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19<sup>th</sup> August, 2015  
CREG/MUM/MERC/15/230

To,  
The Principal Secretary,  
Maharashtra Electricity Regulatory Commission,  
13<sup>th</sup> Floor, Centre No. 1,  
World Trade Centre, Cuffe Parade,  
Colaba, Mumbai – 400 005

Dear Sir,

**Sub: Submission of Revised Network Rollout Plan in Mumbai City**

*Ref: Case 182 of 2014*

The Hon'ble Commission, during the Hearing held on 12<sup>th</sup> August, 2015 in the matter of Petition filed for approval of Network Rollout in Case 182 of 2014 had directed Tata Power the following:

*The Commission observed that provision of open access is not available for networks of BEST. Hence, the two areas i.e. area common with BEST and area common with Rlnfra, need to be treated differently. The Commission further directed the Petitioner to review its proposal for BEST's area.*

In view of the above directions, we are making our revised submissions with respect to Network Rollout in Mumbai City Area (Licence Area common to BEST and Tata Power) on affidavit.

We request the Hon'ble Commission to kindly take the same on record for the purpose the approval of Network Rollout Plan. As directed, we are serving copies of this submission to all parties concerned.

Thanking you,

Yours faithfully,

**Bhaskar Sarkar**

**Head -Business Strategy & Regulations, Mumbai Operations**

*Recd*  
*20-8-15*  
OFFICE OF THE  
MAHARASHTRA ELECTRICITY  
REGULATORY COMMISSION  
COLABA, MUMBAI, 400 005

Encl: Revised Network Rollout Plan in Mumbai City Area

**TATA POWER**

**The Tata Power Company Limited**

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BEFORE THE MAHARASHTRA ELECTRICITY REGULATORY COMMISSION  
 WORLD TRADE CENTRE, CENTRE NO.1,  
 13<sup>th</sup> FLOOR,  
 CUFFE PARADE, MUMBAI 400005

CASE NO. 182 OF 2014

**IN THE MATTER OF:**

The Tata Power Company Limited ... Petitioner

Versus

BEST Undertaking & Ors. ... Respondents

**Additional Submission on behalf of The Tata Power Company Limited with regard to the Daily Order of the Hon'ble Commission dated 12.08.2015 with respect to Network Rollout Plan for Mumbai City Area**

The Tata Power Company Limited ("**Tata Power**") most respectfully submits as under:-

1. Tata Power has filed the present Petition seeking approval of its Network Rollout Plan in accordance with the directions of this Hon'ble Commission in its Order dated 14.08.2014 in Case No. 90 of 2014. By the said Order, this Hon'ble Commission had:-
  - (a) Granted a Distribution Licence to Tata Power, being Distribution Licence No. 1 of 2014, for a period of 25 years from 16.08.2014.
  - (b) Directed Tata Power to submit its revised Network Rollout Plan in terms of the directions. It was laid down that the Network Rollout Plan approved by this Hon'ble Commission would form part of the Specific Conditions of Licence as specified by it in terms of Section 16 of the Electricity Act, 2003 ("**Electricity Act**").
2. Pursuant to this Hon'ble Commission's Order dated 14.08.2014 in Case No. 90 of 2014, Tata Power had submitted its Revised Network Rollout Plan on 09.10.2014.
3. During the pendency of this Petition, the Hon'ble Appellate Tribunal for Electricity ("**Hon'ble Tribunal**") disposed off Appeal No. 246 of 2012 and batch titled as *Tata Power Company Limited Vs. Maharashtra Electricity Regulatory Commission and Ors.* by its Judgment dated 28.11.2014 ("**Judgment dated 28.11.2014**"), returning certain findings, observations and directions. These were cross-appeals filed by Tata Power and Reliance Infrastructure Limited ("**R-Infra**") challenging this Hon'ble Commission's

Order dated 22.08.2012 in Case No. 151 of 2011. In view of the observations and directions of the Hon'ble Tribunal in its Judgment dated 28.11.2014, Tata Power revised its Network Rollout Plan and submitted the same to this Hon'ble Commission on 12.02.2015, and updated the same by filing it on 06.08.2015 pursuant to daily order dated 30.07.2012. In this revised Network Rollout Plan, Tata Power applied the principles of network rollout enunciated by the Hon'ble Tribunal even to Mumbai City Area.

