A	40 kA rms
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- a. Conduct the IR test under open & closed condition & submit the test result: Refer Annexure 4
- b. Measure the contact resistance (DCRM) & submit the test result: Refer Annexure 4
- c. Confirm the interlocking with Isolator: Confirmed
- d. Submit the relay settings & submit the periodical test results: Refer Annexure 5 & 4
(Earth Fault relay, Over Current relay, Under Voltage relay, & SF₆ pressure alarms & trip operation test)

23) TG / DG set:

- a. Baroscopic Inspection report of TG set shall be submitted:
- b. Harmonic Analysis report carried out on load for TG shall be submitted:
- c. Routine Maintenance Schedule shall be submitted for the Governing System & AVR.
Submit the test reports: Refer Annexure 6 & 7
- d. Clarify the interlocking with other supply source:
Turbovisory of TG shall be submitted: Refer Annexure 8
- e. Protection settings (REM) for TG shall be submitted: Refer Annexure 9
- f. Maintain the anti-vibration pad in good physical condition: Maintained
- g. Details of fire escape staircases provided in TG building with fire doors at each landing shall be furnished: Fire Doors at Fire Escape Staircases provided
- h. Measure the Noise Level in (dB) as required by the norms of pollution control board & submit the test results: 74 dB
- i. Measure the Earth Resistance of the Alternator & Engine: Measured
(Body earth resistance & neutral earth resistance)

24) Cables:

- a. Measure the IR value & submit the test results: Refer Annexure 10
- b. Conduct the thermography for every individual cable termination for the identification of hot spot (if any):
- c. Cable & cable galleries: The fire protection requirement for the cable galleries, cable runs, etc. Shall confirm to the provisions contained in IS:12459 including the fire protection requirements such as segregation of cable runs in to compartments, use of fire resistant cables in critical areas & groups of cables, sealing of penetration in the walls & floors by use of fire spots, fire detection & alarm systems & the extinguishing systems: FRLS cables are used & fire detection and extinguishing system is provided

25) Earthing:

- a. Conduct the equipment pit wise earth test & submit the test results: Refer Annexure 11
- b. All the earth pits shall be made as per the provision of IS:3040: Complied
- c. Conduct the earth test of the mat & submit the test results: Refer Annexure 11

26) CT's / PT's:

- a. Conduct the BDV test of oil & submit the test results:

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- b. Conduct the phase wise IR test & submit the test results: Refer Annexure 12
- 27) Switchyard Lighting:
a. Lighting fixture shall be provided at appropriate location to improve the illumination & to achieve the comfort lux level in view of safe working operation: Provided
- 28) Cable Trench in the switchyard:
a. Cable Trench shall be fully covered with non-flammable slabs: Complied
b. Passive fire protection measures such as fire barriers for cable galleries & shaft etc., fire retardant coating, fire resistant penetration sealing for all openings in floors, ceiling, walls etc shall be made & submit the details:
- 29) To avoid manual winching adequate arrangement for rail shall be made for loading & unloading of Power Transformer as required under regulations 2010 & complies accordingly: Complied
- 30) The earth metal of adequate size (i.e., 25 to 40 mm, 100 mm thick layer) shall be spread in the substation so as to keep the values of step & touch potential within permissible limit: Complied
- 31) The power station building & switchyards shall be provided with lightning protection conforming to IS:2309: Complied
- 32) The oil soak pit of adequate capacity shall be constructed as per relevant IS specification: Complied
- 33) Control Room:
a. Provide the Numerical Relaying System for the Power Transformer, Line Bay & Outgoing Line (feeder) etc. Conduct the routine test regarding sensitivity & submit the test results: Refer Annexure 13
b. Arrangement shall be made for maintaining the comfort lux level & cooling in the control room: Complied
c. Provide insulating floor or mats conforming to IS-15652:2006: Provided
d. Furnish the major events recorded through numerical relaying system or event logger:
e. Authorisation chart should be approved in the prescribed format & display it in view of routine operation: Complied
f. Provide smoke detector / heat detector & fire extinguishers of adequate capacity at appropriate location in view of fire safety: Complied
g. Details of PLCC, SCADA shall be submitted: Refer Annexure 14
- 34) Battery Room:
a. Maintain the periodical records of charging / discharging of the battery in view of smooth function & to enhance the life of battery: Maintained

Vidarbha Industries Power Limited

13, Daga, Layout
Ambazari Road
Nagpur 440 010

Tel: 0712 226 0055
Fax: 0712 226 0041/42
viz: Meggar, Earth Tester,

- b. Maintain up-to-date testing equipment in the plant viz: Meggar, Earth Tester, Thermography Camera, Leakage detector: Maintained
c. Standby arrangement of the battery charger shall be made for maintaining the reliability of DC source: Complied

35) Metering:

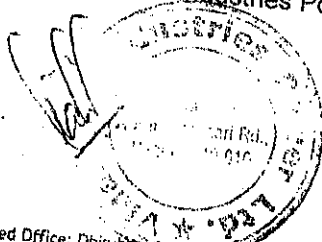
- a. Submit the details about the Main & Check Metering arrangement:

Main Meter (VIPL 220 kV Switchyard)		
Summator	Feeder Meter 1	Feeder Meter 2
APMB 3207	APMB3909	APMB3210

Check Meter (Butibori 1 220 kV MSETCL Substation)		
Summator	Feeder Meter 1	Feeder Meter 2
APMB3208	APMB3214	APMB3215

- b. The accuracy / error of the meter should be tested once in a year from the concerned billing / metering authority & submit the test reports accordingly: Refer Annexure 15
c. Maintain the metering room clean, illuminating & cooling with locking arrangement: Maintained
d. Consumption profile of both the main & check metering shall be submitted for ease of comparisons:
- 36) Other safety provisions:
- Maintain the external fire hydrant system in view of fire safety: Maintained
 - Conduct the thermography of the switchyard, overhead structure, cable termination, etc. in view of identification of the Hot Spots:
 - Conduct the energy audit, fire audit in view of life safety fire hazard & submit the same: Energy Management System is under implementation
 - Fire station & fire tenders along with trained staff shall be provided for the station: Provided
 - Conduct harmonic analysis & submit the test results:
 - Suitable gas mask shall be kept at appropriate location: Provided
 - First aid box / shock treatment chart / training to persons shall be made in view of preventive measure. Details of same shall be submitted:

For Vidarbha Industries Power Ltd



Registered Office: Dhirubhai Ambani Knowledge City, H Block, 1st Floor, Thane Belapur Road, Koparkhane, Navi Mumbai 400 710

List of Annexures

Annexure 1	Single Line Diagram of Plant
Annexure 2	Periodical Maintenance Test Reports of Transformers
Annexure 3	Periodical Maintenance Test Reports of Isolators
Annexure 4	Periodical Maintenance Test Reports of SF6 Circuit Breakers
Annexure 5	Relay Settings for Switchyard Relays
Annexure 6	Periodical Maintenance Test Reports of Governing System
Annexure 7	Periodical Maintenance Test Reports of AVR
Annexure 8	Turbovisory of TG
Annexure 9	Relay Settings for TG
Annexure 10	IR values of HT Cables
Annexure 11	Test results for Earth Resistance for Earth Pits & Earth Mat
Annexure 12	IR values of CT & CVT
Annexure 13	Routine Test Results for Numerical Relays of Line Bays & Power Transformers
Annexure 14	SCADA architecture
Annexure 15	Accuracy test report for meters by billing authority (MSEDCL)

Annexure-D



Nariman Point, Mumbai, 400021
IFS CODE - UTIB0000173

VALID FOR THREE MONTHS FROM THE DATE OF ISSUE
PAYMENT ORDER NOT TRANSFERABLE

DATE

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दिनांक D D M M Y Y Y Y

PAY MAHARASHTRA ELECTRICITY REGULATORY COMMISSION OR ORDER / या उनके आदेश पर

RUPEES ₹ 15,00,000.00
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PO Sr. No. 5233

PAYEE'S A/C ONLY

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NARIMAN POINT, MUMBAI (MH)

[Signature]
6/12/22

AUTHORISED SIGNATORY
प्राधिकृत हस्ताक्षर करें

[Signature]
5/23/22

AUTHORISED SIGNATORY
Please sign above प्राधिकृत हस्ताक्षर करें

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Nariman Point, Mumbai, 400021
IFS CODE - UTIB0000173

VALID FOR THREE MONTHS FROM THE DATE OF ISSUE
PAYMENT ORDER NOT TRANSFERABLE

DATE

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PAY MAHARASHTRA ELECTRICITY REGULATORY COMMISSION OR ORDER / या उनके आदेश पर

RUPEES ₹ 15,00,000.00
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PO Sr. No. 5233

PAYEE'S A/C ONLY

173013100001
NARIMAN POINT, MUMBAI (MH)

[Signature]
6/12/22

AUTHORISED SIGNATORY
प्राधिकृत हस्ताक्षर करें

[Signature]
5/23/22

AUTHORISED SIGNATORY
Please sign above प्राधिकृत हस्ताक्षर करें

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MERC

MAHARASHTRA ELECTRICITY REGULATORY COMMISSION

 Centre 1, 13th Floor, World Trade Centre, Cuffe Parade, Colaba,
Mumbai - 400 005.

ORIGINAL COPY
(Not Transferable)

RECEIPT NO. 4350

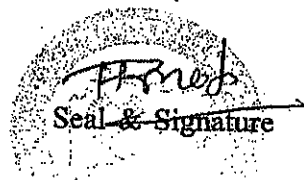
DATE 21/2/14

Received with thanks from Vidarbha Industries Power Ltd.

 the sum of Rs. 15,00,000/- (Rs. Fifteen lakh only &
Five lakh only) in full / part / balance payment on account
of grant of Transmission License, ARR - 2014-15

 by Cash / Cheque / Demand Draft / Pay Order No. 0618462062331 17/12/13 &
dated 11.02.14

Drawn on Axis Bank Ltd.



Note : This receipt is valid subject to realization of cheque/demand draft/pay order.

Vidarbha Industries Power Limited

Dhirubhai Ambani Knowledge City
1 Block, 2nd Floor, North Wing
Thane Belapur Road, Koparkhairane
Navi Mumbai 400 710

Tel: +91 22 3038 6838
Fax: +91 22 3038 6739/6999

Ref: VIPL/MUM/Feb 14/MERC/07

Date: 20th February, 2014

To,

The Secretary,
Maharashtra Electricity Regulatory Commission,
13th Floor, Centre No.1,
World Trade Centre,
Cuffe Parade, Mumbai – 400 005

Sub: Submission of petition with regard to application for grant of Transmission License, approval of provisional revenue gap for FY 2012-13 and FY 2013-14 and Aggregate Revenue Requirement for FY 2014-15 and FY 2015-16 for Transmission Business of Vidarbha Industries Power Limited – Transmission Business, under section 14, 61 & 62 of the Electricity Act 2003, Part G of MERC (Multi Year Tariff) Regulations 2011 and MERC (Transmission License Conditions) Regulations, 2004.

Ref:

1. Section 14, 61 & 62 of the Electricity Act 2003.
2. Part G of MERC (Multi Year Tariff) Regulations 2011.
3. MERC (Transmission License Conditions) Regulations, 2004.

For 21-2-14
**OFFICE OF THE
MAHARASHTRA ELECTRICITY
REGULATORY COMMISSION
COLABA, MUMBAI - 400 005.**

Respected Sir,

With reference to the above, we are submitting under affidavit, a petition with regard to application for grant of Transmission License, approval of provisional revenue gap for FY 2012-13 and FY 2013-14 and Aggregate Revenue Requirement for FY 2014-15 and FY 2015-16 for Transmission Business of Vidarbha Industries Power Limited (VIPL) – Transmission Business. Total 7 copies (1 original + 6 copies) of petition are being filed.

We are enclosing herewith the demand draft towards

1. Application / license fees, demand draft no. 61846 dated December 17, 2013 for Rs. 5,00,000 /- (Rupees Five Lakh only) drawn on Axis Bank.
2. The filing fees, demand draft no. 62331 dated February 11, 2014 for Rs.15,00,000/- (Rupees Fifteen Lakh only) drawn on Axis Bank.

Registered Office: Dhirubhai Ambani Knowledge City, H-Block, 1st Floor, Koparkhairane, Navi Mumbai 400 710

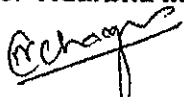
Vidarbha Industries Power Limited

Kindly acknowledge the receipt of petition and receipt of forward application/license fees & filing fees.

Thanking you,

Yours faithfully,

For **Vidarbha Industries Power Limited**



Authorised Signatory

Encl: – As above.

Annexure-E

Vidarbha Industries Power Limited

Nagpur Office
11, Daga Layout, 2nd Floor, North Ambazari Road, Nagpur - 440010

VIPL/NGP/MSETCL/14/009

Date: 17-02-2014

To,

The Chief Engineer (EHV Cons. Cum O & M Zone)
MSETCL, Koradi Road,
Mankapur, Nagpur.

Sub:-Execution of Connection Agreement for Butibori-III S/s bay no. 01 & 02 for power evacuation of 300 MW VIPL Thermal Power Plant, plot No D-3, MIDC Industrial Area, Butibori, Nagpur.

Ref: MSETCL/CO/STU/302B/7664 dtd. 19-05-2010.

Dear Sir,

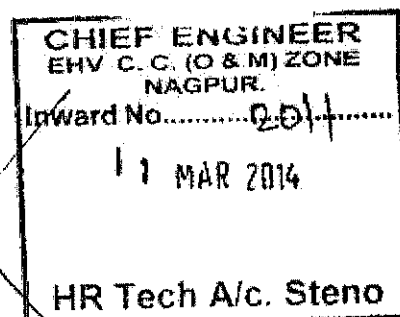
With ref to above please find the enclosed the connection agreement for Butibori-III S/s bay no. 01 & 02 for power evacuation of 300 MW VIPL Thermal Power Plant, plot No D-3, MIDC Industrial Area, Butibori, Nagpur.

You are requested to execute the connection agreement as above.

Thanking you
Yours Truly
For Vidarbha Industries Power Ltd


Authorised Signatory

Encl: As Above



Corporate Office

Chirabha Ambam Knowledge City, 11 Block, 3rd Floor, North Wing, Thane Belapur Road, Koparkhurne,
Navi Mumbai 400 710 Tel: 022 - 3038 6838 Fax 022 - 3038 6999 / 3038 6799

Registered Office

Disrubha Ambam Knowledge City, 11 Block, 1st Floor, Thane Belapur Road, Koparkhurne, Navi Mumbai 400 710

CONNECTION AGREEMENT STU/CA/DOC-3/REV-01/ 16.10.2010

Maharashtra State Electricity Transmission
Company

State Transmission Utility

CONNECTION AGREEMENT

Between

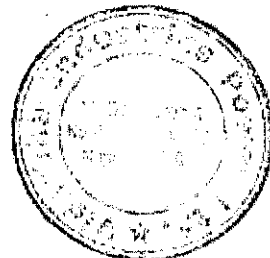
MSETCL / (Name of Transmission Licencee)

And

Vidarbha Industries Power Limited

(VIPL)

(Generating Company)





महाराष्ट्र MAHARASHTRA

66876 94102118 900 AS
अ.क. दि. 9/4/10 दि. 9/4/10 अ.क. वनोदे
मह. वि.स. इन्स्टीट्यूट पावर - नव देव
लिमिटेड नवदेव सक्करावाडी, नागपुर
म.प्र. 441116

KA 231235

9 3 9E3 2014

Signature / Seal / Stamp / Sd. Clerk

CONNECTION AGREEMENT

This Connection Agreement (the "Agreement") is made the 30th day of March, 2014 by and between:

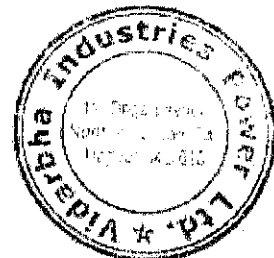
1. Maharashtra State Electricity Transmission Company Limited, a Company incorporated under the provisions of the Companies Act, 1956 having its registered office at 'Prakashiganga' MSETCL, Plot No. C-19, E-Block, Bandra Kurla Complex, Bandra (E), Mumbai-400051 (hereinafter referred to as the Transmission Licensee which expression shall, unless repugnant to the context or meaning hereof include its successors and assigns) as a party of the First Part.
2. Vidarbha Industries Power Limited (hereinafter referred to as the Requester/User), having its registered office at Dhiribhai Ambani Knowledge City, 'H' Block, 1st Floor, Thane - Belapur Road, Koparkhairane, New Mumbai - 400 710 as party of the Second Part.

WHEREAS:

Maharashtra State Electricity Transmission Company Limited, a transmission licensee under section 14 of the Electricity Act, 2003 and own, operates & maintains intra-State Transmission System in the State of Maharashtra.

The Requester Means a generating company including a captive generating plant or transmission licensee (excluding Central Transmission utility and State Transmission utility) or Distribution licensee or Bulk consumer who is seeking connection of his existing, new or expanded electrical plant to the grid at 33 KV level or above.

h
B. S. Bhandari
CHIEF ENGINEER
EHV CC O&M ZONE
MAHATRANSCO, NAGPUR



CONNECTION AGREEMENT STU/CA/DOC-3/REV-01/ 16.10.2010

Maharashtra Electricity Regulatory Commission (MERC) has specified the State Grid Code which inter-alia lays-down the minimum technical and design criteria to be complied with by a Transmission Licensee and Users connected to or seeking connection to the intra-State transmission system.

As per connection conditions specified in the State Grid Code a Connection Agreement shall be entered into between the Transmission Licensee and the User connected with intra-State Transmission System setting out the terms and conditions for connection to and use of intra-State Transmission System.

This Connection agreement is executed between Maharashtra State Electricity Transmission Company Limited and M/s Vidarbha Industries Power Limited for 1 X 300MW (Phase-I) Generation of M/s Vidarbha Industries Power Limited, Butibori from 220 KV VIPL Switchyard(Bay No. I & II) to 220 KV Reliance bay no. I & II of MSETCL Butibori-III Substation for interconnecting to transmission system of MSETCL.

Now, therefore, in consideration of the premises and mutual agreements, covenants and conditions set forth herein, it is hereby agreed by and between the parties as follows:-

Definitions and Interpretation

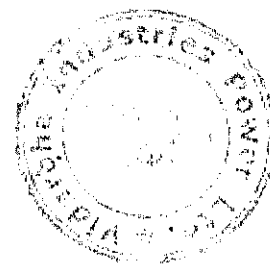
In this agreement unless the context otherwise requires the definitions of terms used shall be as follows:

1. 'Act' means the Electricity Act, 2003 (No 36 of 2003) including amendments thereto;
2. 'Apparatus' means all equipment in which electrical conductors are used, supported or of which they form a part;
3. 'Appropriate Transmission Utility' means the Central Transmission Utility or State Transmission Utility as the case may be;
4. 'Automatic Voltage Regulator (AVR)' means a continuously acting automatic excitation control system to regulate a generating unit Voltage measured at the generator terminals;
5. 'British Standards' (BS) means those standards and specifications approved by the British Standards Institution.
6. 'Bulk consumer' means a consumer who avails supply at Extra High voltage exceeding 33 kV;
7. 'CEA or Authority' means the Central Electricity Authority constituted under Sub-Section (1) of Section 70 of the Act;
8. 'Commission' means the Maharashtra Electricity Regulatory Commission.
9. 'Connection Agreement' means an agreement setting out the terms relating to connection to and/or use of the intra-State transmission system.
10. 'Connection Point' means a point at which a User's or Transmission Licensee's Plant and/or Apparatus connects to the intra-State transmission system.
11. 'Earth fault Factor' at a location in a three phase system means the ratio of 'the highest root mean square (r.m.s.) phase-to-earth power frequency voltage on a sound phase during fault to earth (affecting one or more Phases)' to 'the r.m.s. phase-to-earth power frequency voltage which would be obtained at the selected location without the fault'.
12. 'Event logging facility/Event Logger' means a device provided to record the sequence of operations in time, of relays / equipment at a location during an event;

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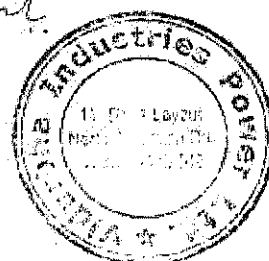
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13. 'Electrical Plant' means any plant, equipment, apparatus or appliance or any part thereof used for, or connected with, the generation, transmission, distribution or supply of electricity but does not include
- a. an electric line; or
 - b. a meter used for ascertaining the quantity of electricity supplied to any premises; or
 - c. an electrical equipment, apparatus or appliance under the control of a consumer.
14. 'Frequency' means the number of alternating cycles per second (expressed in Hertz).
15. 'Generating Unit' means an Electrical Generator coupled to a prime mover within a Power Station together with all Plants and Apparatus at that Power Station (upto the Connection point) which relates exclusively to the operation of that generator.
16. 'IEC Standard' means standard approved by the International Electrotechnical Commission.
17. 'Isolator' means a device for achieving isolation of one part of an electrical from the rest of the system.
18. 'Grid Entry Point' means a point at which a generating unit is connected to the Grid.
19. 'Grid Supply Point' is a point of supply from the transmission system to a distribution system or to a Bulk consumer;
20. 'Intra State Transmission System' (ISTS) means any system for conveyance of electricity by transmission lines within the area of the State and includes all transmission lines, sub-stations and associated equipment of transmission licensees in the State;
21. 'Isolating Device' means a device for achieving isolation of one part of an electrical system from the rest of the system;
22. 'Maximum Continuous Rating' means the normal rated full load MW output capacity of the generating unit which can be sustained on a continuous basis at specified conditions.
23. 'Power factor' means the cosine of the electrical angle between the voltage and current complexors in an AC electrical circuit.
24. 'Power System Stabilizers' (PSS) means controlling equipment which receives input signals of speed, frequency and power to control the excitation via the voltage regulator for damping power oscillations of a synchronous machine.
25. 'Protection system' means the equipment by which abnormal conditions in the grid are detected and fault clearance, actuating signals or indications are initiated without the intervention by the operator;
26. 'Reactive Power' means in relation to an AC electrical system, the product of root mean square (r.m.s) voltage, root means square (r.m.s) current and the sine of the electrical phase angle between the voltage complexor and current complexor, measured in volt amperes reactive (VAR).
27. 'Requestor' means a person such as Generating Company including captive generating plant or Transmission Licensee (excluding Central Transmission Utility and State Transmission Utility) or Distribution Licensee or Bulk Consumer, who is seeking connection of his new or expanded electrical plant to the grid at voltage level 33KV and above.

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28. 'Site Common Diagram' means drawings prepared for each Connection Point, which incorporates layout drawings, electrical layout drawings, common protection/control drawings and common service drawings;
29. 'Standards' means "Standards on Grid Connectivity" specified by Central Electricity Authority;
30. 'Single Line Diagram' means diagrams which are a schematic representation of the HV/EHV apparatus and the connections to all external circuits at a Connection Point incorporating its numbering nomenclature and labeling;
31. 'State Grid Code' means the Grid Code specified by the Commission under Section 86 (1) (b) of the Act;
32. 'State Transmission Utility' or 'STU' means Maharashtra State Electricity Transmission Company Limited notified by Government of Maharashtra as such under sub section (1) of section 39 of the Act;
33. 'Thermal Generating Unit' means a generating unit using fossil fuels such as coal, lignite, gaseous and liquid fuel;
34. 'Total Harmonic Distortion' (THD) means a measure of distortion of the voltage or current waveform (which shall ideally be sinusoidal) and is the square root of the sum of squares of all voltage or current harmonics expressed as a percentage of the magnitude of the fundamental;
35. 'Transmission System' means a network of transmission lines and sub-stations;
36. 'Under Frequency Relay' (UFR) means a relay which operates when the system frequency falls below specified limits and initiates load shedding;
37. 'User' means a person, including in State Generating Stations, Distribution Licensees Consumers of the Distribution Licensees directly connected to Intra State transmission system and persons availing of Open Access, who are connected to and/or use the Intra State transmission system;
38. 'Voltage Unbalance' means the deviation between highest and lowest line voltage divided by Average Line Voltage of the three phases.

The words and expressions used and not defined herein shall have same meaning as assigned to them under Act and Regulations.