4. It is stated that, the captioned Petition was listed for hearing before this Hon'ble Commission on 12.08.2015. During the said hearing, this Hon'ble Commission directed Tata Power to revise its Network Rollout Plan for Mumbai City area i.e. area overlapping with BEST, as the provision of open access was not available in Mumbai City area and the consumer should have a choice. The directions of the Hon'ble Commission in the Daily Order for 12.08.15 are reproduced below:

*The Commission observed that provision of open access is not available for networks of BEST. Hence, the two areas i.e. area common with BEST and area common with RInfra, need to be treated differently. The Commission further directed the Petitioner to review its proposal for BEST's area. It will be necessary for the Petitioner to enter into formal dialogue with BEST for this purpose.*

5. In view of the above, Tata Power is making the following revised submissions with respect to Network Rollout Plan for Mumbai City Area (Licence Area common to BEST and Tata Power).

6. The Hon'ble Commission had also directed Tata Power to enter into a formal dialogue with BEST in this matter. While we are in the process of having this dialogue with BEST, we are making this submission to the Hon'ble Commission in the interest of time. We will make submissions with respect to Minutes of the Meeting/s held and any further additional submissions required, based on the outcome of the dialogue with BEST.

## **B. MUMBAI CITY NETWORK ROLLOUT ADDITIONAL SUBMISSION**

### **Re: Load Projection**

7. Tata Power has estimated the Load projection in Mumbai City area for the next 5-7 years based on the following:

- i. Existing demand currently being catered in Mumbai City by Tata Power and BEST
- ii. Considered the load projections after assuming an increase in the load to be catered in Mumbai City on account of following:
  - (a) Estimated natural load growth of existing consumers (yellow field areas)

(b) Estimated load growth due to redevelopment of existing properties (brown field areas)

(c) Estimated addition in load on account of opening up of new areas for development (green field areas)

This estimation of load addition and the methodology adopted for load estimation under yellow field, brown field and green field areas, has been explained in detail in our Additional Submission dated 06.08.2015.

Based on the above, Tata Power-D has projected the overall estimated load projection of Mumbai City in the next 5-7 years as follows:

**Table No.1: Estimation of Load Projection in Mumbai City**

Particulars		MW
Existing Peak Demand of BEST	a	900
Existing Peak Demand of Tata Power at Distribution Level	b	94
Existing Peak Demand of Mumbai City	c=a+b	994
<b>Add:</b>		
Growth in Yellow Field Areas	d	101
Growth in Brown Field Areas	e	115
Growth in Green Field Areas	f	64
Estimated Peak Demand of Mumbai City	g=c+d+e+f	1,274

**Re: Ward wise assessment of Load Projection**

8. The estimated Load Projection in the wards is further estimated based on the actual trend of load demand pattern of usage categories i.e. residential (apartment and slums), commercial and industrial in each ward which in turn is assessed based on actual built up land base as available in the Development Plan of Municipal Corporation of Greater Mumbai (MCGM). The Ward wise estimation of existing Load is as presented in the Table below:

Table No.2: Ward-wise Estimation of Existing Load in Mumbai City

Ward	Area details	Existing Load (at Dist. level) (MW)
A Ward	Marine Lines, Colaba	152
B Ward	JJ Hospital	30
C Ward	Chandanwadi	32
D Ward	Nana Chowk	109
E Ward	Byculla	115
F North Ward	Matunga	128
F South Ward	Parel	169
G North Ward	Mahalaxmi	118
G South Ward	Dadar	141
<b>Mumbai City</b>		<b>994</b>

9. Based on the above the ward wise Load projections works out to as follows:

Table No.3: Ward wise Load Projection for Mumbai City

Ward	Existing Load (at Dist. level) (MW)	Load Addition (Yellow field area) (MW)	Load Addition (Brown field area) (MW)	Load Addition (Green field area) (MW)	Total Load Estiamted in Mumbai City (MW)
	a	b	c	d	e=a+b+c+d
A Ward	152	19	0	0	172
B Ward	30	4	0	4	39
C Ward	32	3	0	0	36
D Ward	109	10	15	0	134
E Ward	115	11	60	17	203
F North Ward	128	10	6	20	165
F South Ward	169	15	21	23	227
G North Ward	118	11	8	0	138
G South Ward	141	16	5	0	162
<b>Mumbai City</b>	<b>994</b>	<b>101</b>	<b>115</b>	<b>64</b>	<b>1274</b>

**Re: Distribution Sub-station (DSS) Capacity**

10. Tata Power has proposed its network Roll out Plan to cater to 50% of the total Load projection of Mumbai City Area as estimated above. This is in line with the directions of Hon'ble Commission in the Licence Order in case 90 of 2014 as extracted below:

*"Network Development Plan considers 50% of the load serving 31% of the consumers creating a mismatch in capacity and consumer addition" (Para 6.6.40)*

*"The existing LT network of TPC is a small fraction of the LT networks of Rlnfra and BEST and therefore it will have to expand its LT network substantially for last*

*mile connectivity even to achieve servicing of 50% of the demand as envisaged in its Business Plan.” (Para 7.1.4 (a))*

11. Likewise the DSS capacity required to be installed in the Mumbai City area shall depend on the 50% of the anticipated capacity based on the estimated load projection as shown in the Table No. 3 above minus the existing capacity. For the purpose of this submission, it is considered that the new DSS to be developed shall be of 40 MVA capacity each.

12. Tata Power submits that to assess the DSS capacity requirement from the peak demand, a reasonable diversity factor needs to be considered. Tata Power-D has studied various technical codes and data of other Mumbai City licensees to arrive at a range of diversity factor.

- Assuming the submissions of other Mumbai distribution licensees of them being USO compliant and capable of serving entire Mumbai load, the diversity factor considering Mumbai peak demand and their total DSS capacity works out to 0.75.
- Similarly, if Mumbai peak demand and non co-incident peak demand of all three Mumbai licensees are considered, the diversity factor computes to 0.93.
- Tata Power has referred to International Standard (IEC – International Electrotechnical Commission) to arrive at a diversity factor of 0.80 to be considered for circuits emanating from distribution sub-station.

13. It is therefore inferred that getting specific diversity factor would be difficult for planning DSS capacity and hence for the purpose of this Network Rollout Plan. Tata Power has considered it appropriate to compute DSS capacity at 0.80 and 0.75 diversity factor.

14. The quantum of estimated peak demand considered for designing DSS network is MW and assuming Tata Power would develop its network to cater to 50% of this Demand. The following table shows the overall approach adopted by Tata Power in its Network Rollout Plan for computation of projected number of DSS and its corresponding capacity.

Table No.4: Projected DSS &amp; its Capacity – Mumbai City

Particulars		Units	Total	
Estimated Peak Demand of Mumbai City at Distribution Level	a	MW	1,274	
Diversity Factor for DSS	d		0.80	0.75
DSS capacity required	$e=c/d$	MVA	1,593	1,699
50% Target by Tata Power	$g=f*50\%$	MVA	796	849
Tata Power Existing Capacity (incl. 22kV Capacity)	h	MVA	409	409
<b>Additional DSS capacity Required</b>	$i=g-h$	<b>MVA</b>	<b>387</b>	<b>440</b>
Capacity of one DSS	j	MVA	40	40
No. of DSS projected	$k=i/j$	Nos.	10	12
Range of DSS Planned		Nos.	10 to 12	

15. As can be seen from the above Table, Tata Power has designed its network in order to create a capacity to cater to 50% of the total load of Mumbai City and considering, 40 MVA capacity per DSS. Based on this additional 10 to 12 nos of DSS are required considering diversity factors of 0.80 and 0.75 respectively. Accordingly, the DSS on cumulative basis will be targeted between 10 to 12 nos.