Compliance of State Grid Code:

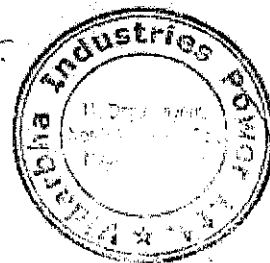
Both the parties agree and confirm that they shall be abiding the provisions of the State Grid Code Regulations 2006 and procedures and operating practices prescribed there under. The Transmission Licensee and Users agree to supply the Standards Planning Data and Detailed Planning Data to the State Transmission Utility as may be specified for the purpose of planning and development of Intra State transmission System in accordance with Section 10 of the State Grid Code.

Both the parties agree to abide by the directions and instructions of State Load Despatch Centre issued in discharge of its functions and comply with any procedure and processes prescribed by the State Load Despatch Centre under the State Grid code. The User and the Transmission Licensee confirm that they shall adhere to the system security standards specified under Section 22 of the State Grid Code and operate respective systems in accordance with Section 21 of the State Grid Code.

In case of discrepancy between terms and conditions stipulated in the Connection Agreement and State Grid Code Conditions, the terms and conditions of the State Grid Code shall prevail.

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Compliance of Central Electricity Authority Regulations.

Both the parties agree and confirm that they shall be abiding the provisions of the Central Electricity Authority's Technical Standards for Connectivity to the Grid Regulations 2007 inclusive of any subsequent modifications thereof issued by the CEA.

General Connectivity Conditions***1 Connection Standards and codes of practice***

- a) Both the parties shall follow the industry best practices and applicable industry standards in respect of the equipment installation and its operation and maintenance

- b) The equipment including overhead lines and cables shall comply with the relevant Indian standards, British Standards (BS) or International Electrotechnical Commission (IEC) Standard or American National Standards Institute (ANSI) or any other equivalent International Standard.

Provided that whenever an International Standard or International Electrotechnical Commission Standard is followed, necessary corrections or modifications shall be made for nominal system frequency, nominal system voltage, ambient temperature, humidity and other conditions prevailing in India before actual adoption of the said Standard.

- c) The effect of wind, storms, floods, lightning, elevation, temperature extremes, icing, contamination, pollution and earthquakes must be considered in the design and operation of the connected facilities.
- d) Installation, operation and maintenance of equipment by both the parties shall conform to the relevant standards specified by the Authority under section 177, and Section 73 of the Act, as and when they come into force.

2. Safety Standards

Both the parties shall comply with the Central electricity authority (Measures relating to Safety and Electricity Supply) Regulations, 2007

3. Commercial Arrangement

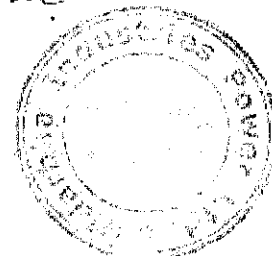
The commercial arrangement between Requester/User and transmission licensee relating to evacuation and transmission of power shall be governed by the separate Bulk Power Transmission Agreement entered into by these two parties.

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Metering at the Inter-connection Points shall be owned and maintained by Transmission licensee as per Clause 34 of Metering Requirement of MERC (State Grid Code) Regulations, 2006. The metering system shall be suitable to measure and store all pertinent parameters at all inter-connection points needed for billing the intra-state energy exchange as per the applicable tariffs and for energy accounting and UI settlement system as specified by the Commission from time to time.

Transmission licensee shall duly inform the user/ requester regarding all changes in transmission lines/substations/assets ownership, commissioning and commencement of commercial operation of new assets and any other relevant development/changes as also the consequent changes in transmission charges payable as specified by the Commission from time to time.

4. Sub-station grounding

Each transmission sub-station must have a ground mat solidly connected to all metallic structures and other non energised metallic equipment. The mat shall limit the ground potential gradients to such voltage and current levels that will not endanger the safety of people or damage equipment which are in, or immediately adjacent to, the station under normal and fault conditions. The ground mat size and type shall be based on local soil conditions and available electrical fault current magnitudes. In areas where ground mat voltage rises would not be within acceptable and safe limits (for example due to high soil resistivity or limited sub-station space), grounding rods and ground wells may be used to reduce the ground grid resistance to acceptable levels. Sub station grounding shall be done in accordance with the norms of the Institute of Electrical and Electronics Engineers (IEEE) - 80.

5. Metering Requirements

Metering requirement at the inter connection points shall be governed by the latest Metering Code approved by the Commission. The Transmission Licensee and User agree to abide by the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006.

6. Basic Insulation Level and Insulation Co-ordination

Basic Insulation Level (BIL) of various items of equipment and ratings of surge arresters for generating stations, lines and sub-stations shall be decided on the following order of priority, namely:-

- Ensure safety to public and operating personnel;
- Avoid permanent damage to plant;
- Prevent failure of costly equipment;
- Minimize circuit interruptions; and
- Minimize interruptions of power supply to consumers.

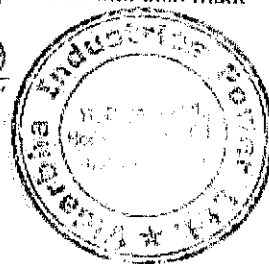
Insulation coordination of equipment and lines on both sides of a connection point belonging to requester and the grid shall be accomplished and the co-ordination shall be done by the Appropriate Transmission Utility.

7. Equipment at Connection Points

The User and the Transmission Licensee confirm that their respective equipment at Connection Point shall comply with minimum technical and design criteria specified in the State Grid Code.

Single Line Diagram showing arrangement of equipment belonging to the User and/ or Transmission Licensee at each connection point are appended with this agreement and also made

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available to the SLDC. The parties herein agree that they shall not alter the arrangement of equipment at the connection point without consent of other party.

The User and the Transmission Licensee confirm that before physical connection of their systems at the connection points they shall intimate to the State Transmission Utility and the State Load Despatch Centre.

8. Site Common Drawings

Both the parties agree that Site Common Drawings showing layout of equipments, electrical layout drawings, common protection/control drawings and common service drawings shall be prepared at each connection point before taking up construction, erection and commissioning of equipment. The parties herein agree that following drawings as may be necessary shall be prepared for connection arrangement:

Site Layout;

(a) Electrical Layout;

(b) Details of Protection; and

(c) Common Services Drawings

9. Inspection, Test, calibration and Maintenance prior to connection:

Before connecting, the requestor shall complete all inspections and tests finalized in consultation with the State Transmission Utility or licensee or generating station to which his equipment is connected. The requestor shall make available all drawings, specifications and test records of the project equipment pertaining to integrated operation to the State Transmission Utility or licensee or generating station as the case may be.

10. Site Responsibility Schedule

A Site Responsibility Schedule (SRS) for every connection point shall be prepared by the owner of the sub station where connection is taking place

The following information shall be included in Site Responsibility Schedule (SRS), namely:

- (a) Schedule of electrical apparatus, services and supplies
- (b) Schedule of telecommunications and measurement apparatus
- (c) Safety rules applicable to each plant/apparatus.

Following information shall be furnished in the Site Responsibility Schedule for each item of equipment installed at the connection site, namely:

- (a) The ownership of Plant/ apparatus
- (b) The responsibility for control of Plant/ apparatus
- (c) The responsibility for maintenance of Plant/ apparatus
- (d) The responsibility for operation of Plant/ apparatus
- (e) The manager of the site
- (f) The responsibility for all matters relating to safety of persons at site

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(g) The responsibility for all matters relating to safety of equipment at site

No connection shall be made unless Site Responsibility Schedule is prepared and signed by all concerned parties.

11. Capital Expenditure by parties

Both the parties agrees that any capital expenditure arising from necessary reinforcement or extension of the system at the connection point shall be dealt in accordance with respective clauses (1.43.2 for transmission and cl.60.11 for distribution) of MERC (Terms and Conditions of Tariff) Regulation 2005 and shall be shared by the parties in accordance with the provisions of the said clause or regulatory orders/directions as the case may be.

12. General philosophy and guidelines on Protection:

The User and the Transmission Licensee agree and confirm that connection with Intra state Transmission System shall comply with following minimum technical and design criteria with regard to System parameters and protection.

Grid Parameter Variations

General

Transmission Licensees and Users shall ensure that Plant and Apparatus requiring service from or providing service to the Intra State Transmission System is of such design and construction that satisfactory operation of such Plant and Apparatus will not be prevented by variation in instantaneous values of system frequency and voltage from their nominal values.

Frequency Variation

Rated frequency of the system shall be 50.0 Hz and connected equipment must be capable of operating within the limits specified in Clause 15.2 of the State Grid Code Regulation 2006 and Central Electricity Authority (Grid Standards) Regulations 2006.

Target (CEA Grid Standards Regulation)	Variations (%)	Value (Hz)
Upper Limit	+1%	50.5 Hz
Lower Limit	-2%	49.0 Hz

Voltage Variation

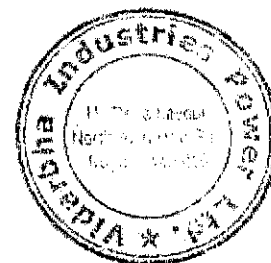
The variations of voltage may not be more than the voltage range specified in the regulations as per Clause 15.3 and Clause 22.24 of State Grid Code Regulation 2006.

Protection System

1. Protection System shall be designed to reliably detect faults on various abnormal conditions and provide an appropriate means and location to isolate the equipment or system automatically. The protection system must be able to detect power system faults within the zone. The protection system should be able to detect abnormal conditions such as equipment failures or open phase conditions.
2. Every Element of the Power system shall be protected by a standard protection system having the required reliability, selectivity, speed, discrimination and sensitivity. Where failure of a protective relay in the User's system has substantial impact on the grid, the User shall connect an additional protection as back up protection besides the Main protection.

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3. Notwithstanding the protection systems provided in the grid, the User shall provide requisite protections for safeguarding his system from faults originating in the grid.
4. Bus bar Protection and Breaker Fail protection or Local Breaker Back-up Protection shall be provided wherever stipulated in the regulations.
5. Special Protection Scheme such as Under Frequency relay for Load shedding, voltage instability, angular instability, generation backing down or Islanding Schemes may also be required to be provided to avert system disturbances.
6. Protection co-ordination issues shall be finalized at regional levels by Regional Electricity Board/ Regional Power Committee and for Intra State lines by STU
7. The User shall develop protection manuals conforming to various standards for the reference and use of its personnel.

Sub-Station Equipment

All Extra High Voltage (EHV) sub station equipments of both the parties shall comply with Bureau of Indian Standards/International Electro technical Commission/prevaling Code of practice.

All equipment shall be designed, manufactured and tested and certified in accordance with the quality assurance requirements as per the standards of International Electro technical Commission or the Bureau of Indian Standards.

Each connection between a User and Transmission Licensee shall be controlled by a circuit breaker capable of interrupting, at the connection point, at least the short circuit current as advised by State Transmission Utility.

Fault Clearance Times

The fault clearance time for primary protection schemes, for a three phase fault (close to the bus bars) on Users' equipment directly connected to Intra State Transmission System and for a three phase fault (close to the bus bars) on Intra State Transmission System connected to Users' equipment, shall not be more than:

- (a) 100 milli seconds for 800 kV class & 400 kV
- (b) 110 milli seconds for 220 kV & 132 kV/110kV/100kV

Back up protection shall be provided for required isolation/protection in the event of failure of the primary protection systems provided to meet the above fault clearance time requirements. If a Generating Unit is connected to the Intra State Transmission System directly, it shall be capable of withstanding, until clearing of the fault by back up protection on the intra State Transmission System side.

13. Reactive Power Compensation

Both the parties agree that the reactive Power compensation and/or other facilities shall be provided by Users, as far as possible, in the low voltage systems close to the load points thereby avoiding the need for exchange of Reactive Power to/from the Intra State Transmission System and to maintain the intra State Transmission System voltage within the specified range.

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The parties agree that they shall endeavour to minimize the Reactive Power drawal at an interchange point when the voltage at that point is below 95% of rated voltage, and shall not inject Reactive Power when the voltage is above 105% of rated voltage.

Switching in/out of all 400 kV bus and line Reactors throughout the grid shall be carried out as per instructions of State Load Despatch Centre. Tap changing on all 400/220 kV Interconnecting Transformers shall also be done as per the instructions of State Load Despatch Centre only.

14. *Communication Facilities*

The User and the Transmission Licensee agree to provide reliable and efficient speech and data communication systems to facilitate necessary communication and data exchange as prescribed by the SLDC for supervision/control of the State Grid under normal and abnormal conditions at their respective ends at their own cost. The User and Transmission Licensee agree to abide by the guidelines of the State Load Despatch Centre issued under Section 17 of the State Grid Code.

15. *System Recording Instruments*

Users and Transmission Licensees agree to provide the recording instruments such as Data Acquisition System/Disturbance Recorder/Event Logger/Fault Locator (including time synchronization equipment) as may be necessary under applicable standards within the time frame specified in the State Grid Code.

Every Generating Station and sub-station connected to the grid at 220 KV or above shall be provided with Disturbance Recording and Event Logging facilities. All such equipment shall be provided with time synchronisation facility for global common time reference.

16. *Access to both parties*

The Transmission Licensee or the User owning the Connection Site as the case may be shall provide reasonable access and other required facilities to another including the SLDC, whose equipment is proposed to be installed / installed at the Connection Site for installation, operation, maintenance, etc.

Written procedures and agreements shall be developed between entities to ensure that mandatory access is available to the entity concerned at the same time safeguarding the interests of both entities at the connection site.

The authorized personnel of both parties shall have the right to inspect the plant of other party at inter connection point to ensure conformity to standards and restrictions.

17. *Unintended and Unscheduled back-energisation*

Both the parties agree and confirm that they shall take adequate precautions to ensure that no part of the grid is energized by the Users' system from another source of supply unless it is requisitioned in writing by the other party as an exceptional arrangement. The switchgear and controls of the Users' systems shall be so designed as to prevent back energisation and the personnel shall be made aware of the need for this precaution.

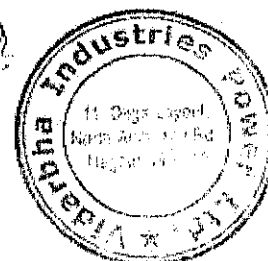
18. *Term of Agreement*

This connection agreement shall remain valid unless both the parties with mutual agreement decide to amend/modified or terminate it.

In witness whereof the parties have signed this agreement on the day, month and year first written above.

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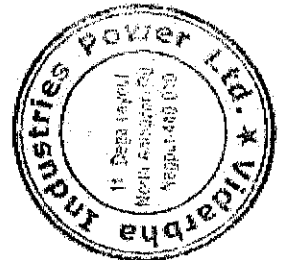
Schedule 1

Grid Connectivity Standards applicable to the Generating Units

The units at a generating station proposed to be connected to the grid shall comply with the following requirements besides the general connectivity conditions given in the regulations and general requirements given in the general connectivity conditions in this document.

New Generating Units

1. The excitation system for every generating unit
 - a. shall have state of the art excitation system;
 - b. shall have Automatic Voltage Regulator (AVR). Generators of 100 MW rating and above shall have Automatic Voltage Regulator with digital control and two separate channels having independent inputs and automatic changeover and
 - c. The Automatic Voltage Regulator of generator of 100 MW and above shall include Power System Stabilizer (PSS)
2. The Short Circuit Ratio (SCR) for generators shall be as per IEC 34.
3. The generator transformer windings shall have delta connection on low voltage side and star connection on high voltage side. Star point of high voltage side shall be effectively (solidly) earthed so as to achieve the Earth Fault Factor of 1.4 or less.
4. All generating machines irrespective of capacity shall have electronically controlled governing system with appropriate speed/load characteristics to regulate frequency. The governors of thermal generating units shall have a droop of 3 to 6% and those of hydro generating units 0 to 10%.
5. The project of the requester shall not cause voltage and current harmonics on the grid which exceed the limits specified in Institute of Electrical and Electronics Engineers (IEEE) Standard 519.
6. Generating Units located near load centre, shall be capable of operating at rated output for power factor varying between 0.85 lagging (over excited) to 0.95 leading (under excited) and Generating Units located far from load centers shall be capable of operating at rated output for power factor varying between 0.9 lagging (over excited) to 0.95 leading (under excited). The above performance shall also be achieved with voltage variation of +5% of nominal, frequency variation of +3% and -5% and combined voltage and frequency variation of +5%. However, for gas turbines, the above performance shall be achieved for voltage variation of +5%.
7. The coal and lignite based thermal generating units shall be capable of generating up to 105% of Maximum Continuous Rating (subject to maximum load capability under Valve Wide Open Condition) for short duration) to provide the frequency response.
8. The hydro generating units shall be capable of generating up to 110% of rated capacity (subject to rated head being available) on continuous basis.
9. Every generating unit shall have standard protections to protect the units not only from faults within the units and within the station but also from faults in transmission lines. For generating units having rated capacity greater than 100 MW, two independent sets of protections acting on two independent sets of trip coils fed from independent Direct Current (DC) supplies shall be provided. The protections shall include but not be limited to the Local Breaker Back up (LBB) protection.
10. Hydro generating units having rated capacity of 50 MW and above shall be capable of operation in synchronous condenser mode, wherever feasible.
11. Bus bar protection shall be provided at the switchyard of all generating station.
12. Automatic synchronization facilities shall be provided in the requester's Project.



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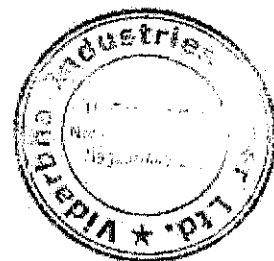
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13. The Reactive demand and Injections shall be in compliance with Clause 16.4 of the State Grid Code.
14. The station auxiliary power requirement, including voltage and reactive requirements, shall not impose operating restrictions on the grid beyond those specified in the Grid Code or state Grid Code as the case may be.
15. In case of hydro generating units, self-starting facility may be provided. The hydro generating station may also have a small diesel generator for meeting the station auxiliary requirements for black start.
16. The standards in respect of the sub-stations associated with the generating stations shall be in accordance with the provisions specified in respect of 'Sub stations' under Schedule 2 of these Standards.

Existing Units

For thermal generating units having rated capacity of 200 MW and above and hydro units having rated capacity of 100 MW and above, the following facilities would be provided at the time of renovation and modernization.

1. Every generating unit shall have Automatic Voltage Regulator. Generators having rated capacity of 100MW and above shall have Automatic Voltage Regulator with two separate channels having independent inputs and automatic changeover.
2. Every generating unit of capacity having rated capacity higher than 100Mw shall have Power System Stabilizer.
3. All generating units shall have standard protections to protect the units not only from faults within the units and within the station but also from faults in transmission lines. The protections shall include but not limited to the Local Breaker Back-up (LBB) protection.



Schedule 2

Grid Connectivity Standards applicable to the Transmission Line and Sub-station

The transmission lines and sub stations connected to the grid shall comply with the following additional requirements besides the general connectivity conditions under these regulations and General Standards for Connectivity to the Grid.

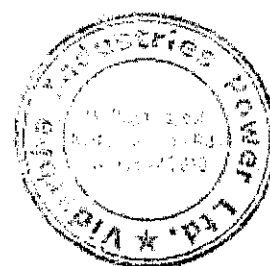
1. Bus bar protection shall be provided on all sub stations at and above 220 kV levels for all new sub stations. For existing sub stations, this shall be implemented in a reasonable time frame.
2. Local Breaker Back up (LBB) protection shall be provided for all sub stations of 220kV and above.
3. Two main numerical Distance Protection Schemes shall be provided on all the transmission lines of 220 kV and above for all new sub-stations. For existing sub-stations, this shall be implemented in a reasonable time frame.
4. Circuit breakers, isolators and all other current carrying equipment shall be capable of carrying normal and emergency load currents without damage. The equipment shall not become a limiting factor on the ability of transfer of power on the inter state and intra state transmission system.
5. All circuit breakers and other fault interrupting devices shall be capable of safely interrupting fault currents for any fault that they are required to interrupt. The Circuit breaker shall have this capability without the use of intentional time delay in clearing the fault. Minimum fault interrupting requirement need be specified by the State Transmission Utility. The Circuit Breaker shall be capable of performing all other required switching duties such as, but not limited to, capacitive current switching, load current switching and out-of step switching. The Circuit Breaker shall perform all required duties without creating transient over-voltages that could damage the equipment provided elsewhere in the grid. The short circuit capacity of the circuit breaker shall be based on short term and perspective transmission plans as finalized by the Authority.
6. Power Supply to Sub-Station Auxiliaries, shall:
 - a) for alternating current (AC) supply (Applicable to new sub stations) 220 kV and above. Two high tension (HT) supplies shall be arranged from independent sources. One of the two high tension supplies shall be standby to the other. In addition, an emergency supply from diesel generating (DG) source of suitable capacity shall also be provided.
66 kV and below 220 kV: There shall be one HT supply and one diesel generating source. 33 kV and below 66 kV: There shall be one HT supply.
 - b) for direct current (DC) Supply (Applicable to new sub stations): Sub station of transmission system for 132 kV and above and sub-stations of all generating stations: There shall be two sets of batteries, each equipped with its own charger.
 - c) For sub station below 132 kV: there shall be one set of battery and charger
7. Earth Fault Factor for an effectively earthed system shall be not more than 1.4.
8. Transmission Licensee shall provide line Reactors as may be necessary after carrying out system studies to control temporary over voltage within the limits as set out above.



MODEL CONNECTION AGREEMENT

STU/CA/DOC-3/REV-01 16.10.2010

9. The Transmission Licensee and User agree that Inter-Connecting Transformer (ICT) taps at the respective drawal points may be changed to control the Reactive Power interchange as per a User's request to the State Load Despatch Centre, but only at reasonable intervals.



Grid Connectivity Standards applicable to the Distribution Systems and Bulk Consumers

The following additional requirements shall be complied with. Besides the connectivity conditions in these regulations and general Standards for Connectivity to the Grid given in Part I and those applicable to transmission lines and sub-stations in part III

1. Under Frequency and df/dt Relays

Under frequency and df/dt (rate of change of frequency with time) relays shall be employed for automatic load control in a contingency to ensure grid security under conditions of falling grid frequency in accordance with the decision taken in the Regional Power Committee.

2. Reactive Power

The distribution licensees shall provide adequate reactive compensation to compensate the inductive reactive power requirement in their system so that they do not depend upon the grid for reactive power support; the power factor of the distribution system and bulk consumer shall not be less than 0.95.

The Reactive demand and Injections shall be in compliance with Clause 16.4 of the State Grid Code.

3. Voltage and Current Harmonics

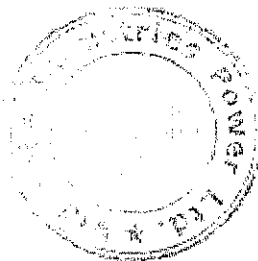
1. The total harmonic distortion for voltage at the connection point shall not exceed 5% with no individual harmonic higher than 3%.
2. The total harmonic distortion for current drawn from the transmission system at the connection point shall not exceed 8%.
3. The limits prescribed in (1) and (2) shall be implemented in a phased manner so as to achieve complete compliance not later than five years from the date of publication of these regulations in the official Gazette.

4. Voltage Unbalance

The Voltage Unbalance at 33 kV and above shall not exceed 3.0%.

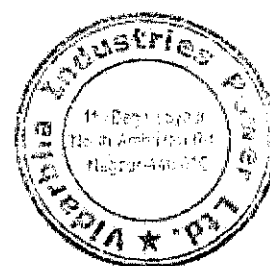
5. Voltage Fluctuations

1. The permissible limit of voltage fluctuation for step changes, which may occur repetitively, is 1.5%.
2. For occasional fluctuations other than step changes the maximum permissible limit is 3%.
3. The limits prescribed in (1) and (2) above shall come into force not later than five years from the date of publication of these regulations in the Official Gazette.



4. Back-energization

The consumer shall not energize transmission or distribution system by injecting supply from his generators or any other source either by automatic controls or manually unless specifically requested by the Transmission or Distribution Licensee.