16. The ward wise DSS spread planned and expected to be executed depending on the availability of space is as shown in the following table:

Table No.5: Ward wise Projected DSS (40 MVA) – Mumbai City

Ward	Total Load Estimated in Mumbai City (MW)	DSS (MVA) Required for 50% load	Existing - HT Transformation Capacity	Existing - HT Capacity @ 22kV	Additional DSS Capacity Required (MVA)	No. of DSS Projected
	a	b	c	d	e	f
A Ward	172	107	0	0	110	3
B Ward	39	19	0	17	0	0
C Ward	36	22	0	0	30	1
D Ward	134	83	0	0	90	2
E Ward	203	127	0	0	130	3
F North Ward	165	103	32	161	0	0
F South Ward	227	140	0	132	10	0
G North Ward	138	86	0	67	20	0
G South Ward	162	99	0	0	100	3
<b>Mumbai City</b>	<b>1274</b>	<b>788</b>	<b>32</b>	<b>377</b>	<b>490</b>	<b>12</b>

#### Re: HT Network Addition

17. It has been assumed that the on an average a source RSS would be at a distance on about 5 kms from the DSS. In view of this, 10 km of 33 kV cable has been considered for every DSS to be installed considering two incoming cables from same/ different RSS.

18. The table below provides the projected 33 kV HT cable requirement considering both scenarios of diversity factors.

**Table No.6: Projected 33 kV HT Cable requirement – Mumbai City**

Particulars	Units	Total DF		
		0.80	DF 0.75	
No. of DSS projected	a	Nos.	10	12
33kV cable per DSS	b	km	10	10
33kV cable in Length	c=a*b	km	100	120
Range of 33 kV cables planned	km		100 to 120	

19. Tata Power-D has opted for a Ring Network Design for 11 kV network. In order to achieve the spread of 11 kV network in the load centre, it is planned to have 4 rings of 8 kms each. Thus, around 32 km of 11 kV network would be laid for every DSS. The table below provides the projected 11 kV HT cable requirement in Mumbai City area considering both scenarios of diversity factors.

**Table No.7: Projected 11 kV HT Cable requirement – Mumbai City**

Particulars	Units	Total DF		
		0.80	0.75	
No. of DSS projected	a	Nos.	10	12
11 kV cable per DSS	b	km	32	32
11 kV cable in Length	c=a*b	km	320	384
Range of 11 kV cables planned	km		320 to 390	

**Re: Consumer Sub-station (CSS) Capacity**

21. The Hon'ble Commission in its Order dated 14.08.2014 in Case No. 90 of 2014, had directed Tata Power to increase the reach at LT level. Accordingly, Tata Power-D has considered the respective CSS: DSS capacity ratio of the existing distribution utilities in Mumbai. The ratios computed in the range of 1.20 to 1.50. However for the purpose of this network rollout plan, the computation of CSS capacity has been done considering the ratio of 1.10. This ratio is considered for Mumbai City as the load is much concentrated and the density of load is higher in Mumbai City area. Further, as the CSS capacities may differ, depending on the requirement, an average capacity of 1 MVA per CSS has been considered for the purpose of network planning.

22. The details of the projected CSS capacity under both scenarios of diversity factor 0.80 and 0.75 is given in the table below:

Table No.8: Projected CSS Capacity – Mumbai City

Particulars		Units	DSS D.f 0.8	DSS D.f 0.75
Projected Number of DSS	a	Nos.	10	12
Existing Number of DSS	b	Nos.	1	1
Total Number of DSS	c=a+b	Nos.	11	13
Existing Capacity of DSS	d	MVA	40	40
Capacity of one DSS	e	MVA	40	40
Total DSS capacity	f=a*e+d	MVA	440	520
CSS:DSS Ratio	g		1.10	1.10
Total CSS Capacity	h=f*g	MVA	484	572
Existing CSS Capacity	i	MVA	75	75
Additional CSS Planned	j=h-i	MVA	409	497
Range of CSS Planned		MVA	400 to 500	

**Re: LT Network**

23. To arrive at the LT network requirement for Tata Power, the average of LT network density of private urban utilities operating in metro cities have been evaluated. Since Tata Power-D is placed in Mumbai, the LT network density of BEST & R Infra-D has been given preference for consideration for computation of LT Network requirement.

The LT network density has also been computed for BEST as given below:

Table No.9: LT Network Density for BEST

Distribution Utility	Area (sq.km)	LT Mains (ckt.km)	LT Density (ckt/ sq.km)
BEST	65	8047	123.8

Source: BEST MYT petition (assumption for FY13-14)

24. It is pertinent to point out that BEST's LT network figure of 8047 km in 65 sq.km area, is unfathomable and seemingly impossible. As for the BEST figure of 124 ckt. km per sq.km, it means that for about every 1 sq.km area, 124 kms of LT cable would have to be laid in around 31 concentric meshes and this too in an area which has a vertical growth rather than spread. As this seems to be overstated, the figures of BEST have not been considered for analysis/ assumption.

25. Tata Power-D submits that Hon'ble Commission in the license order has mentioned about 17715 km of LT network of R Infra-D. However, upon referring to various submissions of R Infra-D in ARR/ MYT petitions and its Licence Application in 2011, the figure also appears to be overstated when compared to their MYT submissions. Further, even referring to R Infra's MTR Petition the LT network is presented as 5,764 km for FY 2012-13 which also seems to be much higher than the submissions made in R Infra-D in MYT petitions and its Licence Application in 2011. Therefore, as comparison of past submissions of R Infra-D show consistency with the above mentioned figure of 4980 ckt.km, the same has been considered.

26. Further, as Tata Power would be developing network to reach 50% consumers, LT network density in the range of @50% and @70% of that of R Infra-D density has been planned to achieve the desired spread. The table below shows the LT network density:

**Table No.10: Computation of Network Density**

Distribution Utility	Area (sq.km)	LT Mains (ckt.km)	LT Density (ckt/ sq.km)		
				@50%	@70%
a	b	c	d=c/b	e=d*50%	f=d*70%
R-Infra	430	4980	11.6	5.80	8.10

Source: R-Infra - MYT figures of FY 14-15.

27. LT network density shall vary area wise depending on the presence of low end residential consumers in the area i.e. higher the presence of low end consumers, higher would be the LT network required for serving consumers and vice versa.

28. The table below provides the projected LT network requirement.

**Table No.11: Projected LT network requirement**

Particulars	Units	Considering	
		5.8 km	8.1 km
Area of Operation	a Sq.km	65	65
LT NW Norm Per Sq. km	b km	5.80	8.06
<b>LT Cable required in Mumbai</b>	<b>c=a*b km</b>	<b>377</b>	<b>524</b>
Existing LT NW of Tata Power	d km	26	26
<b>Additional LT NW projected to be developed</b>	<b>e=c-d km</b>	<b>351</b>	<b>499</b>
Range of LT NW planned	km	350 to 500	

29. Tata Power-D submits that with the projected LT network it would be able to cater the targeted number of consumers mainly in low end category. LT network density shall vary area wise depending on the presence of low end residential consumers in the area i.e. higher the presence of low end consumers, higher would be the LT network required for serving consumers and vice versa.

**Re: Ward wise Network Rollout in Mumbai City**

30. The ward wise network rollout projected by Tata Power-D in Mumbai City to cater to 50% of the load in Mumbai City area and to reach to 50% of the LT consumers is as follows:

Table No.12: Projected LT network requirement

Ward	Network Projected in Mumbai City Area					
	No. of DSS Proposed	DSS Capacity (MVA)	33 kV Cable Network (km)	11 kV Cable Network (km)	CSS Capacity (MVA)	LT Cable Network (km)
	a	b	c	d	e	f
A Ward	3	120	30	96	131	72
B Ward	0	0	0	0	0	17
C Ward	1	40	10	32	44	15
D Ward	2	80	20	64	88	59
E Ward	3	120	30	96	120	53
F North Ward	0	0	0	0	0	96
F South Ward	0	0	0	0	32	72
G North Ward	0	0	0	0	0	65
G South Ward	3	120	30	96	83	50
<b>Mumbai City</b>	<b>12</b>	<b>480</b>	<b>120</b>	<b>384</b>	<b>497</b>	<b>499</b>

**Re: Capex projected in Mumbai City**

31. Based on the above projected network rollout for Mumbai City Area, the capex projected is presented in the following table:

Table No.13: Capex Projected in Mumbai City

Network Components	Network Projected	Unit price (Rs. Crore)	Capex Projected (Rs. Crore)
	a	b	c=a*b
Number of DSS of 40 MVA	12	25.43	305
33 kV Cable Network (km)	120	0.74	89
11 kV Cable Network (km)	384	0.82	316
Consumer Substation (CSS) - 1 MVA or more	497	0.59	293
LT Cable Network (km)	499	0.36	182
<b>Total</b>			<b>1186</b>