STU/CA/DOC-3/REV-00 WEF 01.07. 2008

**MAHARASHTRA STATE ELECTRICITY TRANSMISSION
COMPANY LIMITED**

(State Transmission Utility)

Site Responsibility Schedule
Format, principles and procedure

(Pursuant to Section 19 of the State Grid Code)



Maharashtra State Electricity Transmission Company Limited
"Prakash Ganga", Plot No. C-19, E-Block, Bandra- Kurla Complex, Bandra (East)
Mumbai-400051

Tel: 022- 26598588-26598595, 26598595, Fax No. 022-26592297

E-mail : cestu@mahatransco.in,

cestu@maharashtrastu.com

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A1: SITE RESPONSIBILITY SCHEDULE**1. Introduction**

Part C of the State Grid Code relates to Connection Conditions for connectivity with intraState Transmission System and lays down detailed procedure for establishing or modifying existing arrangement of connection to and/or use of intra-State Transmission System. A Site Responsibility Schedule for work relating to each connection is required to be prepared detailing responsibilities of each party for ownership, control, operation, maintenance, and safety of any person at connection site.

This document describes the format, principles and procedure for preparation of Site Responsibility Schedule for the work to be carried out for new connections or modifying an existing connection to and/or use of the intra-State Transmission System.

2. Objectives

The objective of this procedure is to ensure that the responsibilities of the Transmission Licensees and Users seeking connection or modification of an existing connection with intraState Transmission System are clearly identified in the Site Responsibility Schedule.

3. Scope and Applicability

The Site Responsibility Schedule shall be prepared for all new connections or modifying an existing connection to and/or use of intra-State transmission system.

The Transmission Licensees, forming part of the L₁STS, and Users of the L₁STS shall comply with the following requirement at all existing connection points within a period of one year of notification of State Grid Code i.e. before 15th February 2007.

- (a) Single Line Diagram of each connection point
- (b) Site Common Drawings of each connection point

4. Availability of copy of Format and Procedure

The Format, principles, and procedure for preparation of the Site Responsibility Schedule at connection point of the intra-State Transmission System (Pursuant to Section 19 of the State Grid Code) can be obtained from Nodal Officer of STU as given below:

Chief Engineer (STU),
Maharashtra State Electricity Transmission Company Limited
"PrakashGanga", Plot No. C-19, E-Block, Bandra- Kurla Complex,
Mumbai-400051

Tel: 022- 26595124
Fax No. 022-26592297
E-mail: cestu@mahatransco.in, cestu@maharashtrastu.com

SITE RESPONSIBILITY SCHEDULE

STU/CA/DOC-3/REV-00 01.07.2008

The copy of application form and the procedure is also available at MSEETCL web-sites www.mahatransco.in & www.maharashtrastu.com and can be downloaded from website.

The copy of the Format and Procedure can also be obtained from the concerned Transmission Licensee with whom a User seeks connection.

5. Operational responsibility

The Nodal Officer STU nominated by the MSEETCL shall be responsible for coordination and implementing the procedure of Site Responsibility Schedule and ensuring that the process is carried out on a continuous basis. He shall also coordinate with other transmission licensees for the connectivity with intra-State transmission system.

6. Definitions

In this procedure unless the context otherwise requires the definitions of terms used shall be as follows:

1. 'Act' means the Electricity Act, 2003;
2. 'Apparatus' means all equipment in which electrical conductors are used, supported or of which they form a part;
3. 'Bulk Consumer' means a consumer who avails supply at Extra High voltage exceeding 33 kV
4. 'CEA or Authority' means the Central Electricity Authority constituted under Sub - Section (1) of Section 70 of the Act;
5. 'Commission' means the Maharashtra Electricity Regulatory Commission;
6. 'Connection Agreement' means an agreement setting out the terms relating to connection to and/or use of the intra-State transmission system;
7. 'Connection Point' means a point at which a User's or Transmission Licensee's Plant and/or Apparatus connects to the intra-State transmission system;
8. 'Electrical Plant' means any plant, equipment, apparatus or appliance or any part thereof used for, or connected with, the generation, transmission, distribution or supply of electricity but does not include-
 - a. an electric line; or
 - b. a meter used for ascertaining the quantity of electricity supplied to any premises; or
 - c. an electrical equipment, apparatus or appliance under the control of a consumer;
9. 'Grid Entry Point' means a point at which a generating unit is connected to the Grid;

SITE RESPONSIBILITY SCHEDULE

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10. 'Grid Supply Point' is a point of supply from the transmission system to a distribution system or to a Bulk consumer;
11. 'Intra-State Transmission System' (InSTS) means any system for conveyance of electricity by transmission lines within the area of the State and includes all transmission lines, sub-stations and associated equipment of transmission licensees in the State;
12. 'Isolating Device' means a device for achieving isolation of one part of an electrical system from the rest of the system;
13. 'Protection' means the system whereby abnormal conditions on a system are detected and fault clearance, actuating signals or indications are initiated;
14. 'Site Common Diagram' means drawings prepared for each Connection Point, which incorporates layout drawings, electrical layout drawings, common protection/control drawings and common service drawings;
15. 'Standards' means "Standards on Grid Connectivity" specified by Central Electricity Authority;
16. 'Single Line Diagram' means diagrams which are a schematic representation of the HV/EHV apparatus and the connections to all external circuits at a Connection Point incorporating its numbering nomenclature and labeling;
17. 'State Grid Code' means the Grid Code specified by the Commission under Section 86 (1) (h) of the Act;
18. 'State Transmission Utility' or 'STU' means Maharashtra State Electricity Transmission Company Limited notified by Government of Maharashtra as such under sub-section (1) of section 39 of the Act;
19. 'User' means a person, including in-State Generating Stations, Distribution Licensees Consumers of the Distribution Licensees directly connected to intra-State transmission system and persons availing of Open Access, who are connected to and/or use the intra-State transmission system;

The words and expressions used and not defined herein shall have same meaning as assigned to them under State Grid Code.

7. Safety

The responsibility of Transmission Licensee and User for safety at the Connection Point and system connected thereto shall be clearly indicated in the Site Responsibility Schedule so that there are no chances of misunderstanding and role of each party is clearly defined. The safety responsibility shall be defined in unambiguous terms.

8. Responsibility for preparation of Site Responsibility Schedule

Site Responsibility Schedule shall be prepared by the Transmission Licensee with whose

SITE RESPONSIBILITY SCHEDULE

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system the User seeks to connect. The general format of the site responsibility schedule is given in Annexure-1. The Site Responsibility Schedule shall be prepared and finalised by the Transmission Licensee in consultation and in agreement with the User seeking connection with InSTS.

At the connection site where equipment of both entities, i.e., the Transmission Licensee and the user are installed, the user shall furnish required data to the Transmission Licensee and the Transmission Licensee shall prepare SRS. At a generating station, the transmission licensee shall furnish the necessary data to the generating company who shall prepare SRS.

The Site Responsibility Schedule shall be signed by the authorised person of the Transmission Licensee and the authorised person of the User.

The Site Responsibility Schedule shall form integral part of Connection Agreement between the concerned Transmission Licensee and User connected to his system.

9. Site Responsibility Schedule Contents

Following information shall be included in the Site Responsibility Schedule: -

- (a) Schedule of High Voltage (HV) Apparatus
- (b) Schedule of plant, Low Voltage (LV) / Medium Voltage (MV) apparatus, services and supplies
- (c) Schedule of telecommunications and measurement apparatus
- (d) Safety rules applicable to each plant/apparatus.

The Site Responsibility Schedule necessarily to provide responsibility with regard to following for each item of equipment installed at the connection site:

- (a) The ownership of Plant/ apparatus
- (b) The responsibility for control of Plant/ apparatus
- (c) The responsibility for maintenance of Plant/ apparatus
- (d) The responsibility for operation of Plant/ apparatus
- (e) The manager of the site
- (f) The responsibility for all matters relating to safety of persons at site.

10. Single Line Diagram

Single Line Diagram shall be prepared by User and/ or Transmission Licensee for each connection point detailing all equipments at the connection point.

Single Line Diagram shall clearly indicate the schematic representation of the all HV/HV apparatus and the connections to all external circuits at a Connection Point. The Single Line Diagram shall incorporate standard numbering nomenclature and labelling of the Transmission Licensee.

Single Line Diagram shall be furnished for each connection point by the connected User or Transmission Licensee to the State Load Despatch Centre.

In the event of a proposal to change any equipment, the concerned User or Transmission Licensee shall intimate the necessary changes required to State Transmission Utility and all other Users / Transmission Licensee. Single Line Diagram shall be updated appropriately by the concerned Users or Transmission Licensee and a copy of the same shall be provided to the State Load Despatch Centre.

11. Site Common Drawings

Drawings at each Connection Point showing layout of equipments, electrical layout drawings, common protection/control drawings and common service drawings shall be prepared at each connection point. These drawings are collectively called as Site Common Drawings.

Site Common Drawings for each Connection Point will include the following information:

- (a) Site Layout;
- (b) Electrical Layout;
- (c) Details of Protection; and
- (d) Common Services Drawings.

Detailed drawings shall be prepared by Transmission Licensee and User in respect of their system/facility at each Connection Point and copies of the same shall be made available to concerned User and Transmission Licensee respectively.

In case of any changes in the Site Common Drawings that are found necessary by Transmission Licensee or User in respect of their system/facility at the Connection Point, the details of such changes shall be furnished to the other party as soon as possible.

12. Access at Connection Site

The Transmission Licensee or User owning the Connection Site shall provide reasonable access and other required facilities to another Transmission Licensee or User whose equipment is installed or proposed to be installed at the Connection Site for installation, operation, maintenance, etc.

Written procedures and agreements shall be developed between Transmission Licensees and Users to ensure that mandatory access is available to the concerned Transmission Licensee or User

SITE RESPONSIBILITY SCHEDULE

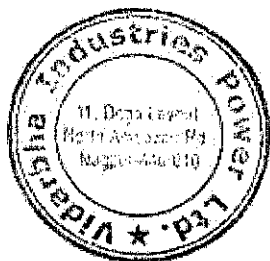
STU/CA/DOC-3/REV-00 01.07.2008

at the same time safeguarding the interests of Transmission Licensee and User at the connection site.

General Format of Site Responsibility Schedule

Annexure-I

Name of Transmission Licensee	MSETCL
Name & Designation of co-ordinating officer of Transmission Licensee	S.V. Chandrakar DYEE (Butibori-III S/s) MSETCL
Contact Address	220 KV Butibori-III S/s, MIDC Butibori
Telephone	.....
Fax No	.....
E-mail Id	.....
Name of Sub-Station where inter-connection with InSTS is proposed	MSETCL 220 KV Butibori-III S/s.
Voltage of Connection with intra-State Transmission System	220 KV
Name of User (including other transmission licensee) seeking connection with InSTS.	VIPL
Name & Designation of co-ordinating officer of User	Sandeep Borade (Dy. GM), Electrical.
Contact Address	Plot No.D-3 & D-3 Part, MIDC, Butibori-441122, Nagpur.
Telephone	
Fax No	
E-mail Id	Sandeep.borade@reliancead a.com

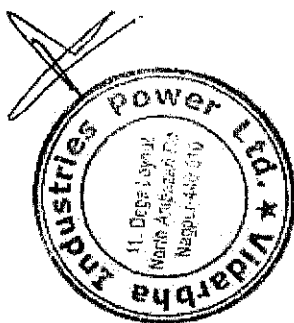


SITE RESPONSIBILITY SCHEDULE

STU/CA/DOC-3/REV-00 01.07.2008

Activity Responsibility

Item of Plant Apparatus	Plant Owner	Safety Responsibility	Control Responsibility	Operation Responsibility	Maintenance Responsibility	Remark
Give details of all equipment at connection site	Details enclosed for VIPL Switchyard & MSETCL Butibori -III S/s end Annexure I-J					
Metering System	Details enclosed for Meters at VIPL Switchyard & MSETCL Butibori-III S/s end Annexure I-A.					
Name, designation and Contact Number of authorized officer responsible for activity on behalf of Transmission Licensee	D.S.Rooprai Executive Engineer EHV O&M MSETCL	D.S.Rooprai Executive Engineer EHV O&M MSETCL	D.S.Rooprai Executive Engineer EHV O&M MSETCL	D.S.Rooprai Executive Engineer EHV O&M MSETCL	D.S.Rooprai Executive Engineer EHV O&M MSETCL	
User	Sandeep Borade,Dy. GM, Electrical, VIPL	Sandeep Borade,Dy. GM, Electrical, VIPL	Sandeep Borade,Dy. GM, Electrical, VIPL	Sandeep Borade,Dy. GM, Electrical, VIPL	Sandeep Borade,Dy. GM, Electrical, VIPL	
Signature	Note - Separate agreement between MSETCL & VIPL & MSETCL will have to be executed in respect of O&M responsibilities in s/o of said work.					
Date						



B. S. Raut

3/3/14
Executive Engineer
E.H.V. (O&M) Division
M. S. E. T. C. L. Nagpur.

**DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING M/S.
MSETCL, Butibori-III, 220KV S/S.**

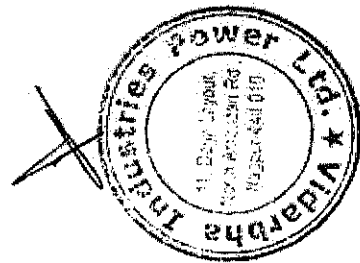
Details of Potential Transformers (Metering)

Annexure I-B

Sr. No.	Name of Feeder where installed	Make	Voltage Ratio	Class	No. of Cores	Burden in VA	Insulation Level	Type	Sr. No.	Lab. Testing No.
1	Reliance Bay#1	Mehrui Electricals	220KV/ 110V	0.2	1	50	460KV/ 1050 kVp	Meterin g	R PH- OP3686/1/1/12 Y PH- OP3686/1/2/12 B PH- OP3686/1/3/12	
2	Reliance Bay#2	Mehrui Electricals	220KV/ 110V	0.2	1	50	460KV/ 1050 kVp	Meterin g	B PH- OP3346/1/1/11 Y PH- OP3346/1/2/11 R PH- OP3346/1/3/11	
3										

Type: CVT / PT & Model No.

[Signature]
Executive Engineer
Executive Engineer (M/S. M)
M/S. M. C. L. Nagpur.



DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. MSETCL, Butibori-III, 220KV S/s.

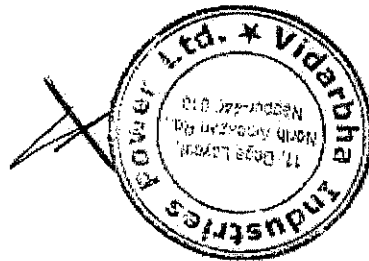
Details of Current Transformers (Protection)

Annexure I-E

Sr. No.	Name of Feeder where installed	Make	Voltage	Ratio	No. of Cores	Class	Burden in VA	Sr.No.	Lab. Testing No.
1	Reliance Bay#R	Indian Transformer Co. Ltd.	245 kV	800-400-200/1A	5	PS, PS, 0.2, PS, PS	20	R PH- 3028/96 Y PH- 3028/94 B PH- 3028/95	----
2	Reliance Bay#P	Indian Transformer Co. Ltd.	245 kV	800-400-200/1A	5	PS, PS, 0.2, PS, PS	20	R PH- 3028/90 Y PH- 3028/88 B PH- 3028/89	----

Type CVT / PT & Model No.

per 13/11/14
Executive Engineer (Electrical & M)
E. H. V. (O&M) Division
M. S. E. T. C. L. Nagpur.



DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. MSETCL, Butibori-III, 220KV S/s.

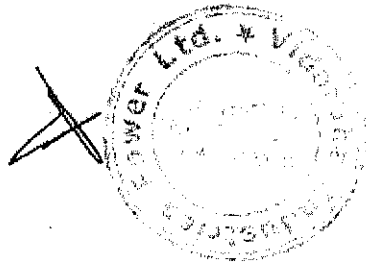
Details of Circuit Breakers.

Annexure I-F

Sr.No.	Name of Line / TF	Make	Type	Model	Breaker No.	Normal Current in AMP	Capacity in KV	Rupturing Current	DC Voltage	Working Pressure
1	Reliance Bay#1	Alstom	SF6	GL314	220385	3150	245	50kA	220V	.75 MPa
2	Reliance Bay#2	Alstom	SF6	GL314	220384	3150	245	50kA	220V	.75 MPa

Breaker Type: MOCB, SF6, ABCB etc.

05/03/14
The Executive Engineer
E. H. V. (C) Division
M. S. E. T. C. L. Nagpur
3/3/14



DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. MSETCL, Butibori-III, 220KV S/s.

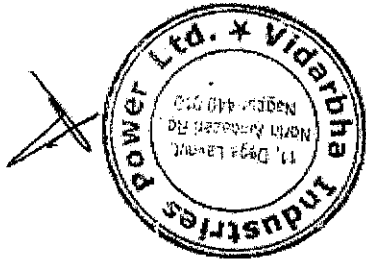
Details of Isolators.

Annexure I-G

Sr.No.	Name of Line / TF Where Provided	Make	Voltage	Capacity in AMP.	Type	With EB	Without EB
1	Reliance Bay#1	Siemens	245 kV	2000A	DB	29L	29A, 29B and 29C
2	Reliance Bay#2	Siemens	245 kV	2000A	DB	29L	29A, 29B and 29C

Type: Double Break (DB), Centre Break (CB) etc.

05.03.2014
Executive Engineer
E. H. Engineering Division (E & M)
M. S. E. T. C. L. Nagpur



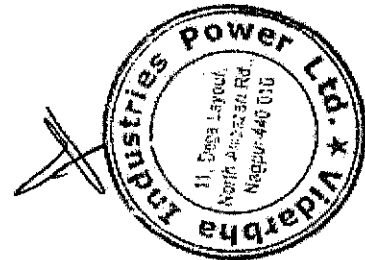
DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S_ MSETCL, Butibori-III, 220KV S/s.

Details of LAs.

Annexure I-H

Sr.No.	Name of Line / TF Where Installed	Make	Type	Voltage	Sr.No.		
					R-Ph	Y-Ph	B-ph
1	Reliance Bay#1	Oblum Electricals India pvt. Ltd.	METOVER Metal Oxide Surge Arrester	198 kV	159	158	164
2	Reliance Bay#2	Oblum Electricals India pvt. Ltd.	METOVER Metal Oxide Surge Arrester	198 kV	167	157	163
3							

3/10/14
Executive Engineer
E. H. V. (O&M) Division
M. S. E. T. C. L. Nagpur.



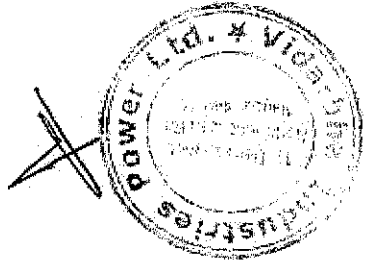
DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. MSETCL Butibori-III, 220KV S/s.

Details of Control & Relay (C&R) Panel

Annexure I-J

Sr.No.	Name of Line / TF Where installed	Make	Sr. No. of Panel	Diff. Protn. Make / Type / Sr.No.	Dist. Protn. Make / Type / Sr.No.	Back up Protn. Make / Type / Sr.No.
1	Reliance Bay#1	Schneider	---	Siemens/ 7SD61/ BF110307-2580	Areva/ P442/ 31884964/09/ 11	Areva/ EC264/ 36026448
2	Reliance Bay#2	Schneider	---	Siemens/ 7SD61/ BF1105094391	Areva/ P442/ 31884965/09/ 11	Areva/ EC264/ 36026467
3						

Power 3/2/14
Executive Engineer (Engineer
E. M. V. (C&R) Division & M)
M. S. E. T. C. L. Nagpur.






MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.

Details of ABT Meters at 220kV Butibori-3 Sub-station

Sr. No.	Name of Feeder	Type of Meter	Make & Model	Class of Meter	Sr No of Meter
1	220kV VIPL-1 Bay	ABT Meter	Secure Apex	0.2S	MAB01153
2	220kV VIPL-2 Bay	ABT Meter	Secure Apex	0.2S	MAB01155


 Executive Engineer
 Testing Division, MSETCL
 NAGPUR

DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. VIPL, 220KV S/V, Butibori.

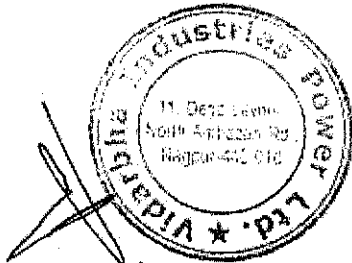
Details of Energy Meters.

Annexure : I-A

Sr.No.	Name of feeder where	Type of Meter	Make and Model	Class of Meter	Sr.No. Meter.
1	VIPL circuit# 2	ABT Main Meter	Secure & APEX	0.2S	APMB3209
2	VIPL circuit# 1	ABT Main Meter	Secure & APEX	0.2S	APMB3210
3					
4					
5					
6					

Type of Meter

- 1) Panel Meter (Import / Export)
- 2) ABT Main and Check Meter
- 3) Billing Energy Meters
- 4) Express Feeder Separated Energy Meter.



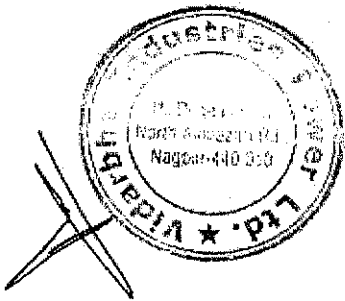
Executive Engineer (Trans. O&M)

DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. VIPL, 220KV S/Y, Butibori.

Details of Potential Transformers (Metering) Annexure I-B

Sr. No.	Name of Feeder where installed	Make	Voltage Ratio	Class	No. of Cores	Burden in VA	Insulation Level	Type	Sr. No.	Lab. Testing No.
1	VIPL circuit# 2	Mehrui Electricals	220KV/ 110V	0.2S	1	50	460kV/ 1050 kVp	Metering	R PH- OP3686/1/4/12 Y PH- OP3686/1/5/12 B PH- OP3686/1/5/12	
2	VIPL circuit# 1	Mehrui Electricals	220KV/ 110V	0.2S	1	50	460kV/ 1050 kVp	Metering	R PH- OP3346/1/6/11 Y PH- OP3346/1/5/11 B PH- OP3346/1/4/11	
3										

Type: CVT / PT & Model No.



Executive Engineer (Trans. O&M)

DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. VIPL, 220KV S/Y, Butibori.

Details of Potential Transformers (Protection)

Annexure I-C

Sr.No.	Name of Feeder where installed	Make	Voltage Ratio	Classes	No. of Cores	Burden in VA	Insulation Level	Type	Sr.No.	Lab. Testing No.
1	VIPL circuit# 2	Areva	220kV/100V	3P, 3P, 0.2	3	100	460kV/1050 kVp	Prot	R PH- 21180300377 Y PH- 091001451 B PH- 0909D1446	
2	VIPL circuit# 1	Areva	220kV/100V	3P, 3P, 0.2	3	100	460kV/1050 kVp	Prot	R PH- 211000301688 Y PH- 21090901445 B PH- 21090901438	
3										

Type: CVT / PT & Model No.



Executive Engineer (Trans. O&M)

DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S_ VIPL, 220KV S/Y, Butibori.

Details of Current Transformers (Metering)

Annexure I-D

Sr. No.	Name of Feeder where installed	Make	Voltage	Ratio	No. of Cores	Class	Burden in VA	Sr.No.	Lab. Testing No.
1	VIPL circuit# 2	Areva	245 kV	800/1A	1	0.2S	10	R PH- 1101F0094 Y PH- 1202F2514 B PH- 1101F0099	
2	VIPL circuit# 1	Areva	245kV	800/1A	1	0.2S	10	R PH- 1101F0095 Y PH- 1101F0097 B PH- 1101F0098	

Type CVT / PT & Model No.

Executive Engineer (Trans. O&M)



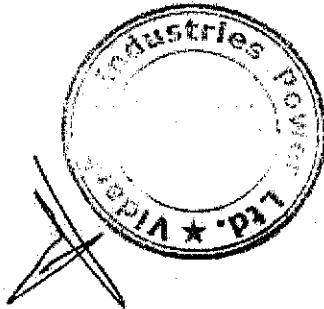
DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. VIPL, 220KV S/Y, Butibori.

Details of Current Transformers (Protection)

Annexure I-E

Sr. No.	Name of Feeder where installed	Make	Voltage	Ratio	No. of Cores	Class	Burden in VA	Sr.No.	Lab. Testing No.
1	VIPL circuit# 2	Areva	245 kV	2000-1000-500/1A	5	5P20, 0.2S	40-20-10	R PH- 4300400764 Y PH- 43100400763 B PH- 43100400762	----
2	VIPL circuit# 1	Areva	245 kV	2000-1000-500/1A	5	5P20, 0.2S	40-20-10	R PH- 43100400767 Y PH- 43100400766 B PH- 43100400765	

Type CVT / PT & Model No.