**III. Comprehensive Network Rollout plan for entire Tata Power Licence area**

32. Tata Power-D has made additional submissions on 06.08.2015, in which Tata Power has presented ward wise network rollout plan based on the directions of Hon'ble ATE in its Judgment dated 28.11.2014 in Appeal No. 246 of 2012. The principles determined by Hon'ble ATE in this judgment were also adopted for Mumbai City Area. However, as per the directions of the Hon'ble Commission in the hearing held on 12.08.2015 in Case No. 182 of 2014, Tata Power-D has estimated the network rollout required in Mumbai City Area based on the direction of the Hon'ble Commission in its Order dated 14.08.2014 in Case No. 90 of 2014 and for Mumbai Suburbs as per the principles determined by Hon'ble ATE in this judgment. A Comprehensive Network Rollout Plan for the entire Licence Area based on the above, is set out in the Table below:

Table No. 14: Comprehensive Network Rollout Plan for the entire Licence Area

Ward	Network Projected				
	DSS Capacity (MVA)	33 kV Cable Network (km)	11 kV Cable Network	CSS Capacity (MVA)	LT Cable Network (km)
A Ward	120	30	96	131	72
B Ward	0	0	0	0	17
C Ward	40	10	32	44	15
D Ward	80	20	64	88	59
E Ward	120	30	96	120	53
F North Ward	0	0	0	0	96
F South Ward	0	0	0	32	72
G North Ward	0	0	0	0	65
G South Ward	120	30	96	83	50
<b>Mumbai City</b>	<b>480</b>	<b>120</b>	<b>384</b>	<b>497</b>	<b>499</b>
H East Ward	20	10	16	13	9
H West Ward	0	0	0	7	5
K East Ward	40	20	32	89	61
K West Ward	100	50	80	89	61
L Ward	0	0	0	9	6
M East Ward	20	10	16	16	11
M West Ward	0	0	0	11	8
Mira Bhayander Municipal	40	10	32	98	67
N Ward	90	30	72	88	60
P North Ward	0	0	0	41	28
P South Ward	10	0	8	27	19
R Central Ward	40	10	32	13	9
R North Ward	0	0	0	21	14
R South Ward	0	0	0	19	13
S Ward	40	10	32	40	27
<b>Mumbai Suburbs</b>	<b>400</b>	<b>150</b>	<b>320</b>	<b>581</b>	<b>399</b>
<b>Total Licence Area</b>	<b>880</b>	<b>270</b>	<b>704</b>	<b>1078</b>	<b>898</b>

33. Based on the above projected network rollout for the entire Licence Area, the capex projected is presented in the following table:

Table No.15: Capex Projected in the Licence Area

Network Components	Network Projected	Unit price (Rs. Crore)	Capex Projected (Rs. Crore)
	a	b	c=a*b
Number of DSS of 20 MVA	10	12.71	127
Number of DSS of 40 MVA	17	25.43	432
33 kV Cable Network (km)	270	0.74	200
11 kV Cable Network (km)	704	0.82	580
Consumer Substation (CSS) - 0.5 MVA	330	0.39	130
Consumer Substation (CSS) - 1 MVA or more	622	0.59	367
Additional Transformer for CSS	291	0.12	35
LT Cable Network (km)	898	0.36	328
<b>Total</b>			<b>2199</b>

#### D. PHASING OF NETWORK ROLLOUT PLAN FOR ENTIRE LICENCE AREA

34. Considering the network phasing and the capex requirement to implement the network rollout the estimated capex for Network Rollout Period has been presented in the following table:

**Table No. 16: Network Rollout Plan Phasing**

Network Components	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Number of DSS of 20 MVA	2	1	1	1	2	1	2
Number of DSS of 40 MVA	2	3	3	2	1	3	3
33 kV Cable Network (km)	20	40	35	60	35	45	35
11 kV Cable Network (km)	72	106	124	108	112	88	94
Number of CSS - 0.5 MVA	40	30	40	50	60	70	40
Number of CSS - 1 MVA or more	76	82	87	98	104	90	85
Additional Transformer for CSS	30	32	35	40	48	51	55
LT Cable Network (km)	105	109	129	142	157	151	105

**Table No. 17: Capex Phasing – Network Rollout Plan**

Network Components	Rs. Crore							
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total
DSS of 20 MVA	25	13	13	13	25	13	25	127
DSS of 40 MVA	51	76	76	51	25	76	76	432
33 kV Cable Network	15	30	26	45	26	33	26	200
11 kV Cable Network	59	87	102	89	92	73	77	580
Consumer Substation (CSS) - 0.5 MVA	16	12	16	20	24	28	16	130
Consumer Substation (CSS) - 1 MVA or more	45	48	51	58	61	53	50	367
Additional Transformer for CSS	4	4	4	5	6	6	7	35
LT Cable Network	38	40	47	52	57	55	38	328
Capex in Licence Area (Rounded Values)	~250	~310	~340	~330	~320	~340	~320	~2200

35. It is submitted that this Network Rollout Plan is based on the assumptions as explained in earlier paragraphs. The actual network rollout may get modified based on various factors like consumer demand and preference, transmission outlet availability, triggers for opening up of Green Field areas, etc.

35. In line with direction of the Hon'ble Commission, Tata Power has projected the network required to be rolled out in Mumbai City to be in a readiness to cater to 50% of the load and to reach out to 50% of the LT consumers. However, Tata Power in its additional submission dated 06.08.2015, has considered the principles enunciated by the Hon'ble Tribunal while proposing a network rollout even in Mumbai City Area. In view of this, Tata Power request the Hon'ble Commission to give appropriate consideration also the additional submissions made on 06.08.2015, while approving the Network Rollout Plan.

BEFORE THE MAHARASHTRA ELECTRICITY REGULATORY COMMISSION  
WORLD TRADE CENTRE, CENTRE NO.1, 13<sup>th</sup> FLOOR,  
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AFFIDAVIT

I, Mr. Bhaskar Sarkar, son of Mr. Arup Kumar Sarkar, aged 49 years, Head Business & Regulations (Mumbai Operation) of The Tata Power Company Limited ("Petitioner/ Tata Power"), having my office at Dharavi Receiving Station, Near Shalimar Industrial Estate, Matunga, Mumbai 400 019, Maharashtra, India, do hereby state on solemn affirmation as under:-

1. I state that I am the authorized signatory of Tata Power, the Petitioner, in the present Petition and as such I am fully conversant with the facts and circumstances of the present case and I am duly authorized and competent on behalf of Tata Power to swear and affirm this Affidavit.

2. I state that I have read and understood the accompanying Submissions in the captioned Petition and the same has been drafted under my instructions and after carefully going through the same. I state that the content of the same are true and correct to my knowledge and belief and it is stated that no part of it is false and nothing material has been concealed there from.

3. I state that the annexures along with the accompanying Reply, if any, are true copies of their respective originals.



DEPONENT

VERIFICATION

I, the deponent above named, do hereby verify that the contents of my above Affidavit are true and correct, no part of it is false and nothing material has been concealed therefrom.

Verified at Mumbai on this 19 day of August, 2015.



DEPONENT

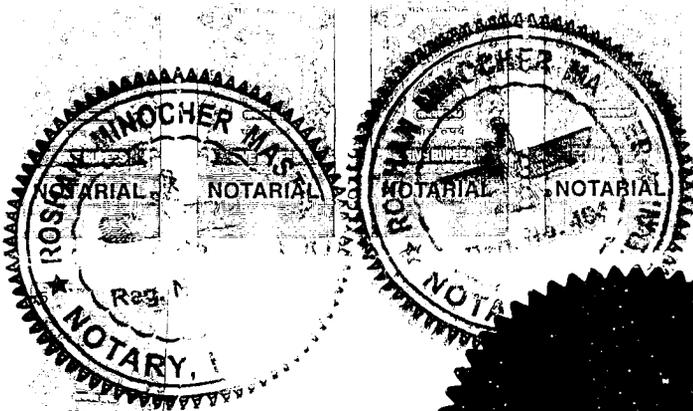
Before me?  
R M Master

MS. ROSHAN M. MASTER  
NOTARY, GREATER BOMBAY  
2403, GEORGE TOWER A  
BELLAS ROAD,  
MUMBAI - 400 008.