Executive Engineer (Trans. O&M)

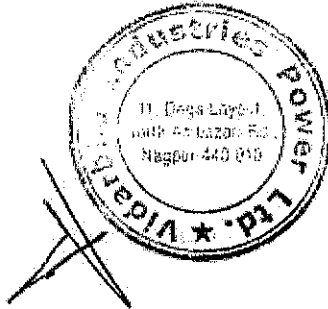
DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. VIPL, 220KV S/Y, Butibori.

Details of Circuit Breakers.

Annexure I-F

Sr.No.	Name of Line / TF	Make	Type	Model	Breaker No.	Normal Current in AMP	Capacity in KV	Rupturing Current	DC Voltage	Working Pressure
1	VIPL circuit# 2	Areva	SF6	GL314	152023	2000	245	40kA	220V	.85 Bar
2	VIPL circuit# 1	Areva	SF6	GL314	152023	2000	245	40kA	220V	.85 Bar

Breaker Type: MOCB, SF6, ABCB etc.



Executive Engineer (Trans. O&M)

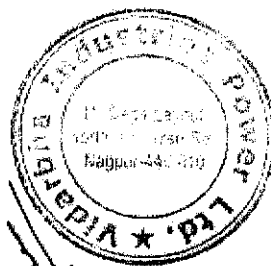
**DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. VIPL. 220KV S/V, Butibori.**

Details of Isolators.

Annexure I-G

Sr.No.	Name of Line / TF Where Provided	Make	Voltage	Capacity in AMP.	Type	With EB	Without EB
1	VIPL Circuit# 2	Switchgear and structural India pvt. Ltd.	245 kV	2000A	CB	29A and 29L	29C
2	VIPL Circuit# 2	Switchgear and structural India pvt. Ltd.	245 kV	2000A	Pantograph		29B
3	VIPL Circuit# 1	Switchgear and structural India pvt. Ltd.	245 kV	2000A	CB	29A and 29L	29C
4	VIPL Circuit# 1	Switchgear and structural India pvt. Ltd.	245 kV	2000A	Pantograph		29B

Type: Double Break (DB), Centre Break (CB) etc.



Executive Engineer (Trans. O&M)

DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING

M/S_ VIPL_ 220KV S/Y, Butibori.

Details of L.As.

Annexure I-H

Sr.No.	Name of Line / TF Where Installed	Make	Type	Voltage	Sr.No.			
					R-Ph	Y-Ph	B-ph	
1	VIPL Circuit# 2	Ohlum Electricals India pvt. Ltd.	METOVER Metal Oxide Surge Arrester	198 kV	3	2	1	
2	VIPL Circuit# 1	Ohlum Electricals India pvt. Ltd.	METOVER Metal Oxide Surge Arrester	198 kV	6	5	4	
3								
4								



Executive Engineer (Trans. O&M)

DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S_ VIPL, 220KV S/Y, Butibori.

Details of Coupling Capacitors & Wave Trap. NOT REQD Annexure I-I

Details of coupling Capacitor (C.C.) NOT REQD

Sr.No.	Name of Line /TF where installed	Make	Type	Voltage	Burden / Value	Sr.No. C.C	Phase
1							
2							
3							

Details of Wave Trap (W.T) (Not Reqd)

Sr.No.	Name of Line / TF Where installed	Make	Capacity / Value	Sr.No. of C.C.		
				R-Ph	Y-Ph	B-ph

Executive Engineer (Trans. O&M)

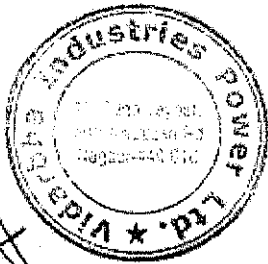


DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. VIPL, 220KV S/Y, Butibori.

Details of Control & Relay (C&R) Panel

Annexure I-J

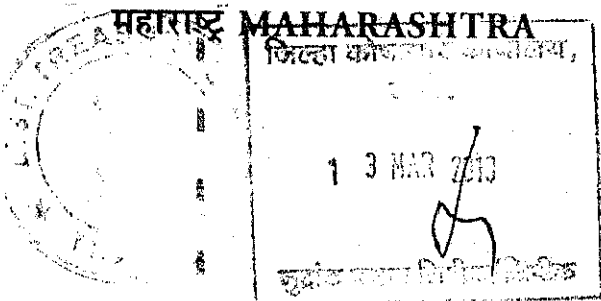
Sr.No.	Name of Line / TF Where installed	Make	Sr. No. of Panel	Diff. Protn. Make / Type / Sr.No.	Dist. Protn. Make / Type / Sr.No.	Back up Protn. Make / Type / Sr.No.
1	VIPL Circuit# 2	Siemens	---	Siemens/ 7SD61/ BF1103072583	---	Siemens/ 7SJ80/ BF1103079625
2	VIPL Circuit# 1	Siemens	---	Siemens/ 7SD61/ BF1103072581	---	Siemens/ 7SJ80/ BF1103079626
3						
4						



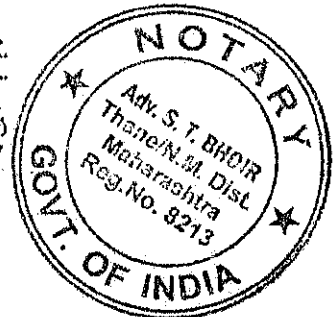
Executive Engineer (Trans. O&M)



GR 397430



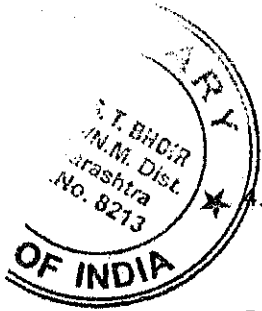
धनवीर स्टॅम्पनेबर
विशेषीय डिपॉजिट: राज्याधिकारी कार्यालय, नवी मुंबई
अनु. क्र. 1.3247
नांव: Vidarbha Industries Power Ltd.
हस्ताक्षर: [Signature]
दिनांक: 28 MAR 2013



Power of Attorney

Know all men by these presents, we, **Vidarbha Industries Power Limited**, a Company registered under the provisions of the Companies Act 1956, having its registered office at H Block, 1st Floor, Dhirubhai Ambani Knowledge City, Navi Mumbai 400 710, India (hereinafter referred to as the "Company") do hereby nominate, constitute appoint and authorize **Shri B S Prasad** whose specimen signature is appended herein below for identification (hereinafter referred to as "Attorney"), to be our true and lawful Attorney for and on behalf of the Company to do in our name and on our behalf, all such acts, deeds and things as hereinafter mentioned, in the name and on behalf of the Company, that is to say:

1. To execute any Deeds, Documents or Agreements for lease of land, supply of water and electricity required for 2 X 300 MW Coal based Thermal Power Plant (Projects) being set up by the Company at Butibori, Nagpur in the State of Maharashtra
2. To present and lodge the said documents in the concerned office of the Sub-Registrar of Assurances, to nominate such authorized person as may be necessary for that purpose and to do all such acts and things necessary for registration of such documents and to receive the same back after due registration thereof.
3. To sign and submit all Documents / Applications / Papers / Agreements and provide information / responses to any Government whether State or Central, Statutory or



Regulatory Authorities and to deal and represent the Company before the above authorities in all related matters.

To appear before any Tribunals and Officers of the Government (Central or State) or any Local Authority in connection with the transactions of the Company and to represent the Company's Interest.

5. To execute Power Purchase Agreements for the said Projects.
6. To make, approve, affirm, sign, execute, vary and amend the following documents on behalf of the Company with Indian Energy Exchange (IEX) in connection with sale / purchase of power to be generated by the Company from its Power plant at Butibori, Nagpur district, Maharashtra, on IEX using the services of Reliance Energy Trading Limited (RETL), which is a Member of IEX
 - a. Member Client Agreement
 - b. Client Registration Form (Client to Member)
 - c. Risk Disclosure Form
 - d. State Load Dispatch Centre (SLDC) Clearance in Format PX-1
 - e. Any other agreements, documents, undertakings, papers, writings, etc. as may be required for the above purposes.
7. To deal with day to day transactions for sale / purchase of power to IEX using the services of RETL and to attend to other related matters.
8. To take up the matter with SLDC, Banks, etc. for obtaining the requisite approvals, as may be required for sale / purchase of power to be generated by the power plants of the Company through Energy Exchange.
9. To enforce claims and give discharge and receipts on behalf of the company.
10. To represent the Company and to do all such acts, deeds, matters and things in connection with or incidental to the said Projects being developed by the Company.

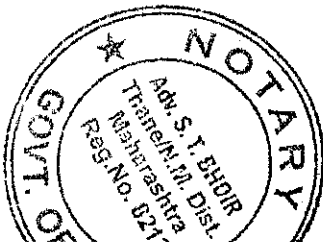
The Company hereby agrees to ratify and confirm all the acts, deeds and things lawfully done by the above said attorney by virtue of these presents and that all acts, deeds and things lawfully done by the aforesaid attorney shall and shall always be deemed to have been done by the Company.

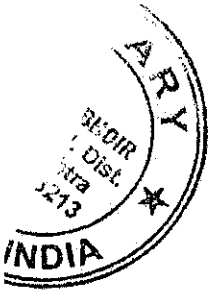
This Power of Attorney shall be effective, binding and operative till **March 31, 2014**, if not revoked earlier or as long as the said Attorney is in the services of the Company, whichever is earlier.

WITNESS WHEREOF Vidarbha Industries Power Limited have caused its Common Seal to be hereunto affixed at Mumbai this 10th day of April 2013.

The Common Seal of Vidarbha Industries)
Power Limited was hereunto affixed by Shri)
N Venugopala Rao, Director of the)
Company, who has signed these presents)
duly authorized by the Board to issue such)
Power of Attorney)

N Venugopala Rao
Director





Accepted

B. S. Prasad
B S Prasad

Attested

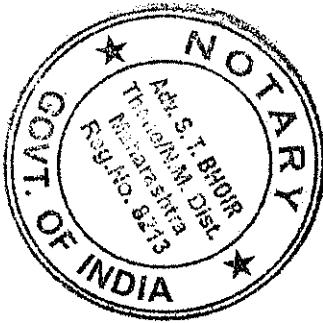
Name : Shri N Venugopala Rao
Designation : Director
Address :
G Block, Ground Floor
Dhirubhai Ambani Knowledge City
Navi Mumbai 400 710

Before Me
Reg. No.
Thane (E) - 400 603.
101, Gurudev Nagar, 'B', Co-op. Hsg. Society,
S. T. Bhoir B. A., LL. B.
ADV. & NOTARY

ATTESTED BY ME
BEFORE ME

ATTESTED BY ME
ADV. & NOTARY
S. T. Bhoir B. A., LL. B.
101, Gurudev Nagar, 'B', Co-op. Hsg. Society,
Thane (E) - 400 603.
Reg. No. 10/4/13

10 APR 2013





MAHARASHTRA STATE ELECTRICITY TRANSMISSION COMPANY LIMITED

Name of Office:	Office of the Chief Engineer (State Transmission Utility)
Office Address:	Prakashganga, 5 th floor / 'A' Wing, Plot C -19, E - block, BKC, Bandra (E), Mumbai- 400051.
Contact No.:	(O) 022 - 2659 5176, (P) 022 - 2659 5175, Fax: 022 - 2659 1222
E-Mail Id:	cestu@mahatransco.in, cestu@maharashtrastu.com
Website:	www.mahatransco.in, www.maharashtrastu.com

MSETCL/CO/STU/302B/38/3194

Date: 19-03-2014.

To,
M/s Vidarbha Industries Power Ltd,
Dhirubhai Ambani Knowledge City, I Block,
IInd Floor, North Wing, Thane -Belapur Road,
Koperkhairane, Navi Mumbai- 400 710.

Sub: - Grid connectivity to your 600 MW (540 MW Ex-bus) power from 2x300 MW Power project of M/s Vidarbha Industries Power Ltd. at Butibori, Dist. Nagpur.

- Ref: -
1. Your application No. VIPL/STU/2008-09; dated 13-11-2008, for grid connectivity for 1x300 MW (Unit-1)
 2. Your application No. VIPL/MUM/MSETCL/Nov 2010/102; dated 22-11-2010, for grid connectivity for 1x300 MW (Unit-2)
 3. This office Intimation letter No.MSETCL/CO/STU/302B/7664; dated 19-05-2010, for Unit-1 (1x300 MW)
 4. This office Intimation letter No.MSETCL/CO/STU/302B/19391; dated 16-12-2010, for Unit-2 (1x300 MW)
 5. Your office's letter No. VIPL/MUM/MSETCL/Jan 12/08; dated 31-01-2012.
 6. This office letter No.MSETCL/CO/STU/302B/2610; dated 21-02-2012, for synchronisation of VIPL's Unit-2 (1x300 MW).
 7. Your office's letter No. VIPL/MUM/MSETCL/ Oct-12; dated 04-10-2012.
 8. This office letter No.MSETCL/CO/STU/302B/2865/16945; dated 10-12-2012, for test synchronisation of VIPL's Unit-1 (1x300 MW).

Dear Sir,

Vide letter u/r 1 & 2; you have applied for the Grid connectivity to your 600 MW (540 MW: Ex-Bus) power of 2x300 MW Power project at Butibori, Dist. Nagpur.

In the view of above vide this office letter under reference no. 3 & 4, grid connectivity to 2x300 MW power plant at Butibori, Dist. Nagpur was granted, by way of laying

- a) 220 KV D/C line from their Unit-1 plant at Butibori, Dist. Nagpur to MSETCL's 220 KV Butibori-III S/s.
- b) 220 KV D/C line from their Unit-2 plant at Butibori, Dist. Nagpur to MSETCL's 220 KV Butibori (MIDC) S/s.

Since, you have not mentioned drawl point, the grid connectivity was granted subject to following conditions:

- a) If strengthening required for evacuation of power from their plant, the TSU shall wait, till the system strengthening specifically required for allowing transmission capacity to TSU, is completed & commissioned.

Sub: Grid connectivity to your 600 MW (540 MW Ex-bus) power from 2x300 MW Power project of M/s Vidarbha Industries Power Ltd. at Butibori, Dist. Nagpur.

- b) Application for allotment of Intra State Transmission System (InSTS) through Long Term Open Access (LTOA) shall be considered only after defining of point of drawl alongwith final PPA as per provision under MERC Transmission Open Access Regulations 2005.

The 220 KV D/C line from VIPL power plant Phase-II to Butibori (MIDC) S/S to be constructed by you was incomplete, therefore, Vide letter u/r 5, you have requested for synchronisation of your 1x300MW (Unit-2) through 220 KV D/C link line between 220 KV Butibori-III and 220 KV Butibori (MIDC) as a stop gap arrangement.

Accordingly, Vide letter u/r 6, permission for synchronisation of your 1x300MW (Unit-2) was granted by this office via above said 220 KV link line as a stop gap arrangement.

Vide letter u/r 7, as 220 KV Butibori-III S/S was delayed, you have applied for temporary connectivity to your 1x300 MW (Unit-1) by way of making LLO on 220 KV Khaperkheda - Wardha Line, at your plant.

Considering delay in completion of 220 KV Butibori-III S/s temporary grid connectivity for your 1x300 MW (Unit-1) by way of making LLO on 220 KV Khaperkheda - Wardha Line had granted by this office, vide letter u/r 8, subject to condition that, 220 KV D/C line from 220 KV Butibori (MIDC) S/s upto their plant shall be commissioned. Moreover, it is informed that this connectivity shall be valid till commissioning of 220 KV Butibori-III S/s, after which you will have to switch over to 220 KV Butibori-III S/s at your own cost.

Butibori III S/s is commissioned & in service from March 2013. Moreover, you have submitted the Connection Agreement of capacity of 300 MW only.

In the view of above, you are requested to submit

- 1) Work completion report for disconnection of temporary connectivity from 220 KV Butibori-I to 220 KV Butibori III S/s.
- 2) Connection Agreement with MSETCL for additional capacity of 300 MW.

Final grid connectivity to your 1x300 MW (Unit-1) at Butibori, Dist. Nagpur will be granted to 220 KV Butibori-III after receipt of above documents.

Thanking You,

Yours faithfully,



Chief Engineer
(State Transmission Utility)

Copy s.w.s.to:

- 1) Chairman & Managing Director, MSETCL, Corporate Office, Mumbai.
- 2) Director (Operations/Projects), MSETCL, Corporate Office, Mumbai.
- 3) Executive Director (Operations)/(Projects), MSETCL, Corporate Office, Mumbai.

Copy fwc to:

- 1) The C.E., SLDC, MSETCL, Aiol.
- 2) The C.E., CC O&M Zone, MSETCL, Nagpur: for information & needful please.
- 3) M/s. Reliance Infrastructure Distribution (Rinfra-D)
"SCADA Department", First Floor, Reliance Energy Management Institute (REMI),
Jogeshwari - Vikroli Link Road (JVLR), Opposite SEEPZ Gate No.3,
Andheri (East), Mumbai - 400065.

13 Jan 2013 1:51PM HP Fax

page 1

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.

PHONE: (O) 022-2659 5000 / 5595
(P) 022-2659 2227
FAX: 022- 2659 2257
E-Mail: cestu@mahatransco.in



Office of the CE (STU)
'Prakashganga', MSETCL
Plot no. C-16, E-Block,
Chandra Kirta Complex, Bandra (E),
Mumbai - 400051

MSETCL/CO/STU/302B/ 72

Date: 02-01-2013

✓ To,

M/s Vidarbha Industries Power Ltd,
Dhirubhai Ambani Knowledge City, 1 Block,
Ind Floor, North Wing, Thane - Belapur Road,
Koperkhairane, Navi Mumbai- 400 710.

Sub: - Temporary grid connectivity to your 1 X 300 MW (Phase-I) GCPP power plant at
Butibori MIDC, Nagpur.

Ref: - 1) Your application No. VIPL/STU/2008-09; dated 13th November 2008.
2) This office intimation letter No. MSETCL/CO/STU/302B/7664; dated 19-05-2010.
3) Your office letter No. VIPL/Mum/MSETCL/ Mar-12/42; dated 31st March 2012.
4) Your office letter No. VIPL/Mum/MSETCL/ Sep-12/109; dated 12th Sept. 2012.
5) Your office letter No. VIPL/Mum/MSETCL/ Nov.12/119; dated 12th Nov. 2012.

Dear Sir,

Vide this office letter under reference No.2 in principle grid connectivity was granted for your 1 X 300 MW GCPP (Phase-I) power plant from 220 kV Butibori-III S/S. Since 220 kV Butibori III S/S is delayed, as per your request vide letter under reference No.5, permission for only synchronization of your said unit was granted from 220 kV Butibori MIDC S/S, subject to condition that, your 1 X 300 MW IPP Unit (Phase-II) shall remain off i.e. only one 300 MW unit will be connected to 220 kV Butibori MIDC S/S.

Also vide your office letter under reference No.5, you have requested for temporary connectivity for your 1 X 300 MW GCPP Unit (Phase-I) through LIL of existing 220 kV Khaperkheda - Wardha Line.

Hence considering delay in completion of 220 kV Butibori-III S/S, temporary grid connectivity is hereby granted to your 1 X 300 MW (Phase-I) GCPP power plant at Butibori MIDC, Nagpur, by making LIL of 220 kV Khaperkheda - Wardha Line upto your plant, subject to condition that, 220 kV D/C line from your 1 X 300 MW IPP (Phase-II) Unit to 220 kV Butibori MIDC S/S shall be commissioned. This connectivity shall be valid till commissioning of 220 kV Butibori-III S/S, after which you will have to switch over to 220 kV Butibori III S/S at your own cost.

This temporary connectivity is subject to submission of following documents.

- i) Application for Connection by generating company to intra- state transmission System (as per Annexure - 2 of connection application, Proforma of which is available on website www.maharashtrastu.com)
- ii) Site Responsibility Schedule - (as per Clause 14 State grid code)

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page: 2

- iii) Connection agreement to be executed between M/s Vidarbha Industries Power Ltd, and MSETCL for your 1 X 300 MW GCPP(Phase-I) Unit, in the revised format, which is available on website: www.maharashtra.natco.com - (as per clause No.14 of Grid code)
 - iv) Copy of PPA (MoU entered between the buyer / seller / trader shall be submitted.
 - v) Work completion report as per scope mentioned below.
 - 2) Scope of work to be executed by M/s Vidarbha Industries Power Ltd,
 - i) You will have to make an arrangement for making LILO of 220 kV Khaperkheda - Wardha Line upto your plant at Bulburi (MIDC). (as per Section 10 of EA 2003).
 - ii) ABT meter testing and commissioning report for new arrangement
 - iii) Commissioning of SCADA to ensure visibility of generator at SLDC Kalwa for real time monitoring.
- After submission of above documents, CE (STU) will grant grid connectivity for your 1 X 300 MW GCPP (Phase-I) Unit, which will be governed by
- 1) Part B, Part C, Part D and Part F of State Grid Code Regulations 2006
 - 2) Indian Electricity Grid Code December 2005 and
 - 3) Indian Electricity Act 2003.

As per the instructions
Available on SLDC
Website: mahasldc.com

However, it may please be noted that, power evacuation depends on prevailing system conditions. Hence non evacuation of power for any reason whatsoever, MSETCL shall not be responsible.

Thanking You,

Yours faithfully,

[Signature]
Chief Engineer (STU)

Copy awrs to:

- (1) Director (Operations), MSETCL, Bandra Kurla Complex Mumbai-51
- (2) Executive Director (Operations) / (Project), MSETCL, Bandra Kurla Complex Mumbai-51

Copy fives to:

- 1. Chief Engineer (Projects & Design), MSETCL, Prakashganga, Bandra.
- 2. Chief Engineer (Trans-O&M), MSETCL, Prakashganga, Bandra Kurla Complex Mumbai-51.
- 3. Chief Engineer (Dist.), MSEDCL, Prakashgad, Bandra Mumbai-51
- 4. Chief Engineer (PP), MSEDCL, Prakashgad, Bandra Mumbai-51
- 5. Chief Engineer (COM), MSEDCL, Prakashgad, Bandra Mumbai-400 051.
- 6. Chief Engineer (LD), MSETCL, Kalwa.
- 7. Chief Engineer, EHV Const. Cum O&M Zone, MSETCL, Nagpur.

21 May 2010 14:06

C.E. (STU/MS/CL)

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.

PHONE : (O) 022-2650 5000 / 8585
(P) 022-2650 2237

FAX 022-2650 2297

E-Mail: costu@mahatransco.in


MAHATRANSCO
 Maharashtra State Electricity Transmission Co. Ltd.
 web: http://www.mahatransco.in

 CHIEF ENGINEER
 STU/MS/CL
 Maharashtra State Electricity Transmission Co. Ltd.
 Building No. 107/108
 Mumbai - 400 051

MSETCL/CO/STU/302B/ 7664

Date: 21/05/2010

INTIMATION LETTER

Kind Attn: Mr. Mahesh Chavan

 To,
 M/s Vidarbha Industries Power Ltd.
 Dhirubhai Ambani Knowledge City, 1 Block,
 11th Floor, North Wing, Thane-Belapur road
 Koparphirane, Navi Mumbai - 400 710.

Sub:- Your application for allotment of transmission capacity in intra state transmission system through Long Term Open Access for your proposed 300 MW Coal based Group Captive Power Project at MIDC Industrial Area, Butibori, Nagpur.

- Ref:- 1) Your office letter No.VIPL / MSETCL/ 08/dated 21
- st
- August 2008 addressed to Chief Engineer (Trans-Project)
-
- 2) This office letter No.MSETCL/CO/STU/302B/11151 dated 26-08-2008
-
- 3) Your office letter No.VIPL / STU / 2009-09/ dated 13-11-2008..
-
- 4) This office letter No.MSETCL/CO/STU/302B/15380 dated 17-11-2008
-
- 5) This office letter No.MSETCL/CO/STU/302B/16180 dated 03-12-2008
-
- 6) Your office letter No.VIPL / MUM/STU/2008-09/Jan.2009 / 07 dated 15-01-2010 regarding cancellation of your application dated 13
- th
- Nov. 2008
-
- 7) This office letter No.MSETCL/CO/STU/302B/1402 dated 31-01-2009 informing you regarding cancellation of application.
-
- 8) Your office letter No.VIPL / MUM/STU/2008-09/Jan.2009 / 08 dated 15-01-2009
-
- 9) This office letter No.MSETCL/CO/STU/302B/1407 dated 31-01-2009
-
- 10) This office intimation letter No.MSETCL/CO/STU/302B/1575 dated 19-02-2009
-
- 11) Your office letter No.VIPL / MUM/MSETCL/ March 09/ 13 dated 18-03-2009
-
- 12) Your office letter No. VIPL / MUM / MSETCL/March 10/23 dated 31-03-2010

Dear Sir,

This has reference to your office letter dated 31st March 2010. In this connection it is to state that, vide this office intimation letter dated 3rd February 2009 grid connectivity to your proposed 30MW (300 MW) coal based power plant at MIDC Industrial Area, Butibori, Nagpur was granted from 220 kV proposed Butibori S/S. Since at that time you have signed PPA with Reliance Infrastructure Pvt. Ltd (RIPL) for 30 MW the grid connectivity for 30 MW was granted.

Now vide your office letter dated 31st March 2010 you have informed that you will be signing PPA with balance capacity. In view of above the grid connectivity granted earlier stands cancelled and the revised connectivity will be as below.

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TO-

PAGE 001

21 May 2010 14:06

C. L. (STU) MSETCL

In this connection your proposed 300 MW Coal based power plant at Bulburi MIDC shall be connected to MSETCL proposed 220 kV Bulburi-III S/S subject to following conditions.

This connectivity shall be governed by the

- 1) Part B, Part C, Part D and Part F of State Grid Code Regulations 2006
- 2) Indian Electricity Grid Code December 2005 and
- 3) Indian Electricity Act 2003.

You are hereby requested to execute an agreement between appropriate generating utilities.

Further you are requested to submit the following documents to this office.

- 1) Application for Connection by generating company to inter-state transmission system. Annexure - 2 of connection application proforma available on website: www.maharashtrastu.com

- 2) Site Responsibility Schedule - (as per Clause 14 State grid code)

- 3) Completion Report, to this office

- 4) Connection agreement to be executed between M/s Vidarbha Industries Power Ltd and MSETCL - (as per clause 14 of Grid Code)

- 5) Bulk Power Transmission Agreement (BPTA) between M/s Vidarbha Industries Power Ltd and MSETCL (as per Long Term Open Access procedure on the Maharashtrastu.com web site).

- 6) You will have to construct 220 kV D/C line with Al-50 (50% SO-50% AL) 61/3-20 MM² conductor from your proposed plant at Bulburi MIDC upto the point of injection at MSETCL proposed 220 kV Bulburi-III S/S - (as per Section 10 of EA 1903).

- 7) If the line is to be connected to the State/Inter-Regional Transmission Short Term Open Access, the permission from the Regional Load Despatch Centre is also required.

On receipt of documents detailed at SR No. 1-4 of 52 C.B. (STU) shall grant permission accordingly.

- 8) Appropriate agreements with the Distribution licensee in the event of drawal of power by M/s. Vidarbha Industries Power Ltd from Distribution licensee through MSETCL network.

- 9) Since you are not mentioned drawal point, in case strength of line is not sufficient, you will have to strengthen the line upto the point of injection at MSETCL. The cost of strengthening is to be borne by you. The cost of strengthening is to be borne by you.

- 10) In case you are not mentioned drawal point, in case strength of line is not sufficient, you will have to strengthen the line upto the point of injection at MSETCL. The cost of strengthening is to be borne by you. The cost of strengthening is to be borne by you.


- a) State Grid Code 2006
- b) National Electricity Commission

21 May 2010 14:06

C.E. (STU) MSETCL

- 11) You are requested to submit your acceptance to this Office within one (1) week from the issue of this intimation letter.

Thanking You,

Yours faithfully,

 Chief Engineer

Copy s/w. r. s to:

- (1) The Director (Operations) MSETCL, Bandra Kurla Complex Mumbai-51
- (2) The Executive Director (STU), MSETCL, Bandra Kurla Complex Mumbai-51

Copy f.w. as to:

1. Chief Engineer (Trans-O&M), MSETCL, Prakashganga, BK C Mumbai-51
2. Chief Engineer (Dist.), MSEDCL, Prakashgad, Bandra Mumbai-51
3. Chief Engineer (PP), MSEDCL, Prakashgad, Bandra Mumbai-51
4. Chief Engineer (COM), MSEDCL, Prakashgad Prakashgad, Bandra Mumbai-51
5. Chief Engineer (LD), MSETCL, Kalwa.
6. Chief Engineer BIV CC O&M Zone, Nagpur.
7. Chief Engineer (Trans. Project), MSETCL, Prakashganga.

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Maharashtra State Electricity Transmission Company Ltd.

Office of the Chief Engineer, EHV Const. cum O&M Zone, Nagpur,

Ingole Bhavan, Faras, Chindwara Road, Mankapur Nagpur-440 030

Ph: (0712) 2596864 (O), 2596865 (O) 2596875 (P), Fax: (0712) 2596833, email - cenagpur@mahatransco.in

Registered Office: 'Prakashganga' MSETCL, Plot No. C-19, E-Block, Bandra Kurla Complex, Bandra E, Mumbai

Ref: MSETCL/CE/NAGPUR/T-I/

No 01012

Date: 15.04.2013



To,
The Chief Engineer (STU)
Corporate Office, MSETCL Mumbai

Sub.: Connection agreement for evacuation of 300 MW (Phase-II) MW power from
power plant of M/s Vidarbha Ind. Power Ltd. (VIPL) at Butibori Dist. Nagpur

Ref. : Yr. Lr No. MSETCL/CO/STU/302B/2610 Dt. 21.02.2012

With ref. to above, please find enclosed copy of connection agreement
executed on 09.04.2013 at Nagpur between CE EHV CC O&M Zone MSETCL Nagpur
and M/s VIPL for grid connectivity of their 300 MW (Phase-II) plant at Butibori-I
substation with MSETCL's grid, signed with all relevant details such as responsibility
substation on schedule, single line diagram etc.

Submitted for information and needful please

Encl. : As above

CHIEF ENGINEER
EHV CC O&M Zone, Nagpur

Copy f.w.c. to : (With enclosures)

1. The Chief Engineer (Tr. O&M) CO MSETCL Mumbai
2. The Chief Engineer SLDC MSETCL Kalwa

Copy to : (With enclosures)

1. The SE EHV O&M Circle MSETCL Nagpur
2. The SE T&C Circle MSETCL Nagpur
- ✓ 3. M/s VIPL, Nagpur

CONNECTION AGREEMENT STU/CA/DOC-3/REV-01/ 16.10.2010

MAHARASHTRA STATE ELECTRICITY
TRANSMISSION COMPANY
STATE TRANSMISSION UTILITY

CONNECTION AGREEMENT

Between

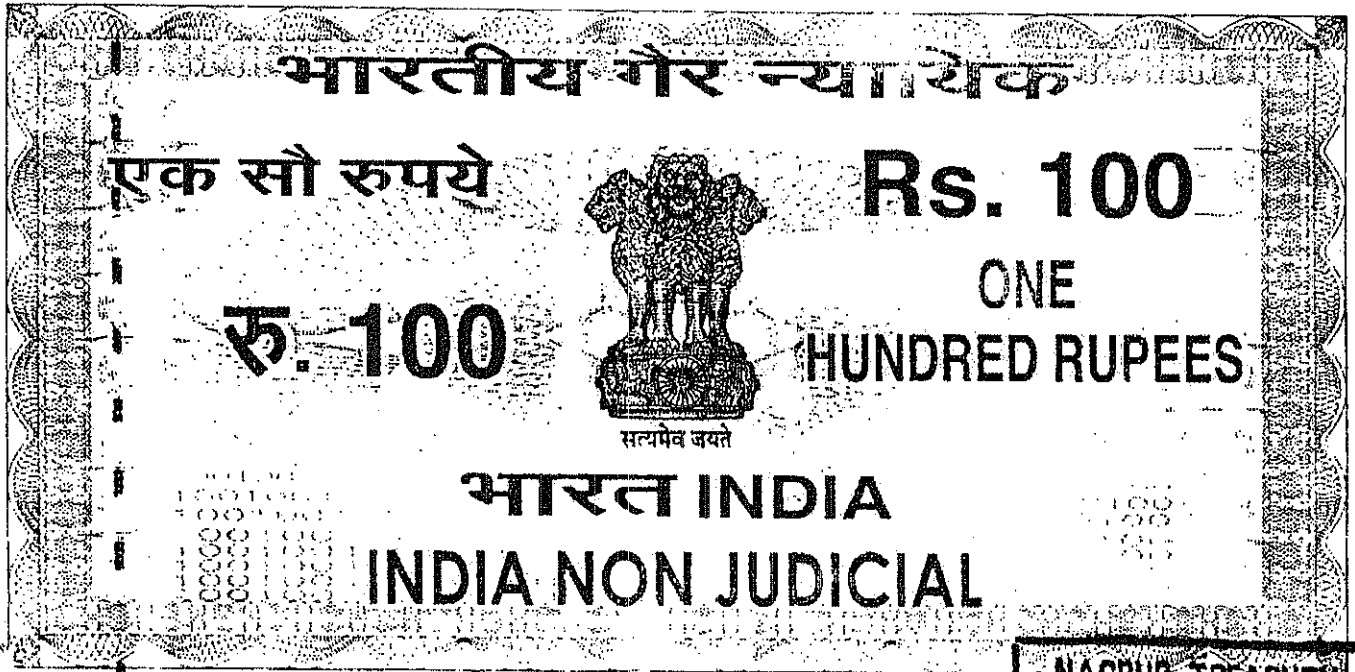
MSETCL / (Name of Transmission Licencee)

And

Vidarbha Industries Power Limited

(VIPL)

(Generating Company)



महाराष्ट्र MAHARASHTRA

J. G. Mohadikar

So No 34978

Stamp Vendor No 16/1991

Date 23 JAN 2013

Opp. Collector Office

hasil Parisar Nagpur

Name विठ्ठल पावर इंस्टीट्यूट ऑफ

CONNECTION AGREEMENT

NAGPUR TREASURY

GH 339272

16 JAN 2013

Stamp Head Clerk / Sr. Clerk

मि. सुभाष पवार

This Connection Agreement (the "Agreement") is made the ... 9th ... day of ... April ... 2013 by and between:

1. Maharashtra State Electricity Transmission Company Limited, a Company incorporated under the provisions of the Companies Act, 1956 having its registered office at 'Prakashganga' MSETCL, Plot No. C-19, E-Block, Bandra Kurla Complex, Bandra (E), Mumbai-400051 (hereinafter referred to as the Transmission Licensee which expression shall, unless repugnant to the context or meaning hereof include its successors and assigns) as a party of the First Part. B.S.B.
2. Vidarbha Industries Power Limited (hereinafter referred to as the Requester/User), having its registered office at Dhiribhai Ambani Knowledge City, 'H' Block, 1st Floor, Thane - Belapur Road, Koparkhairane, New Mumbai - 400 710 as party of the Second Part.

WHEREAS:

Maharashtra State Electricity Transmission Company Limited, a transmission licensee under section 14 of the Electricity Act, 2003 and own. operates & maintains intra-State Transmission System in the State of Maharashtra.

The Requester Mean a generating company including a captive generating plant or transmission licensee (excluding Central Transmission utility and State Transmission utility) or Distribution licensee or Bulk consumer who is seeking connection of his existing, new or expanded electrical plant to the grid at 33 KV level or above.

Chief Engineer
EHV Const. Cum O&M Zone



CONNECTION AGREEMENT STU/CA/DOC-3/REV-01/ 16.10.2010

Maharashtra Electricity Regulatory Commission (MERC) has specified the State Grid Code Which inter-alia lays-down the minimum technical and design criteria to be complied with by a Transmission Licensee and Users connected to or seeking connection to the intra-State transmission system.

As per connection conditions specified in the State Grid Code a Connection Agreement shall be entered into between the Transmission Licensee and the User connected with intra-State Transmission System setting out the terms and conditions for connection to and use of intra-State Transmission System.

This Connection agreement is executed between Maharashtra State Electricity Transmission Company Limited and M/s Vidarbha Industries Power Limited for 1X 300MW (IPP, Phase-II) Generation of M/s Vidarbha Industries Power Limited, Butibori from 220 KV VIPL Switchyard(Bay No. 209 & 211) to 220 KV GIS bay 3 & 4 of MSETCL Butibori-I Substation for interconnecting to transmission system of MSETCL. The maintenance of 220KV GIS bays nos. 3 & 4 at MSETCL's 220KV MIDC Butibori-I substation will be carried out by M/s VIPL. The operation of 220KV GIS bays nos. 3 & 4 at MSETCL's 220KV MIDC Butibori-I substation will be looked after by MSETCL.

Now, therefore, in consideration of the premises and mutual agreements, covenants and conditions set forth herein, it is hereby agreed by and between the parties as follows:-

Definitions and Interpretation

In this agreement unless the context otherwise requires the definitions of terms used shall be as follows:

1. 'Act' means the Electricity Act, 2003 (No 36 of 2003) including amendments thereto;
2. 'Apparatus' means all equipment in which electrical conductors are used, supported or of which they form a part;
3. 'Appropriate Transmission Utility' means the Central Transmission Utility or State Transmission Utility as the case may be.
4. 'Automatic Voltage Regulator (AVR)' means a continuously acting automatic excitation control system to regulate a generating unit Voltage measured at the generator terminals.
5. 'British Standards' (BS) means those standards and specifications approved by the British Standards Institution.
6. 'Bulk consumer' means a consumer who avails supply at Extra High voltage exceeding 33 kV;
7. 'CEA or Authority' means the Central Electricity Authority constituted under Sub-Section (1) of Section 70 of the Act;
8. 'Commission' means the Maharashtra Electricity Regulatory Commission.
9. 'Connection Agreement' means an agreement setting out the terms relating to connection to and/or use of the intra-State transmission system.
10. 'Connection Point' means a point at which a User's or Transmission Licensee's Plant and/or Apparatus connects to the intra-State transmission system.
11. 'Earth fault Factor' at a location in a three phase system means the ratio of 'the highest root mean square (r.m.s.) phase-to-earth power frequency voltage on a sound phase during fault to earth (affecting one or more Phases)' to 'the r.m.s. phase-to-earth power frequency voltage which would be obtained at the selected location without the fault.'
12. 'Event logging facility/Event Logger' means a device provided to record the sequence of operations in time, of relays / equipment at a location during an event;

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B. S. Patel



13. 'Electrical Plant' means any plant, equipment, apparatus or appliance or any part thereof used for, or connected with, the generation, transmission, distribution or supply of electricity but does not include-
 - a. an electric line; or
 - b. a meter used for ascertaining the quantity of electricity supplied to any premises; or
 - c. an electrical equipment, apparatus or appliance under the control of a consumer;
14. 'Frequency' means the number of alternating cycles per second (expressed in Hertz).
15. 'Generating Unit' means an Electrical Generator coupled to a prime mover within a Power Station together with all Plants and Apparatus at that Power Station (upto the Connection point) which relates exclusively to the operation of that generator.
16. 'IEC Standard' means standard approved by the International Electrotechnical Commission.
17. 'Isolator' means a device for achieving isolation of one part of an electrical from the rest of the system.
18. 'Grid Entry Point' means a point at which a generating unit is connected to the Grid;
19. 'Grid Supply Point' is a point of supply from the transmission system to a distribution system or to a Bulk consumer;
20. 'Intra-State Transmission System' (ISTS) means any system for conveyance of electricity by transmission lines within the area of the State and includes all transmission lines, sub-stations and associated equipment of transmission licensees in the State;
21. 'Isolating Device' means a device for achieving isolation of one part of an electrical system from the rest of the system;
22. 'Maximum Continuous Rating' means the normal rated full load MW output capacity of the generating unit which can be sustained on a continuous basis at specified conditions
23. 'Power Factor' means the cosine of the electrical angle between the voltage and current complexors in an AC electrical circuit.
24. 'Power System Stabilizers' (PSS) means controlling equipment which receives input signals of speed, frequency and power to control the excitation via the voltage regulator for damping power oscillations of a synchronous machine.
25. 'Protection system' means the equipment by which abnormal conditions in the grid are detected and fault clearance, actuating signals or indications are initiated without the intervention by the operator;
26. 'Reactive Power' means in relation to an AC electrical system, the product of root mean square (r.m.s) voltage, root means square (r.m.s) current and the sine of the electrical phase angle between the voltage complexor and current complexor, measured in volt-amperes reactive (VAr).
27. 'Requestor' means a person such as Generating Company including captive generating plant or Transmission Licensee (excluding Central Transmission Utility and State Transmission Utility) or Distribution Licensee or Bulk Consumer, who is seeking connection of his new or expanded electrical plant to the grid at voltage level 33KV and above.

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B. S. Patel

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28. 'Site Common Diagram' means drawings prepared for each Connection Point, which incorporates layout drawings, electrical layout drawings, common protection/control drawings and common service drawings;
29. 'Standards' means "Standards on Grid Connectivity" specified by Central Electricity Authority;
30. 'Single Line Diagram' means diagrams which are a schematic representation of the HV/EHV apparatus and the connections to all external circuits at a Connection Point incorporating its numbering nomenclature and labeling;
31. 'State Grid Code' means the Grid Code specified by the Commission under Section 86 (1) (h) of the Act;
32. 'State Transmission Utility' or 'STU' means Maharashtra State Electricity Transmission Company Limited notified by Government of Maharashtra as such under sub-section (1) of section 39 of the Act;
33. 'Thermal Generating Unit' means a generating unit using fossil fuels such as coal, lignite, gaseous and liquid fuel.
34. 'Total Harmonic Distortion' (THD) means a measure of distortion of the voltage or current waveform (which shall ideally be sinusoidal) and is the square root of the sum of squares of all voltage or current harmonics expressed as a percentage of the magnitude of the fundamental.
35. 'Transmission System' means a network of transmission lines and sub-stations.
36. Under Frequency Relay'(UFR) means a relay which operates when the system frequency falls below specified limits and initiates load shedding;
37. 'User' means a person, including in-State Generating Stations, Distribution Licensees Consumers of the Distribution Licensees directly connected to intra-State transmission system and persons availing of Open Access, who are connected to and/or use the intra-State transmission system.
38. 'Voltage Unbalance' means the deviation between highest and lowest line voltage divided by Average Line Voltage of the three phases.

The words and expressions used and not defined herein shall have same meaning as assigned to them under Act and Regulations.

Compliance of State Grid Code:

Both the parties agree and confirm that they shall be abiding the provisions of the State Grid Code Regulations 2006 and procedures and operating practices prescribed there under. The Transmission Licensee and Users agree to supply the Standards Planning Data and Detailed Planning Data to the State Transmission Utility as may be specified for the purpose of planning and development of intra-State transmission System in accordance with Section 10 of the State Grid Code.

Both the parties agree to abide by the directions and instructions of State Load Despatch Centre issued in discharge of its functions and comply with any procedure and processes prescribed by the State Load Despatch Centre under the State Grid code. The User and the Transmission Licensee confirm that they shall adhere to the system security standards specified under Section 22 of the State Grid Code and operate respective systems in accordance with Section 21 of the State Grid Code.

In case of discrepancy between terms and conditions stipulated in the Connection Agreement and State Grid Code Conditions, the terms and conditions of the State Grid Code shall prevail.

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Compliance of Central Electricity Authority Regulations.

Both the parties agree and confirm that they shall be abiding the provisions of the Central Electricity Authority's Technical Standards for Connectivity to the Grid Regulations 2007 inclusive of any subsequent modifications thereof issued by the CEA.

General Connectivity Conditions***1. Connection Standards and codes of practice***

- a) Both the parties shall follow the industry best practices and applicable industry standards in respect of the equipment installation and its operation and maintenance
- b) The equipment including overhead lines and cables shall comply with the relevant Indian standards, British Standards (BS) or International Electrotechnical Commission (IEC) Standard or American National Standards Institute (ANSI) or any other equivalent International Standard.

Provided that whenever an International Standard or International Electrotechnical Commission Standard is followed, necessary corrections or modifications shall be made for nominal system frequency, nominal system voltage, ambient temperature, humidity and other conditions prevailing in India before actual adoption of the said Standard.

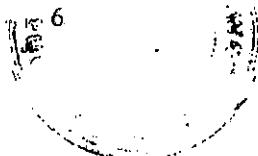
- c) The effect of wind, storms, floods, lightening, elevation, temperature extremes, icing, contamination, pollution and earthquakes must be considered in the design and operation of the connected facilities.
- d) Installation, operation and maintenance of equipment by both the parties shall conform to the relevant standards specified by the Authority under section 177, and Section 73 of the Act, as and when they come into force.

2. Safety Standards

Both the parties shall comply with the Central electricity authority (Measures relating to Safety and Electricity Supply) Regulations, 2007

3. Commercial Arrangement

The commercial arrangement between Requester/User and transmission licensee relating to evacuation and transmission of power shall be governed by the separate Bulk Power Transmission Agreement entered into by these two parties.



Metering at the Inter-connection Points shall be owned and maintained by Transmission licensee as per Clause 34 of Metering Requirement of MERC (State Grid Code) Regulations, 2006. The metering system shall be suitable to measure and store all pertinent parameters at all inter-connection points needed for billing the intra-state energy exchange as per the applicable tariffs and for energy accounting and UI settlement system as specified by the Commission from time to time.

Transmission licensee shall duly inform the user/ requester regarding all changes in transmission lines/substations/assets ownership, commissioning and commencement of commercial operation of new assets and any other relevant development/changes as also the consequent changes in transmission charges payable as specified by the Commission from time to time.

4. *Sub-station grounding*

Each transmission sub-station must have a ground mat solidly connected to all metallic structures and other non-energised metallic equipment. The mat shall limit the ground potential gradients to such voltage and current levels that will not endanger the safety of people or damage equipment which are in, or immediately adjacent to, the station under normal and fault conditions. The ground mat size and type shall be based on local soil conditions and available electrical fault current magnitudes. In areas where ground mat voltage rises would not be within acceptable and safe limits (for example due to high soil resistivity or limited sub-station space), grounding rods and ground wells may be used to reduce the ground grid resistance to acceptable levels. Sub station grounding shall be done in accordance with the norms of the Institute of Electrical and Electronics Engineers (IEEE) –80.

5. *Metering Requirements*

Metering requirement at the inter-connection points shall be governed by the latest Metering Code approved by the Commission. The Transmission Licensee and User agree to abide by the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006.

6. *Basic Insulation Level and Insulation Co-ordination*

Basic Insulation Level (BIL) of various items of equipment and ratings of surge arresters for generating stations, lines and sub-stations shall be decided on the following order of priority, namely:-

- a) Ensure safety to public and operating personnel;
- b) Avoid permanent damage to plant;
- c) Prevent failure of costly equipment;
- d) Minimize circuit interruptions; and
- e) Minimize interruptions of power supply to consumers.

Insulation coordination of equipment and lines on both sides of a connection point belonging to requester and the grid shall be accomplished and the co-ordination shall be done by the Appropriate Transmission Utility

7. *Equipment at Connection Points*

The User and the Transmission Licensee confirm that their respective equipment at Connection Point shall comply with minimum technical and design criteria specified in the State Grid Code.

Single Line Diagram showing arrangement of equipment belonging to the User and/ or Transmission Licensee at each connection point are appended with this agreement and also made

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MODEL CONNECTION AGREEMENT

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available to the SLDC. The parties herein agree that they shall not alter the arrangement of equipment at the connection point without consent of other party.

The User and the Transmission Licensee confirm that before physical connection of their systems at the connection points they shall intimate to the State Transmission Utility and the State Load Despatch Centre.

8. Site Common Drawings

Both the parties agree that Site Common Drawings showing layout of equipments, electrical layout drawings, common protection/control drawings and common service drawings shall be prepared at each connection point before taking up construction, erection and commissioning of equipment. The parties herein agree that following drawings as may be necessary shall be prepared for connection arrangement:

Site Layout;

(a) Electrical Layout;

(b) Details of Protection; and

(c) Common Services Drawings

9. Inspection, Test, calibration and Maintenance prior to connection:

Before connecting, the requestor shall complete all inspections and tests finalized in consultation with the State Transmission Utility or licensee or generating station to which his equipment is connected. The requestor shall make available all drawings, specifications and test records of the project equipment pertaining to integrated operation to the State Transmission Utility or licensee or generating station as the case may be.

10. Site Responsibility Schedule

A Site Responsibility Schedule (SRS) for every connection point shall be prepared by the owner of the sub-station where connection is taking place.

The following information shall be included in Site Responsibility Schedule (SRS), namely:

(a) Schedule of electrical apparatus, services and supplies

(b) Schedule of telecommunications and measurement apparatus

(c) Safety rules applicable to each plant/apparatus.

Following information shall be furnished in the Site Responsibility Schedule for each item of equipment installed at the connection site, namely

(a) The ownership of Plant/ apparatus

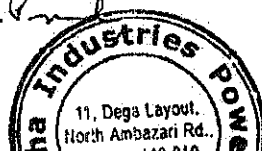
(b) The responsibility for control of Plant/ apparatus

(c) The responsibility for maintenance of Plant/ apparatus

(d) The responsibility for operation of Plant/ apparatus

(e) The manager of the site

(f) The responsibility for all matters relating to safety of persons at site



(g) The responsibility for all matters relating to safety of equipment at site

No connection shall be made unless Site Responsibility Schedule is prepared and signed by all concerned parties.

11. Capital Expenditure by parties

Both the parties agrees that any capital expenditure arising from necessary reinforcement or extension of the system at the connection point shall be dealt in accordance with respective clauses (Cl.43.2 for transmission and cl.60.11 for distribution) of MERC (Terms and Conditions of Tariff) Regulation 2005 and shall be shared by the parties in accordance with the provisions of the said clause or regulatory orders/directions as the case may be.

12. General philosophy and guidelines on Protection:

The User and the Transmission Licensee agree and confirm that connection with intra-state Transmission System shall comply with following minimum technical and design criteria with regard to System parameters and protection.

Grid Parameter Variations

General

Transmission Licensees and Users shall ensure that Plant and Apparatus requiring service from or providing service to the intra-State Transmission System is of such design and construction that satisfactory operation of such Plant and Apparatus will not be prevented by variation in instantaneous values of system frequency and voltage from their nominal values.

Frequency Variation

Rated frequency of the system shall be 50.0 Hz and connected equipment must be capable of operating within the limits specified in Clause 15.2 of the State Grid Code Regulation 2006 and Central Electricity Authority (Grid Standards) Regulations 2006.

Target (CEA Grid Standards Regulation)	Variations (%)	Value (Hz)
Upper Limit	+1%	50.5 Hz
Lower Limit	-2%	49.0 Hz

Voltage Variation

The variations of voltage may not be more than the voltage range specified in the regulations as per Clause 15.3 and Clause 22.24 of State Grid Code Regulation 2006.

Protection System

1. Protection System shall be designed to reliably detect faults on various abnormal conditions and provide an appropriate means and location to isolate the equipment or system automatically. The protection system must be able to detect power system faults within the zone. The protection system should be able to detect abnormal conditions such as equipment failures or open phase conditions.
2. Every Element of the Power system shall be protected by a standard protection system having the required reliability, selectivity, speed, discrimination and sensitivity. Where failure of a protective relay in the User's system has substantial impact on the grid, the User shall connect an additional protection as back up protection besides the Main protection.



3. Notwithstanding the protection systems provided in the grid, the User shall provide requisite protections for safeguarding his system from faults originating in the grid.
4. Bus bar Protection and Breaker Fail protection or Local Breaker Back-up Protection shall be provided wherever stipulated in the regulations.
5. Special Protection Scheme such as Under Frequency relay for Load shedding, voltage instability, angular instability, generation backing down or Islanding Schemes may also be required to be provided to avert system disturbances.
6. Protection co-ordination issues shall be finalized at regional levels by Regional Electricity Board/ Regional Power Committee and for Intra-State lines by STU
7. The User shall develop protection manuals conforming to various standards for the reference and use of its personnel.

Sub-Station Equipment

All Extra High Voltage (EHV) sub-station equipments of both the parties shall comply with Bureau of Indian Standards/International Electro technical Commission/prevaling Code of practice.

All equipment shall be designed, manufactured and tested and certified in accordance with the quality assurance requirements as per the standards of International Electro technical Commission or the Bureau of Indian Standards.

Each connection between a User and Transmission Licensee shall be controlled by a circuit breaker capable of interrupting, at the connection point, at least the short circuit current as advised by State Transmission Utility.

Fault Clearance Times

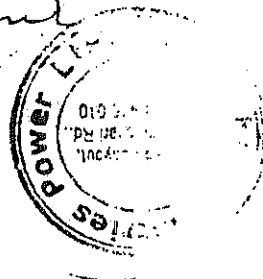
The fault clearance time for primary protection schemes, for a three phase fault (close to the bus-bars) on Users' equipment directly connected to intra-State Transmission System and for a three phase fault (close to the bus-bars) on intra-State Transmission System connected to Users' equipment, shall not be more than:

- (a) 100 milli seconds for 800 kV class & 400 kV
- (b) 160 milli seconds for 220 kV & 132 kV/110kV/100kV

Back-up protection shall be provided for required isolation/protection in the event of failure of the primary protection systems provided to meet the above fault clearance time requirements. If a Generating Unit is connected to the intra-State Transmission System directly, it shall be capable of withstanding, until clearing of the fault by back-up protection on the intra-State Transmission System side.

13. Reactive Power Compensation

Both the parties agree that the reactive Power compensation and/or other facilities shall be provided by Users, as far as possible, in the low voltage systems close to the load points thereby avoiding the need for exchange of Reactive Power to/from the intra-State Transmission System and to maintain the intra-State Transmission System voltage within the specified range.



The parties agree that they shall endeavour to minimize the Reactive Power drawal at an interchange point when the voltage at that point is below 95% of rated voltage, and shall not inject Reactive Power when the voltage is above 105% of rated voltage.

Switching in/out of all 400 kV bus and line Reactors throughout the grid shall be carried out as per instructions of State Load Despatch Centre. Tap changing on all 400/220 kV Interconnecting Transformers shall also be done as per the instructions of State Load Despatch Centre only.

14. *Communication Facilities*

The User and the Transmission Licensee agree to provide reliable and efficient speech and data communication systems to facilitate necessary communication and data exchange as prescribed by the SLDC for supervision/control of the State Grid under normal and abnormal conditions at their respective ends at their own cost. The User and Transmission Licensee agree to abide by the guidelines of the State Load Despatch Centre issued under Section 17 of the State Grid Code.

15. *System Recording Instruments*

Users and Transmission Licensees agree to provide the recording instruments such as Data Acquisition System/Disturbance Recorder/Event Logger/Fault Locator (including time synchronization equipment) as may be necessary under applicable standards within the time frame specified in the State Grid Code.

Every Generating Station and sub-station connected to the grid at 220 KV or above shall be provided with Disturbance Recording and Event Logging facilities. All such equipment shall be provided with time synchronisation facility for global common time reference.

16. *Access to both parties*

The Transmission Licensee or the User owning the Connection Site as the case may be shall provide reasonable access and other required facilities to another including the SLDC, whose equipment is proposed to be installed / installed at the Connection Site for installation, operation, maintenance, etc.

Written procedures and agreements shall be developed between entities to ensure that mandatory access is available to the entity concerned at the same time safeguarding the interests of both entities at the connection site.

The authorized personnel of both parties shall have the right to inspect the plant of other party at inter-connection point to ensure conformity to standards and restrictions.

17. *Unintended and Unscheduled back-energisation*

Both the parties agree and confirm that they shall take adequate precautions to ensure that no part of the grid is energized by the Users' system from another source of supply unless it is requisitioned in writing by the other party as an exceptional arrangement. The switchgear and controls of the Users' systems shall be so designed as to prevent back-energisation and the personnel shall be made aware of the need for this precaution.

18. *Term of Agreement*

This connection agreement shall remain valid unless both the parties with mutual agreement decide to amend/modified or terminate it.

In witness whereof the parties have signed this agreement on the day, month and year first written above.



CONNECTION AGREEMENT STU/CA/DOC-3/REV-01/ 16.10.2010

For and on behalf of MSETCL

For and on behalf of V.I.P.L.

(Transmission Licensee)

(User)

[Signature]
Chief Engineer
EHV Const. Cum O&M Zone
M.S.E.T.C.L., Nagpur.

B.S. Prasad
B. S. PRASAD
Plant Director
Vidarbha Industries Power Ltd.
Butibori, Nagpur.



In the present of

In the present of

1. *[Signature]*
Asst. Engr., Nagpur.

1. *[Signature]*
P.K. Alwar
Dy. G.M. VIPL

2. *[Signature]*
Dy. EHV Const. Cum O&M Zone
Nagpur.

2. *[Signature]*
Sr. Executive
VIPL.

Schedule 1

Grid Connectivity Standards applicable to the Generating Units

The units at a generating station proposed to be connected to the grid shall comply with the following requirements besides the general connectivity conditions given in the regulations and general requirements given in the general connectivity conditions in this document.

New Generating Units

1. The excitation system for every generating unit
 - a. shall have state of the art excitation system;
 - b. shall have Automatic Voltage Regulator (AVR). Generators of 100 MW rating and above shall have Automatic Voltage Regulator with digital control and two separate channels having independent inputs and automatic changeover and
 - c. The Automatic Voltage Regulator of generator of 100 MW and above shall include Power System Stabilizer (PSS)
2. The Short -Circuit Ratio (SCR) for generators shall be as per IEC-34.
3. The generator transformer windings shall have delta connection on low voltage side and star connection on high voltage side. Star point of high voltage side shall be effectively (solidly) earthed so as to achieve the Earth Fault Factor of 1.4 or less.
4. All generating machines irrespective of capacity shall have electronically controlled governing system with appropriate speed/load characteristics to regulate frequency. The governors of thermal generating units shall have a droop of 3 to 6% and those of hydro generating units 0 to 10%.
5. The project of the requester shall not cause voltage and current harmonics on the grid which exceed the limits specified in Institute of Electrical and Electronics Engineers (IEEE) Standard 519.
6. Generating Units located near load centre, shall be capable of operating at rated output for power factor varying between 0.85 lagging (over-excited) to 0.95 leading (under-excited) and Generating Units located far from load centers shall be capable of operating at rated output for power factor varying between 0.9 lagging (over-excited) to 0.95 leading (under-excited). The above performance shall also be achieved with voltage variation of +5% of nominal, frequency variation of +3% and -5% and combined voltage and frequency variation of +5%. However, for gas turbines, the above performance shall be achieved for voltage variation of +5%.
7. The coal and lignite based thermal generating units shall be capable of generating up to 105% of Maximum Continuous Rating (subject to maximum load capability under Valve Wide Open Condition) for short duration) to provide the frequency response.
8. The hydro generating units shall be capable of generating up to 110% of rated capacity (subject to rated head being available) on continuous basis.
9. Every generating unit shall have standard protections to protect the units not only from faults within the units and within the station but also from faults in transmission lines. For generating units having rated capacity greater than 100 MW, two independent sets of protections acting on two independent sets of trip coils fed from independent Direct Current (DC) supplies shall be provided. The protections shall include but not be limited to the Local Breaker Back-up (LBB) protection.
10. Hydro generating units having rated capacity of 50 MW and above shall be capable of operation in synchronous condenser mode, wherever feasible.
11. Bus bar protection shall be provided at the switchyard of all generating station.
12. Automatic synchronization facilities shall be provided in the requester's Project.

13. The Reactive demand and Injections shall be in compliance with Clause 16.4 of the State Grid Code.
14. The station auxiliary power requirement, including voltage and reactive requirements, shall not impose operating restrictions on the grid beyond those specified in the Grid Code or state Grid Code as the case may be.
15. In case of hydro generating units, self-starting facility may be provided. The hydro generating station may also have a small diesel generator for meeting the station auxiliary requirements for black start.
16. The standards in respect of the sub-stations associated with the generating stations shall be in accordance with the provisions specified in respect of 'Sub-stations' under Schedule 2 of these Standards.

Existing Units

For thermal generating units having rated capacity of 200 MW and above and hydro units having rated capacity of 100 MW and above, the following facilities would be provided at the time of renovation and modernization.

1. Every generating unit shall have Automatic Voltage Regulator. Generators having rated capacity of 100MW and above shall have Automatic Voltage Regulator with two separate channels having independent inputs and automatic changeover.
2. Every generating unit of capacity having rated capacity higher than 100Mw shall have Power System Stabilizer.
3. All generating units shall have standard protections to protect the units not only from faults within the units and within the station but also from faults in transmission lines. The protections shall include but not limited to the Local Breaker Back-up (LBB) protection.

Schedule 2

Grid Connectivity Standards applicable to the Transmission Line and Sub-station

The transmission lines and sub-stations connected to the grid shall comply with the following additional requirements besides the general connectivity conditions under these regulations and General Standards for Connectivity to the Grid .

1. Bus bar protection shall be provided on all sub-stations at and above 220 kV levels for all new sub-stations. For existing sub-stations, this shall be implemented in a reasonable time frame.
2. Local Breaker Back-up (LBB) protection shall be provided for all sub-stations of 220kV and above.
3. Two main numerical Distance Protection Schemes shall be provided on all the transmission lines of 220 kV and above for all new sub-stations. For existing sub-stations, this shall be implemented in a reasonable time frame.
4. Circuit breakers, isolators and all other current carrying equipment shall be capable of carrying normal and emergency load currents without damage. The equipment shall not become a limiting factor on the ability of transfer of power on the inter-state and intra-state transmission system.
5. All circuit breakers and other fault interrupting devices shall be capable of safely interrupting fault currents for any fault that they are required to interrupt. The Circuit breaker shall have this capability without the use of intentional time delay in clearing the fault. Minimum fault interrupting requirement need be specified by the State Transmission Utility. The Circuit Breaker shall be capable of performing all other required switching duties such as, but not limited to, capacitive current switching, load current switching and out-of-step switching. The Circuit Breaker shall perform all required duties without creating transient over-voltages that could damage the equipment provided elsewhere in the grid. The short circuit capacity of the circuit breaker shall be based on short-term and perspective transmission plans as finalized by the Authority.
6. Power Supply to Sub-Station Auxiliaries, shall:
 - a) for alternating current (AC) supply (Applicable to new sub-stations) 220 kV and above: Two high tension (HT) supplies shall be arranged from independent sources. One of the two high tension supplies shall be standby to the other. In addition, an emergency supply from diesel generating (DG) source of suitable capacity shall also be provided.
66 kV and below 220 kV: There shall be one HT supply and one diesel-generating source. 33 kV and below 66 kV: There shall be one HT supply;
 - b) for direct current (DC) Supply (Applicable to new sub-stations): Sub-station of transmission system for 132 kV and above and sub-stations of all generating stations: There shall be two sets of batteries, each equipped with its own charger.
 - c) For sub-station below 132 kV: there shall be one set of battery and charger.
7. Earth Fault Factor for an effectively earthed system shall be not more than 1.4.
8. Transmission Licensee shall provide line Reactors as may be necessary after carrying out system studies to control temporary over voltage within the limits as set out above.

9. The Transmission Licensee and User agree that Inter-Connecting Transformer (ICT) taps at the respective drawal points may be changed to control the Reactive Power interchange as per a User's request to the State Load Despatch Centre, but only at reasonable intervals.

Schedule 3

Grid Connectivity Standards applicable to the Distribution Systems and Bulk Consumers

The following additional requirements shall be complied with. Besides the connectivity conditions in these regulations and general Standards for Connectivity to the Grid given in Part-I and those applicable to transmission lines and sub-stations in part III

1. Under Frequency and df/dt Relays

Under frequency and df/dt (rate of change of frequency with time) relays shall be employed for automatic load control in a contingency to ensure grid security under conditions of falling grid frequency in accordance with the decision taken in the Regional Power Committee.

2. Reactive Power

The distribution licensees shall provide adequate reactive compensation to compensate the inductive reactive power requirement in their system so that they do not depend upon the grid for reactive power support; the power factor of the distribution system and bulk consumer shall not be less than 0.95.

The Reactive demand and Injections shall be in compliance with Clause 16.4 of the State Grid Code

3. Voltage and Current Harmonics

1. The total harmonic distortion for voltage at the connection point shall not exceed 5% with no individual harmonic higher than 3%.
2. The total harmonic distortion for current drawn from the transmission system at the connection point shall not exceed 8%.
3. The limits prescribed in (1) and (2) shall be implemented in a phased manner so as to achieve complete compliance not later than five years from the date of publication of these regulations in the official Gazette.

4. Voltage Unbalance

The Voltage Unbalance at 33 kV and above shall not exceed 3.0%.

5. Voltage Fluctuations

1. The permissible limit of voltage fluctuation for step changes, which may occur repetitively, is 1.5%.
2. For occasional fluctuations other than step changes the maximum permissible limit is 3%.
3. The limits prescribed in (1) and (2) above shall come into force not later than five years from the date of publication of these regulations in the Official Gazette.

4. Back-energization

The consumer shall not energize transmission or distribution system by injecting supply from his generators or any other source either by automatic controls or manually unless specifically requested by the Transmission or Distribution Licensee.

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**MAHARASHTRA STATE ELECTRICITY TRANSMISSION
COMPANY LIMITED**

(State Transmission Utility)

Site Responsibility Schedule

Format, principles and procedure .

(Pursuant to Section 19 of the State Grid Code)



Maharashtra State Electricity Transmission Company Limited
"Prakash Ganga", Plot No. C-19, E-Block, Bandra- Kurla Complex, Bandra (East)
Mumbai-400051

Tel: 022- 26598588-26598595, 26598595, Fax No. 022-26592297

E-mail : cestu@mahatransco.in,

cestu@maharashtrastu.com

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A1: SITE RESPONSIBILITY SCHEDULE**1. Introduction**

Part C of the State Grid Code relates to Connection Conditions for connectivity with intraState Transmission System and lays down detailed procedure for establishing or modifying existing arrangement of connection to and/or use of intra-State Transmission System. A Site Responsibility Schedule for work relating to each connection is required to be prepared detailing responsibilities of each party for ownership, control, operation, maintenance, and safety of any person at connection site.

This document describes the format, principles and procedure for preparation of Site Responsibility Schedule for the work to be carried out for new connections or modifying an existing connection to and/or use of the intra-State Transmission System.

2. Objectives

The objective of this procedure is to ensure that the responsibilities of the Transmission Licensees and Users seeking connection or modification of an existing connection with intraState Transmission System are clearly identified in the Site Responsibility Schedule.

3. Scope and Applicability

The Site Responsibility Schedule shall be prepared for all new connections or modifying an existing connection to and/or use of intra-State transmission system.

The Transmission Licensees, forming part of the I_nSTS, and Users of the I_nSTS shall comply with the following requirement at all existing connection points within a period of one year of notification of State Grid Code i.e. before 15th February 2007.

- (a) Single Line Diagram of each connection point
- (b) Site Common Drawings of each connection point

4. Availability of copy of Format and Procedure

The Format, principles, and procedure for preparation of the Site Responsibility Schedule at connection point of the intra-State Transmission System (Pursuant to Section 19 of the State Grid Code) can be obtained from Nodal Officer of STU as given below:

Chief Engineer (STU),
Maharashtra State Electricity Transmission Company Limited
"PrakashGanga", Plot No. C-19, E-Block, Bandra- Kurla Complex,
Mumbai-400051

Tel: 022- 26595124

Fax No. 022-26592297

E-mail: cestu@mahastransco.in, cestu@maharashtrastu.com

The copy of application form and the procedure is also available at MSETCL web-sites www.mahatransco.in & www.maharashtrastu.com and can be downloaded from website.

The copy of the Format and Procedure can also be obtained from the concerned Transmission Licensee with whom a User seeks connection.

5. Operational responsibility

The Nodal Officer STU nominated by the MSETCL shall be responsible for coordination and implementing the procedure of Site Responsibility Schedule and ensuring that the process is carried out on a continuous basis. He shall also coordinate with other transmission licensees for the connectivity with intra-State transmission system.

6. Definitions

In this procedure unless the context otherwise requires the definitions of terms used shall be as follows:

1. 'Act' means the Electricity Act, 2003;
2. 'Apparatus' means all equipment in which electrical conductors are used, supported or of which they form a part;
3. 'Bulk Consumer' means a consumer who avails supply at Extra High voltage exceeding 33 kV
4. 'CEA or Authority' means the Central Electricity Authority constituted under Sub - Section (1) of Section 70 of the Act;
5. 'Commission' means the Maharashtra Electricity Regulatory Commission;
6. 'Connection Agreement' means an agreement setting out the terms relating to connection to and/or use of the intra-State transmission system;
7. 'Connection Point' means a point at which a User's or Transmission Licensee's Plant and/or Apparatus connects to the intra-State transmission system;
8. 'Electrical Plant' means any plant, equipment, apparatus or appliance or any part thereof used for, or connected with, the generation, transmission, distribution or supply of electricity but does not include-
 - a. an electric line; or
 - b. a meter used for ascertaining the quantity of electricity supplied to any premises; or
 - c. an electrical equipment, apparatus or appliance under the control of a consumer;
9. 'Grid Entry Point' means a point at which a generating unit is connected to the Grid;

SITE RESPONSIBILITY SCHEDULE

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10. 'Grid Supply Point' is a point of supply from the transmission system to a distribution system or to a Bulk consumer ;
11. 'Intra-State Transmission System' (I_nSTS) means any system for conveyance of electricity by transmission lines within the area of the State and includes all transmission lines, sub-stations and associated equipment of transmission licensees in the State;
12. 'Isolating Device' means a device for achieving isolation of one part of an electrical system from the rest of the system;
13. 'Protection' means the system whereby abnormal conditions on a system are detected and fault clearance, actuating signals or indications are initiated;
14. 'Site Common Diagram' means drawings prepared for each Connection Point, which incorporates layout drawings, electrical layout drawings, common protection/control drawings and common service drawings;
15. 'Standards' means "Standards on Grid Connectivity" specified by Central Electricity Authority;
16. 'Single Line Diagram' means diagrams which are a schematic representation of the HV/EHV apparatus and the connections to all external circuits at a Connection Point incorporating its numbering nomenclature and labeling;
17. 'State Grid Code' means the Grid Code specified by the Commission under Section 86 (1) (h) of the Act.
18. 'State Transmission Utility' or 'STU' means Maharashtra State Electricity Transmission Company Limited notified by Government of Maharashtra as such under sub-section (1) of section 39 of the Act;
19. 'User' means a person, including in-State Generating Stations, Distribution Licensees Consumers of the Distribution Licensees directly connected to intra-State transmission system and persons availing of Open Access, who are connected to and/or use the intra-State transmission system:

The words and expressions used and not defined herein shall have same meaning as assigned to them under State Grid Code.

7. Safety

The responsibility of Transmission Licensee and User for safety at the Connection Point and system connected thereto shall be clearly indicated in the Site Responsibility Schedule so that there are no chances of misunderstanding and role of each party is clearly defined. The safety responsibility shall be defined in unambiguous terms.

8. Responsibility for preparation of Site Responsibility Schedule

Site Responsibility Schedule shall be prepared by the Transmission Licensee with whose

system the User seeks to connect. The general format of the site responsibility schedule is given in Annexure-1. The Site Responsibility Schedule shall be prepared and finalised by the Transmission Licensee in consultation and in agreement with the User seeking connection with InSTS.

At the connection site where equipment of both entities, i.e., the Transmission Licensee and the user are installed, the user shall furnish required data to the Transmission Licensee and the Transmission Licensee shall prepare SRS. At a generating station, the transmission licensee shall furnish the necessary data to the generating company who shall prepare SRS.

The Site Responsibility Schedule shall be signed by the authorised person of the Transmission Licensee and the authorised person of the User.

The Site Responsibility Schedule shall form integral part of Connection Agreement between the concerned Transmission Licensee and User connected to his system.

9. Site Responsibility Schedule Contents

Following information shall be included in the Site Responsibility Schedule: -

- (a) Schedule of High Voltage (HV) Apparatus
- (b) Schedule of plant, Low Voltage (LV) / Medium Voltage (MV) apparatus, services and supplies
- (c) Schedule of telecommunications and measurement apparatus
- (d) Safety rules applicable to each plant/apparatus.

The Site Responsibility Schedule necessarily to provide responsibility with regard to following for each item of equipment installed at the connection site:

- (a) The ownership of Plant/ apparatus
- (b) The responsibility for control of Plant/ apparatus
- (c) The responsibility for maintenance of Plant/ apparatus
- (d) The responsibility for operation of Plant/ apparatus
- (e) The manager of the site
- (f) The responsibility for all matters relating to safety of persons at site.

10. Single Line Diagram

Single Line Diagram shall be prepared by User and/ or Transmission Licensee for each connection point detailing all equipments at the connection point.

Single Line Diagram shall clearly indicate the schematic representation of the all HV/EHV apparatus and the connections to all external circuits at a Connection Point. The Single Line Diagram shall incorporate standard numbering nomenclature and labelling of the Transmission Licensee.

Single Line Diagram shall be furnished for each connection point by the connected User or Transmission Licensee to the State Load Despatch Centre.

In the event of a proposal to change any equipment, the concerned User or Transmission Licensee shall intimate the necessary changes required to State Transmission Utility and all other Users / Transmission Licensee. Single Line Diagram shall be updated appropriately by the concerned Users or Transmission Licensee and a copy of the same shall be provided to the State Load Despatch Centre.

11. Site Common Drawings

Drawings at each Connection Point showing layout of equipments, electrical layout drawings, common protection/control drawings and common service drawings shall be prepared at each connection point. These drawings are collectively called as Site Common Drawings.

Site Common Drawings for each Connection Point will include the following information:

- (a) Site Layout;
- (b) Electrical Layout;
- (c) Details of Protection; and
- (d) Common Services Drawings.

Detailed drawings shall be prepared by Transmission Licensee and User in respect of their system/facility at each Connection Point and copies of the same shall be made available to concerned User and Transmission Licensee respectively.

In case of any changes in the Site Common Drawings that are found necessary by Transmission Licensee or User in respect of their system/facility at the Connection Point, the details of such changes shall be furnished to the other party as soon as possible.

12. Access at Connection Site

The Transmission Licensee or User owning the Connection Site shall provide reasonable access and other required facilities to another Transmission Licensee or User whose equipment is installed or proposed to be installed at the Connection Site for installation, operation, maintenance, etc.

Written procedures and agreements shall be developed between Transmission Licensees and Users to ensure that mandatory access is available to the concerned Transmission Licensee or User

SITE RESPONSIBILITY SCHEDULE

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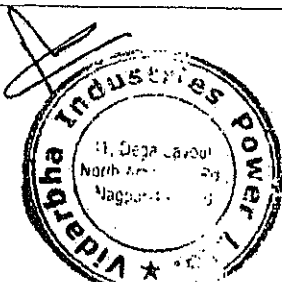
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at the same time safeguarding the interests of Transmission Licensee and User at the connection site.

General Format of Site Responsibility Schedule

Annexure-1

Name of Transmission Licensee	MSETCL
Name & Designation of co-ordinating officer of Transmission Licensee	Mr.A.V.Bhaware DYEE (Butibori-I S/s) MSETCL
Contact Address	220 KV Butibori-I S/s,MIDC Butibori
Telephone	07104-202440
Fax No	.....
E-mail Id	dyee.h071@mahatransco.in
Name of Sub-Station where inter- connection with InSTS is proposed	MSETCL 220 KV Butibori-I S/s.
Voltage of Connection with intra -State Transmission System	220 KV
Name of User (including other transmission licensee) seeking connection with InSTS.	VIPL
Name & Designation of co-ordinating officer of User	NNM RAO (Asst VP), Electrical.
Contact Address	Plot No.D-3 & D-3 Part, MIDC, Butibori-441122, Nagpur.
Telephone	
Fax No	
E-mail Id	nadella.rao@relianceada.com

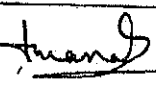
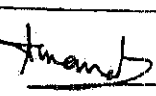


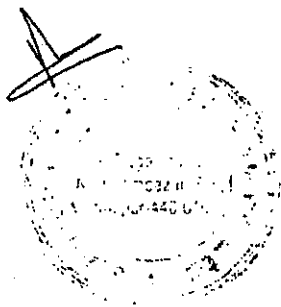
SITE RESPONSIBILITY SCHEDULE

STU/CA/DOC-3/REV-00

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Activity Responsibility

Item of Plant/Apparatus	Plant Owner	Safety Responsibility	Control Responsibility	Operation Responsibility	Maintenance Responsibility	Remark
Give details of all equipment at connection site	Details enclosed for VIPL Switchyard & MSETCL Butibori -I S/s end Annexure I-B To Annexure I-J					
Metering System	Details enclosed for Meters at VIPL Switchyard & MSETCL Butibori-I S/s end Annexure I-A.					
Name, designation and Contact Number of authorized officer responsible for activity on behalf of: Transmission Licensee User	M.B.Marotkar Executive Engineer EHV O&M MSETCL NNM RAO Asst VP, Electrical VIPL	M.B.Marotkar Executive Engineer EHV O&M MSETCL NNM RAO Asst VP, Electrical VIPL	M.B.Marotkar Executive Engineer EHV O&M MSETCL NNM RAO Asst VP, Electrical VIPL	M.B.Marotkar Executive Engineer EHV O&M MSETCL NNM RAO Asst VP, Electrical VIPL	M.B.Marotkar Executive Engineer EHV O&M MSETCL NNM RAO Asst VP, Electrical VIPL	
Signature						
Date						



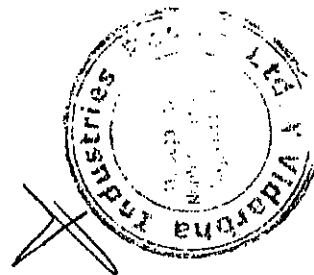
**DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. MSETCL Butibori-I GIS S/S**


Details of Potential Transformers (Metering)

Annexure I-B

Sr. No.	Name of Feeder where installed	Make	Voltage Ratio	Class	Core No	Burden in VA	Insulation Level	Type	Sr. No.	Lab. Testing No.
1	Bay 3-R Phase	M/s Pinggao	220kV/110V	0.2	1	100	F	EMPT	11202063	NA
2	Bay 3-Y Phase	M/s Pinggao	220kV/110V	0.2	1	100	F	EMPT	11202064	NA
3	Bay 3-B Phase	M/s Pinggao	220kV/110V	0.2	1	100	F	EMPT	11202065	NA
4	Bay 4-R Phase	M/s Pinggao	220kV/110V	0.2	1	100	F	EMPT	11202066	NA
5	Bay 4-Y Phase	M/s Pinggao	220kV/110V	0.2	1	100	F	EMPT	11202067	NA
6	Bay 4-B Phase	M/s Pinggao	220kV/110V	0.2	1	100	F	EMPT	11202068	NA

Type: CVT / PT & Model No.




 Executive Engineering (O&M)
 E. H. V. (O&M) Division
 M. S. E. T. C. L. Nagpur.

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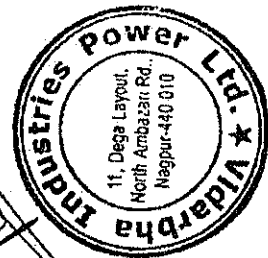
**DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. MSETCL Butibori-I GIS S/S**


Details of Potential Transformers (Protection)

Annexure I-C

Sr.No	Name of Feeder where installed	Make	Voltage Ratio	Class	Core No	Burden in VA	Insulation Level	Type	Sr.No.	Lab. Testing No.
1	Bay 3- R Phase	M/s Pinggao	220kV/ 110V	3P	2 and 3	100	F	EMPT	11202063	NA
2	Bay 3- Y Phase	M/s Pinggao	220kV/ 110V	3P	2 and 3	100	F	EMPT	11202064	NA
3	Bay 3- B Phase	M/s Pinggao	220kV/ 110V	3P	2 and 3	100	F	EMPT	11202065	NA
4	Bay 4- R Phase	M/s Pinggao	220kV/ 110V	3P	2 and 3	100	F	EMPT	11202066	NA
5	Bay 4- Y Phase	M/s Pinggao	220kV/ 110V	3P	2 and 3	100	F	EMPT	11202067	NA
6	Bay 4- B Phase	M/s Pinggao	220kV/ 110V	3P	2 and 3	100	F	EMPT	11202068	NA

Type: CVT / PT & Model No.




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 M. S. E. T. C. L. Nagpur.

**DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. MSETCL Butibori-I GIS S/S**

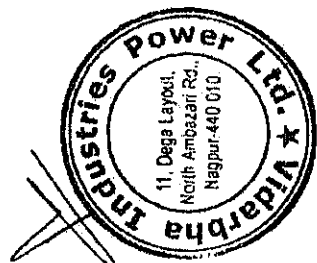
Annexure I-D

Details of Current Transformers (Metering Cores)

There shall be two Current Transformers per bay each having three cores. One metering and two protection cores.

Sr. No.	Name of Feeder where installed	Make	Voltage	Ratio	Core No	Class	Burden in VA	Sr.No.	Lab. Testing No.
1	Bay 3 R/Y/B-Phase	M/s Pinggao	220kV	800/1A	TA3	0.2 S	10	Bay 3 DR/DY/DB	NA
2	Bay 3 R/Y/B-Phase	M/s Pinggao	220kV	2000-1000-500/1A	TA4	0.2 S	20	Bay 3 DR/DY/DB	NA
3	Bay 4 R/Y/B-Phase	M/s Pinggao	220kV	800/1A	TA3	0.2 S	10	Bay 4 DR/DY/DB	NA
4	Bay 4 R/Y/B-Phase	M/s Pinggao	220kV	2000-1000-500/1A	TA4	0.2 S	20	Bay 4 DR/DY/DB	NA

Type CVT / PT & Model No.



[Signature]
Executive Engineer, O&M)
E. H. V. (O&M) Division
M. S. E. T. C. L. Nagpur.

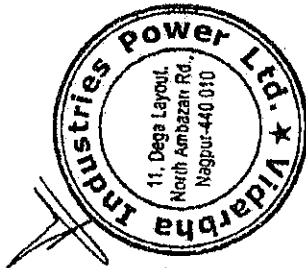
DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. MSETCL Butibori-1 GIS S/S

Details of Current Transformers (Protection)

Annexure I-E

Sr. No.	Name of Feeder where installed	Make	Voltage	Ratio	Core Nos	Class	Knee Point Voltage	Sr.No.	Lab. Testing No.
1	Bay 3 R/Y/B-Phase	M/s Pinggao	220kV	2000-1000-500/1 A	TA1, TA2, TA5 and TA6	PS	2000-1000-500 V	Bay 3 DR/DY/DB	NA
2	Bay 4 R/Y/B-Phase	M/s Pinggao	220kV	2000-1000-500/1 A	TA1, TA2, TA5 and TA6	PS	2000-1000-500 V	Bay 4 DR/DY/DB	NA

Type CVT / PT & Model No.



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Executive Engineer
E. H. V. (O&M) Division
M. S. E. T. C. L. Nagpur.

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DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. MSETCL Butibori-I GIS S/S

Details of Circuit Breakers.

Annexure I-F

Sr. No.	Name of Line / TF	Make	Type	Model	Breaker No.	Normal Current in AMP	Capacity in KV	Rupturing Current	DC Voltage	Working Pressure
1	Bay 3 (Line 3)	M/s ABB	SF6 puffer	ZFI1-252	2012-251	3150 A	220kV	50kA	220 V	0.6 MPa
2	Bay 4 (Line 4)	M/s ABB	SF6 puffer	ZFI1-252	2012-252	3150 A	220kV	50kA	220 V	0.6 MPa

Breaker Type: MOCB, SF6, ABCB etc.



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Executive Engineer
E. H. V. (S&M) Division. O & M)
M. S. E. T. C. L. Nagpur.

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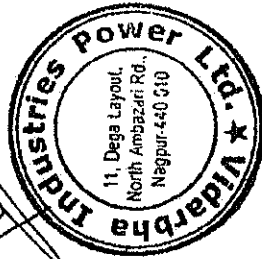
DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. MSETCL Butibori-I GIS S/S

Details of Isolators.

Annexure I-G

Sr.N o.	Name of Line / TF Where Provided	Make	Voltage	Capacity in AMP.	Type	With EB	Without EB
1	Bay 3 (Line 3), QSF1	M/s Pinggao	220kV	3150 A	Angle	Yes	
2	Bay 3 (Line 3) QSF2	M/s Pinggao	220kV	3150 A	Angle	Yes	
3	Bay 3 (Line 3), QS3	M/s Pinggao	220kV	3150 A	Linear	Yes	
4	Bay 4 (Line 4) QSF1	M/s Pinggao	220kV	3150 A	Angle	Yes	
5	Bay 4 (Line 4) QSF2	M/s Pinggao	220kV	3150 A	Angle	Yes	
6	Bay 4 (Line 4), QS3	M/s Pinggao	220kV	3150 A	Linear	Yes	
7	Bay 1 QSF1	M/s Pinggao	220kV	3150 A	Angle	Yes	
8	Bay 2 QSF1	M/s Pinggao	220kV	3150 A	Angle	Yes	

Type: Double Break (DB), Centre Break (CB) etc.



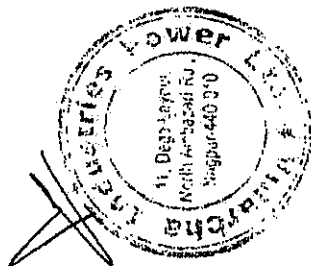
Handwritten signature
Executive Engineer
E. H. V. (Engineering Division, O & M)
M. S. E. T. C. L. Nagpur.

DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. MSETCL Butibori-I GIS S/S

Details of LAs.

Annexure I-H

Sr. No.	Name of Line / TF Where Installed	Make	Type	Voltage	Sr.No.		
					R-Ph	Y-Ph	B-ph
1	Bay 3 (Line 3)	M/s Oblum Elect. Ind. Ltd.	Metal Oxide Gapless	198 kV	2-6101	5-6099	1-6092
2	Bay 4 (Line 4)	M/s Oblum Elect. Ind. Ltd.	Metal Oxide Gapless	198 kV	3-6047	4-6095	6-6094



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Executive Engineer (Electricals, O&M)
E. H. V. (O&M) Division
M. S. E. T. C. L. Nagpur.

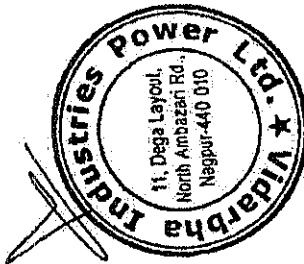
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DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. MSETCL Butibori-I GIS S/S

Details of Control & Relay (C&R) Panel

Annexure I-J

Sr.N o.	Name of Line / TF Where installed	Make	Sr. No. of Panel	Diff. Protn. Make / Type / Sr.No.	Dist. Protn. Make / Type / Sr.No.	Back up Protn. Make / Type / Sr.No.
1	Bay 3 (Line 3)	Siemens	Bay 3 CRP	Siemens, 7SD610	NA	7SJ80
2	Bay 4 (Line 4)	Siemens	Bay 4 CRP	Siemens, 7SD610	NA	7SJ80



[Signature]
Executive Engineer (Electrical O & M)
E. H. V. (C.A.M.) Division
M. S. E. T. C. L. Nagpur.

[Signature]

DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. MSETCL Butibori-I GIS S/S

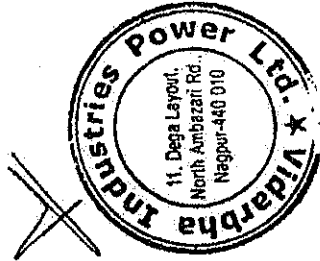
Annexure : I-A

Details of Energy Meters.

Sr. No.	Name of feeder where	Type of Meter	Make and Model	Class of Meter	Sr.No. Meter.
1	Bay 3 (Line 3)	ABT Check Meter	Secure & APEX	0.2S	APSB1284
2	Bay 4 (Line 4)	ABT Check Meter	Secure & APEX	0.2S	APSB1285

Type of Meter

- 1) Panel Meter (Import / Export)
- 2) ABT Main and Check Meter
- 3) Billing Energy Meters
- 4) Express Feeder Separated Energy Meter.



[Signature]
Executive Engineer (Transmission & O&M)
E. H. V. (O&M) Division
M. S. E. T. C. L. Nagpur.

[Signature]
11/11/20

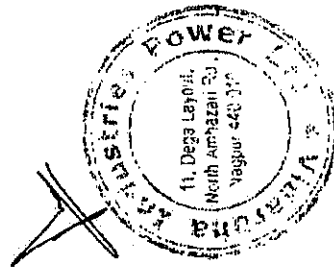
DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. VIPL 220 KV S/Y.

Annexure : I-A
Details of Energy Meters.

Sr.No.	Name of feeder where	Type of Meter	Make and Model	Class of Meter	Sr.No. Meter.
1	Bay 209 Line 3	ABT Main Meter	Secure & APEX	0.2S	APMB3211
2	Bay 211 Line 4	ABT Main Meter	Secure & APEX	0.2S	APMB3212

Type of Meter

- 1) Panel Meter (Import / Export)
- 2) ABT Main and Check Meter
- 3) Billing Energy Meters
- 4) Express Feeder Separated Energy Meter.



Executive Engineer (Trans. O&M)

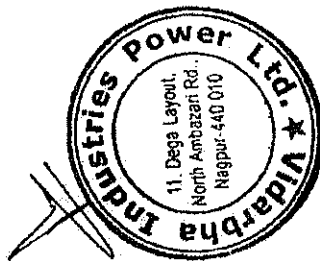
DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. VIPL 220 KV S/X.

Details of Potential Transformers (Metering)

Annexure I-B

Sr. No.	Name of Feeder where installed	Make	Voltage Ratio	Class	No. of Cores	Burden in VA	Insulation Level	Type	Sr. No.	Lab. Testing No.
1	Bay 209 Line 3 R-Phase	Mehru	220kV/√3 / 110V/√3	0.2	1	100	460 kV / 1050 kVp	EMPT	OP 3995/1/1/12	
2	Bay 209 Line 3 Y-Phase	Mehru	220kV/√3 / 110V/√3	0.2	1	100	460 kV / 1050 kVp	EMPT	OP 3995/1/2/12	
3	Bay 209 Line 3 B-Phase	Mehru	220kV/√3 / 110V/√3	0.2	1	100	460 kV / 1050 kVp	EMPT	OP 3995/1/3/12	
4	Bay 211 Line 4 R-Phase	Mehru	220kV/√3 / 110V/√3	0.2	1	100	460 kV / 1050 kVp	EMPT	OP 3686/1/7/12	
5	Bay 211 Line 4 Y-Phase	Mehru	220kV/√3 / 110V/√3	0.2	1	100	460 kV / 1050 kVp	EMPT	OP 3686/1/8/12	
6	Bay 211 Line 4 B-Phase	Mehru	220kV/√3 / 110V/√3	0.2	1	100	460 kV / 1050 kVp	EMPT	OP 3686/1/9/12	

Type: CVT / PT & Model No.



Executive Engineer (Trans. O&M)

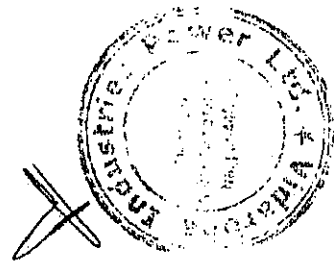
DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. VIPL 220 KV S/N.

Details of Potential Transformers (Protection)

Annexure I-C

Sr.No.	Name of Feeder where installed	Make	Voltage Ratio	Class	No.of Cores	Burden in VA	Insulation Level	Type	Sr.No.	Lab. Testing No.
1	Bay 209 Line 3 R-Phase	AREVA	220kV/√3 / 110V/√3	3P - 3P - 0.2	3	100	460 kV / 1050 kVp	CVT	1105A0909	
2	Bay 209 Line 3 Y-Phase	AREVA	220kV/√3 / 110V/√3	3P - 3P - 0.2	3	100	460 kV / 1050 kVp	CVT	1105A0908	
3	Bay 209 Line 3 B-Phase	AREVA	220kV/√3 / 110V/√3	3P - 3P - 0.2	3	100	460 kV / 1050 kVp	CVT	1105A0907	
4	Bay 211 Line 4 R-Phase	AREVA	220kV/√3 / 110V/√3	3P - 3P - 0.2	3	100	460 kV / 1050 kVp	CVT	1105A0912	
5	Bay 211 Line 4 Y-Phase	AREVA	220kV/√3 / 110V/√3	3P - 3P - 0.2	3	100	460 kV / 1050 kVp	CVT	1105A0911	
6	Bay 211 Line 4 B-Phase	AREVA	220kV/√3 / 110V/√3	3P - 3P - 0.2	3	100	460 kV / 1050 kVp	CVT	1105A0910	

Type: CVT / PT & Model No.



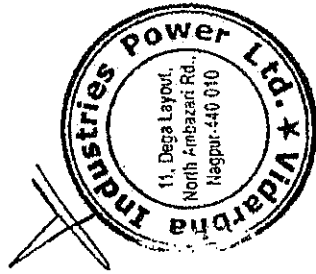
Executive Engineer (Trans. O&M)

DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. VIPL 220 KV S/V.

Details of Current Transformers (Metering) Annexure I-D

Sr. No.	Name of Feeder where installed	Make	Voltage	Ratio	No. of Cores	Class	Burden in VA	Sr.No.	Lab. Testing No.
1	Bay 209 Line 3 R-Phase	AREVA	220 kV	800 / 1	1	0.2S	10	1202F2512	-
2	Bay 209 Line 3 Y-Phase	AREVA	220 kV	800 / 1	1	0.2S	10	1202F2513	-
3	Bay 209 Line 3 B-Phase	AREVA	220 kV	800 / 1	1	0.2S	10	1202F2514	-
4	Bay 211 Line 4 R-Phase	AREVA	220 kV	800 / 1	1	0.2S	10	1106F0900	-
5	Bay 211 Line 4 Y-Phase	AREVA	220 kV	800 / 1	1	0.2S	10	1106F0898	-
6	Bay 211 Line 4 B-Phase	AREVA	220 kV	800 / 1	1	0.2S	10	1106F0899	-

Type CVT / PT & Model No.



Executive Engineer (Trans. O&M)

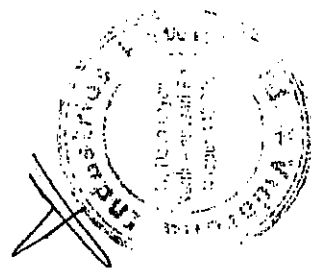
DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. _ VIPL 220 KV S/V.

Details of Current Transformers (Protection)

Annexure I-E

Sr. No.	Name of Feeder where installed	Make	Voltage	Ratio	No. of Cores	Class	Burden in VA	Sr.No.	Lab. Testing No.
1	Bay 209 Line 3 R-Phase	AREVA	220 kV	2000-1000-5000 / 1-1-1-1-1	5	5P-5P-0.2S-PS-PS	50-25-12.5, 40-20-10	43100400782	
2	Bay 209 Line 3 Y-Phase	AREVA	220 kV	2000-1000-5000 / 1-1-1-1-1	5	5P-5P-0.2S-PS-PS	50-25-12.5, 40-20-10	43100400780	
3	Bay 209 Line 3 B-Phase	AREVA	220 kV	2000-1000-5000 / 1-1-1-1-1	5	5P-5P-0.2S-PS-PS	50-25-12.5, 40-20-10	1106F0890	
4	Bay 211 Line 4 R-Phase	AREVA	220 kV	2000-1000-5000 / 1-1-1-1-1	5	5P-5P-0.2S-PS-PS	50-25-12.5, 40-20-10	1106F0897	
5	Bay 211 Line 4 Y-Phase	AREVA	220 kV	2000-1000-5000 / 1-1-1-1-1	5	5P-5P-0.2S-PS-PS	50-25-12.5, 40-20-10	1106F0896	
6	Bay 211 Line 4 B-Phase	AREVA	220 kV	2000-1000-5000 / 1-1-1-1-1	5	5P-5P-0.2S-PS-PS	50-25-12.5, 40-20-10	1106F0895	

Type CVT / PT & Model No.



Executive Engineer (Trans. O&M)

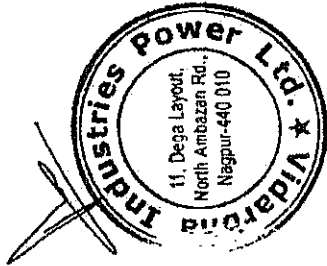
DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. VIPL 220 KV S/N.

Annexure I-F

Details of Circuit Breakers.

Sr.No.	Name of Line / TF	Make	Type	Model	Breaker No.	Normal Current in AMP	Capacity in KV	Rupturing Current	DC V _{lag} e	Working Pressure
1	Bay 209 Line 3 R-Phase	AREVA	SF ₆	GL314	152479	2000	245	40 kA	220 V	0.85 MPa (abs)
2	Bay 211 Line 4 R-Phase	AREVA	SF ₆	GL314	152481	2000	245	40 kA	220 V	0.85 MPa (abs)

Breaker Type: MOCB, SF₆, ABCB etc.



Executive Engineer (Trans. O&M)

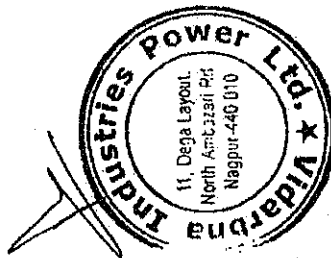
DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. VIPL 220 KV S/Y.

Details of Isolators.

Annexure I-G

Sr.No.	Name of Line / TF Where Provided	Make	Voltage	Capacity in AMP.	Type	With EB	Without EB
1	Bay 209 Line 3 89A	Switchgears & Structural	245 kV	2000	CB	✓	
2	Bay 209 Line 3 89L	Switchgears & Structural	245 kV	2000	CB	✓	
3	Bay 209 Line 3 89B	Switchgears & Structural	245 kV	2000	CB		✓
4	Bay 209 Line 3 89C	Switchgears & Structural	245 kV	2000	CB		✓
5	Bay 211 Line 4 89A	Switchgears & Structural	245 kV	2000	CB	✓	
6	Bay 211 Line 4 89L	Switchgears & Structural	245 kV	2000	CB	✓	
7	Bay 211 Line 4 89B	Switchgears & Structural	245 kV	2000	CB		✓
8	Bay 211 Line 4 89C	Switchgears & Structural	245 kV	2000	CB		✓

Type: Double Break (DB), Centre Break (CB) etc.



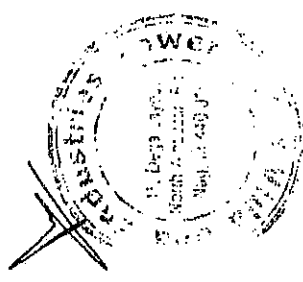
Executive Engineer (Trans. O&M)

DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S_ VIPL 220 KV S/Y.

Details of LAs.

Annexure I-H

Sr.No.	Name of Line / TF Where Installed	Make	Type	Voltage	Sr.No.		
					R-Ph	Y-Ph	B-ph
1	Bay 209 Line 3	Oblum Electrical Industries	Metovar Zinc Oxide	198 kV	2	3	1
2	Bay 211 Line 4	Oblum Electrical Industries	Metovar Zinc Oxide	198 kV	4	7	6



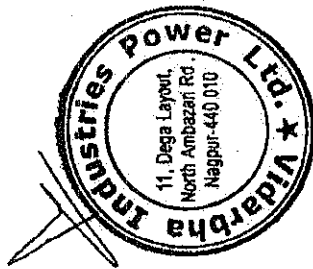
Executive Engineer (Trans. O&M)

DETAILS OF ALL EQUIPMENT AND METERING SYSTEM FOR BAYS CONNECTING
M/S. VIPL 220 KV S/Y.

Details of Control & Relay (C&R) Panel

Annexure I-J

Sr.No.	Name of Line / TF Where installed	Make	Sr. No. of Panel	Diff. Protn. Make / Type / Sr.No.	Dist. Protn. Make / Type / Sr.No.	Back up Protn. Make / Type / Sr.No.
1	Bay 209 Line 3	Siemens	209 RA, RB	Siemens / Numerical / BF1203051793		Siemens / Numerical / BF1203061613
2	Bay 211 Line 4	Siemens	211 RA, RB	Siemens / Numerical / BF1203051794		Siemens / Numerical / BF1203061614



Executive Engineer (Trans. O&M)



MAHARASHTRA
4 MAR 2011



मुद्रांक प्रमुख लिपिक
कोषागार कार्यालय, ठाणे.
4-34

विशेष अधिकारी
विशेष अधिकारी, कोषागार, ठाणे
आयु. क्र. १५२५...
राज्य
हस्ताक्षर
Vidarbha Industries Power Ltd.
स्थान

DX 116408

16 MAR 2011



Power of Attorney

Know all men by these presents, we Vidarbha Industries Power Limited, a Company registered under the provisions of the Companies Act 1956, having its registered office at H Block, 1st Floor, Dhirubhai Ambani Knowledge City, Navi Mumbai 400 710, India (hereinafter referred to as the "Company") do hereby nominate, constitute appoint and authorize Shri B.S. Prasad, Plant Director (hereinafter referred to as "Attorney"), to be our true and lawful Attorney for and on behalf of the Company to do and execute all or any of the following acts, deeds, matters and things, as hereinafter mentioned, that is to say:

1. To sign, execute for and on behalf of Company any deed, document or agreement of Leave and License of office/Guest House premise, agreement for lease of land and other writings as may be deemed necessary for the said purpose.
2. To appear before the Sub-Registrar of Assurances, Registrar of Assurances or before any other competent Authority to present lodge sign and execute any Agreement including Agreement for water and electricity; Sale Deeds, Lease deeds, Documents and other writings etc for and on behalf of the Company and to admit execution of





the said documents executed or to be executed on behalf of the Company and to do all such acts and things necessary for registration of such documents, to receive the same back after due registration thereof and to deliver the same to any person or persons lawfully entitled to receive the same.

To sign and submit all documents and provide information/ responses to any government, statutory or regulatory authorities and to deal and represent the Company in all related matters.

4. To enforce claims and give discharge and receipts on behalf of the Company.
5. To appear before any tribunal and officers of Government or any local authority in connection with the above transactions of the Company and to represent the Company's interest.
6. To represent the Company before the Collector, Tehsildar, Circle Officer, Talathi, Municipal Authorities, Forest Authorities for the purpose of effectively transferring the land so purchased/sold/leased for the Company or by the Company as case may be and to make all necessary applications and execute all necessary forms, affidavits, declarations, appeals or other writings of whatsoever nature as the said attorney may deem fit.
7. To execute Power Supply agreement with the Customers, to represent the Company and do all such acts, deeds, matters and things in connection with or incidental to 600 MW Coal based Butibori Thermal Power being set up by the Company.

We hereby agree to ratify and confirm all the acts, deeds and things lawfully done by our said attorney by virtue of these presents and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

This Power of Attorney shall be effective, binding and operative till 31st March 2013, if not revoked earlier or as long as the said Attorney is in the services of the Company, whichever earlier.

WITNESS WHEREOF Vidarbha Industries Power Limited have caused its Common Seal to be hereunto affixed at Nav Mumbai, this 7th June, 2011.

The COMMON SEAL of Vidarbha Industries Power Limited was hereunto affixed by Shri Aloke Das Gupta, Director of the Company, who has signed these presents.

Accepted

B. S. Prasad

B. S. Prasad

Attested

[Signature]

(Signature of Executant)

Aloke Das Gupta
Director
Vidarbha Industries Power Limited
H-Block, 4th Floor
Dhirubhai Ambani Knowledge City
Nav Mumbai-400710

[Signature]
Aloke Das Gupta
Director

[Signature]
7.6.2011
Ph. 022 782 5020
A. G. Jadhav B.A.L.L.
HIGH COURT ADVOCATE &
NOTARY
E-6, 1:1, 1st Floor, Sector-1,
Vashi, Nav Mumbai-401 705

Before me
Notary

22-FEB-2012 12:18 From:

To: 30386799

P.1

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.

PHONE : (O) 022-2858 5000 / 8595
(P) 022-2858 2227
FAX : 022- 2858 2297
E-Mail: csctm@mahatransco.in



Office of the CR(STU)
'Prakeshganga', MSETCL
Plot no. C-19, E-Block,
Bandra Kurla Complex, Bandra (E),
Mumbai - 400051

MSETCL/CO/STU/302B/ 2 & 1a

Date: 21-02-2012

To,
The Chief Engineer (SLDC),
MSETCL,
Airoli, Kalwa.

Sub: - Grid connectivity to M/s Vidarbha Industries Ltd for their 1 X 300 MW (Phase-II)
IPP power plant at Butibori MIDC, Nagpur.

- Ref:-1) Application dated 22-11-2010 from M/s VIPL for evacuation of 300 MW (Phase-II)
power from their plant at MIDC Butibori, Dist. Nagpur.
2) This office intimation letter No. MSETCL/CO/STU/302B/19391, dated 16-12-
2010.
3) Letter No. VIPL/MUM/MSETCL/Jan-12/08; dated 31-01-2012, from M/s VIPL.

Dear Sir,

This has reference to letter dated 31st January 2012, vide which M/s Vidarbha Industries Ltd have applied for grid connectivity under Short Term Open Access for their 1 X 300 MW (Phase-II) IPP power plant at Butibori MIDC, Nagpur. Along with the application M/s VIPL have submitted following documents.

- 1) Application for connection by M/s Vidarbha Industries Ltd, to Intra-State Transmission System.
- 2) Connection Agreement executed between M/s Vidarbha Industries Ltd and MSETCL for startup power of 10 MW, 12.5 MVA
- 3) Site responsibility Schedule
- 4) Copy of PPA

The grid connectivity to 1 X 300 MW (Phase-II) IPP of M/s Vidarbha Industries Ltd, at Butibori MIDC, Nagpur is hereby granted from 220 kV Butibori MIDC S/S, for availing Short Term Open Access subject to the submission of following documents.

- 1) Connection Agreement for connectivity of 300 MW generator (Phase-II) with intra state transmission system, in the standard format which is available on our website:
www.maharashtrastu.com.

- 2) ABT meter and SCADA installation and commissioning report,
- 3) Approved drawings from Trans-Project Dept for Synchronising Scheme.

Thanking You,

Yours faithfully,


Chief Engineer (STU)

Copy swrs to: 1) Director (Operations), MSETCL, Prakashganga.
2) Executive Director (Project), MSETCL, Prakashganga.

Copy fwcs to: 1) M/s Vidarbha Industries Ltd, at Butibori MIDC, Nagpur.

✓ You may contact the Chief Engineer (SLDC), MSETCL, Kalwa at the below mentioned address for further needful in the matter.
(Address of the Chief Engineer (SLDC), Kalwa
Office of the Chief Engineer State Load Despatch Centre,
Thane-Belapur Road, Airoli, Post. Airoli, Navi Mumbai 400 708).

2) The Chief Engineer, MSETCL, EHV Const. Cum O&M Zone, Nagpur, It is requested to ensure that, metering arrangement shall be as per the metering code. Also the connection agreement for 1 X 300 MW (Phase-II) generator shall be executed with M/s VIPL.

- 3) The Chief Engineer (Trans-Project), MSETCL, Prakashganga, Bandra.
- 4) The Chief Engineer (Trans O&M), MSETCL, Prakashganga, Bandra.
- 5) The Chief Engineer (Comm), MSEDCL, Prakashgad, Bandra.
- 6) The Chief Engineer (PP), MSEDCL, Prakashgad, Bandra.

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.
STATE LOAD DESPATCH CENTRE, KALWA



Office of The Chief Engineer
 State Load Dispatch Center
 Thane-Belapur Road, P.O. Airoli,
 Navi Mumbai Pin - 400 708.



No. CE/MSLDC/EA/VIPL/

NO - 0998

Date:

19 MAY 2012

To,

M/s. Vidarbha Industries Power Ltd.,
 Dhtrubhai Ambani Knowledge City,
 I-Block, 2nd Floor, North Wing,
 Thane Belapur Road, Koparkhairane,
Navi Mumbai - 400 710. (Fax: 30386999/6799)

Sub: Permission for Synchronisation of 1 x 300 MW IPP (Phase-II) at Butibori, Nagpur.

Ref: 1. CE (STU) letter no. MSETCL/CO/STU/302B/2610 dated 21.02.2012.
 2. Your letter no. VIPL/Mum/SLDC/May 12/62 dated 09.05.2012.

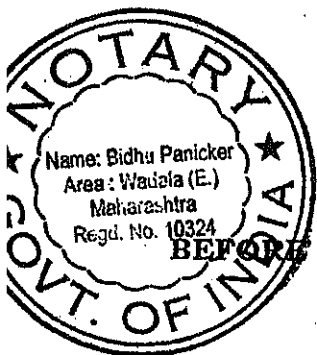
Dear Sir,

With reference to the above, permission for synchronization of 1 x 300 MW IPP (phase-II), connected to 220 kV Butibori-I s/s on 220 kV line, is hereby granted. However please note that,

1. You will have to bring the visibility of your generator for real-time monitoring at SLDC before applying for open access/scheduling of firm power.
2. As per the undertaking submitted by you, there is no power purchase agreement for infirm power. As such there shall be no commercial implication of the infirm power injected into the grid by you.
3. It is to inform that you have not submitted the PPA for firm power. Hence before applying for short term open access you will have to submit PPA for firm power.
4. You may co-ordinate with appropriate authorities of MSETCL and MSSEDCL for synchronising.
5. At the time of synchronization you will have to take permission from SLDC/ALDC control room and inform the date and time of synchronization to SLDC/ALDC.

.....cont'd....

Affidavit



314

BEFORE THE MAHARASHTRA REGULATORY COMMISSION, MUMBAI

Filing No:

Case No: 60 OF 2014

IN THE MATTER OF

PETITION FOR GRANT OF TRANSMISSION LICENSE PERTAINING TO VIDARBHA INDUSTRIES POWER LIMITED - TRANSMISSION BUSINESS, AS PER SECTION 14, SECTION 15 AND SECTION 86 OF THE ELECTRICITY ACT 2003 AND MERC TRANSMISSION LICENSE CONDITIONS REGULATIONS, 2004 AND ITS SUBSEQUENT AMENDMENTS IN MERC (TRANSMISSION LICENSE CONDITIONS) REGULATIONS, 2006

AND

IN THE MATTER OF

VIDARBHA INDUSTRIES POWER LIMITED

-----Petitioner

Affidavit in support of the Petition

I, Shrikant Nene, of Mumbai, Indian Inhabitant, having my office at Reliance Centre, 19, Walchand Hirachand Marg, Ballard Estate, Mumbai 400 001 do hereby state on solemn affirmation as under:-

1. I am the Vice President of Vidarbha Industries Power Limited, the petitioner in the above matter, and am duly authorised and competent to make this affidavit.
2. The statements made in the petition are true to my knowledge and belief and are based on information and I believe the same to be true.
3. I say that there are no proceedings pending in any court of law/tribunal or arbitrator, wherein the Petitioner is a party and where issues arising and/or reliefs sought are identical or similar to the issues arising in the matter pending before the Commission.
4. That an undertaking as required under the amendment to MERC (Transmission License Conditions) Regulations, 2004 is given below:

Undertaking

I, *Shrikant Nene* do hereby certify that there are no cases of conviction of the petitioner or any of its directors or promoters by any Court of Law or any indictment or adverse order by a regulatory authority which relates to a grave offence of such a nature that it outrages the moral sense of the community; insolvency and bankruptcy of the petitioner or any of its directors or promoters; pending legal proceedings; conviction of an offence involving moral turpitude, or any economic offence; fraudulent and unfair trade practices or market manipulation; matters affecting financial integrity, competence, reputation and character, or towards such other matters.

Shrikant Nene
Petitioner

VERIFICATION

I, Shrikant Nene, Vice President of the above named petitioner do hereby verify that the contents of this affidavit are true and correct to my knowledge, no part of it is false and nothing material has been concealed therefrom.

Mulla & Mulla & Craigie Blunt & Caroe Vidarbha Industries Power Limited

Donna
Partner
Advocate of the Petitioner

Shrikant Nene
For Petitioner

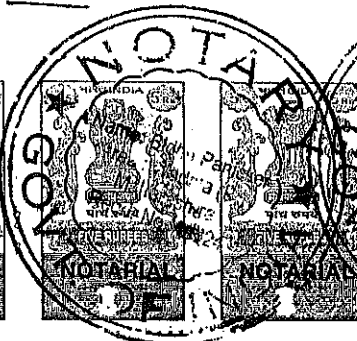
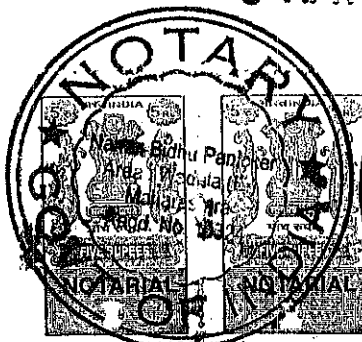
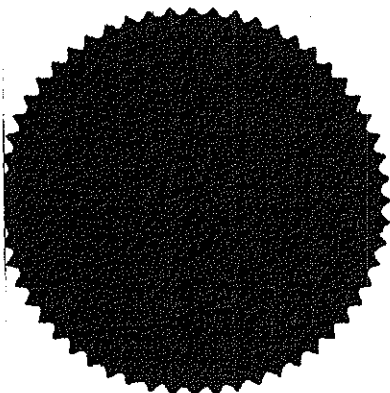
Solemnly affirm at Mumbai on this ²⁵ day of April 2014 that the contents of the above affidavit are true to my knowledge, no part of it is false and nothing material has been concealed therefrom.

BEFORE ME

Bidhu Panicker
BIDHU PANICKER
B.Com., LL.B.
ADVOCATE HIGH COURT
NOTARY (Govt. of India)
Prakash Chamber, 26, 3rd Floor,
77, Nagindas Master Road,
Mumbai - 400 023.

Notary Reg. Sr. No.: 1109/2014
In Book No.: III

25 APR 2014



Vakalatnama

BEFORE THE MAHARASHTRA REGULATORY COMMISSION, MUMBAI

Case No: 60 OF 2014

IN THE MATTER OF

PETITION FOR GRANT OF TRANSMISSION LICENSE PERTAINING TO VIDARBHA INDUSTRIES POWER LIMITED – TRANSMISSION BUSINESS, AS PER SECTION 14, SECTION 15 AND SECTION 86 OF THE ELECTRICITY ACT 2003 AND MERC TRANSMISSION LICENSE CONDITIONS REGULATIONS, 2004 AND ITS SUBSEQUENT AMENDMENTS IN MERC (TRANSMISSION LICENSE CONDITIONS) REGULATIONS, 2006

AND

IN THE MATTER OF

VIDARBHA INDUSTRIES POWER LIMITED

-----Petitioner

To
The Secretary
Maharashtra Electricity Regulatory Commission,
Mumbai.

Sir,

We, Vidarbha Industries Power Limited, the Petitioner abovenamed do hereby appoint M/s. Mulla & Mulla & Craigie Blunt & Caroe, Advocates to appear and plead on our behalf in the above matter.

IN WITNESS WHEREOF, we have set and subscribed our hand to this writing at Mumbai.

Dated this day of April, 2014.

We accept:

Mulla & Mulla & Craigie Blunt
& Caroe

Vidarbha Industries Power Limited

Sonawale

Partner
Advocates for Petitioner

Omne
Petitioner

Draft Public Notice

VIDARBHA INDUSTRIES POWER LIMITED
H-Block, 1st Floor, Dhirubhai Ambani Knowledge City,
Navi Mumbai - 400 710, Maharashtra
Corporate Identity Number: U23209MH2005PLC158371

PUBLIC NOTICE

**Notice inviting Objections on Vidarbha Industries Power Limited's Application for grant of Transmission License under Section 14 read with Section 15 and Section 86 of the Electricity Act 2003.
(MERC Case No 60 of 2014)**

1. Vidarbha Industries Power Limited (hereinafter being referred as 'VIPL'), a company incorporated under the provisions of the Companies Act, 1956 having its registered office at H-Block, 1st Floor, Dhirubhai Ambani Knowledge City, Navi Mumbai 400 710, , has made an application before the Maharashtra Electricity Regulatory Commission, Mumbai, under MERC (Transmission License Conditions) Regulations, 2004 for grant of Transmission License for Transmission lines/sub-station, the details of which are given below:

Scheme No.	Details of the Scheme	Estimated Cost (Rs. Crs.)	District
1.	i. 220 kV Double circuit transmission line (1.2 Kms) from VIPL Power Plant switchyard to MSETCL Butibori Substation III. ii. 2 No. of 220 kV bays at 220 KV MSETCL Butibori Substation III.	28.55	Nagpur, Maharashtra
2.	i. 220 kV Double circuit transmission line (1.86 Kms) from VIPL Power Plant switchyard to MSETCL Butibori Substation I. ii. 2 No. of 220 kV GIS bays at 220 KV MSETCL Butibori Substation I.		Nagpur, Maharashtra

2. VIPL is a subsidiary company of Reliance Power Limited. It was incorporated on 27th December, 2005 and its Corporate Identity Number is : U23209MH2005PLC158371.
3. Shareholding pattern of the Company is as under:

List of Equity Shareholders of the Company as on 25.03.2014

Sr. No.	Name of the shareholder	Number of shares held (Rs. 10 each)	% of total paid-up equity share capital
1.	Reliance Power Limited (RPower)	8,25,830	69.35
2.	Paresh Rathod jointly with RPower	1	0.00
3.	Ramaswami Kalidas jointly with RPower	1	0.00
4.	Sunil K Agarwal jointly with RPower	1	0.00
5.	N Venugopala Rao jointly with RPower	1	0.00
6.	Nimish Chitalia jointly with RPower	1	0.00
7.	Arunachalam Venkitachalam jointly with RPower	1	0.00
8.	Rosa Power Supply Company Limited	3,64,970	30.65
	Total	11,90,806	100.00

List of Preference Shareholders of the Company as on 25.03.2014

Sr. No.	Name of the shareholder	Number of shares held (Rs. 10 each)	% of total paid-up preference share capital
1.	Reliance Power Limited	66,99,552	62.50
2.	Rosa Power Supply Company Limited	40,20,202	37.50
	Total	1,07,19,754	100.00

4. The names of the Directors on the Board of the Company as on **25.03.2014** and their details are given below:

Sr. No.	Name	Type of Directorship
1.	Shri V K Reddy	Non- Executive Director
2.	Shri N Venugopala Rao	Non- Executive Director
3.	Shri Alope Dasgupta	Non- Executive Director
4.	Shri B S Prasad	Non- Executive Director

5. VIPL established the above mentioned interconnecting transmission line for evacuation of power from its 600 MW thermal generating station at Butibori location near Nagpur, Maharashtra.
6. Copies of the following documents can be obtained on written request from the offices of VIPL-T mentioned below:
- Summary of the Petition (free of cost, in Marathi or English).
 - Detailed Petition documents along with CD (in English) (on payment of Rs. 150/- by Cash/ DD/ Cheque drawn on "**Vidarbha Industries Power Limited**").
 - Detailed Petition documents (in English) (on payment of Rs. 100/-).
 - CD of detailed Petition document (in English) (on payment of Rs. 50/-).
7. The Commission has directed VIPL-T to invite suggestions and objections from the public on the above Petition through this Notice. Suggestions and objections may be sent to the Secretary, Maharashtra Electricity Regulatory Commission, 13th Floor, Centre No.1, World Trade Centre, Cuffe Parade, Mumbai-400 005 [Fax: 22163976 E-Mail: mercindia@mercindia.org.in] by, 2014, along with proof of service on <Name and complete address of the designated authority, including the pin code>
8. Every person who intends to file suggestions and objections can submit the same in English or in Marathi, in six copies, and should carry the full name, postal address and e-mail address, if any, of the sender. It should be indicated whether the suggestion /objection is being filed on behalf of any organization of category of consumers. It should also be mentioned if the sender wants to be heard in person, in which case opportunity would be given by the Commission at the Public Hearing to be held at, Mumbai on, 2014 at Hrs, for which no separate notice will be given.
9. VIPL-T shall reply to each of the suggestions and objections received within three days of the receipt of the same but not later than, 2014 for all the suggestions and objections received till, 2014. Stakeholders can submit their rejoinders on replies provided by VIPL-T either during the public hearing or latest by, 2014.
10. The detailed Petition document and the summary are available on VIPL-T's website www.reliancepower.co.in and the executive summary is also available on the web site of the Commission, www.mercindia.org.in in downloadable format (free of cost).

Place: Mumbai
Dated: ____ April 2014

(Shrikant Nene)
(Vice President)
Vidarbha Industries Power Limited