Reg. No. 404

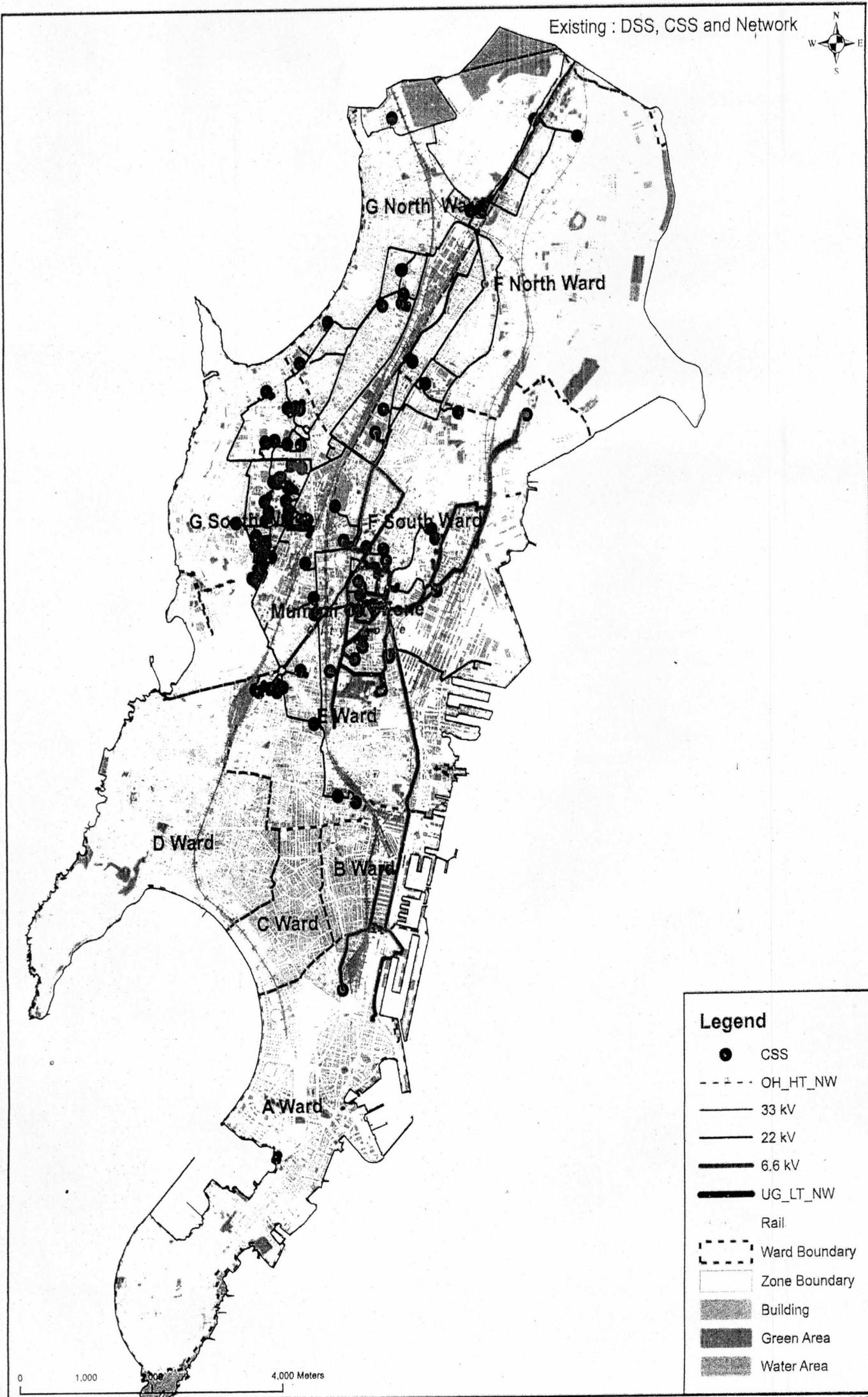
S. no 12335

19.8.2015



NOTARIAL

Existing : DSS, CSS and Network

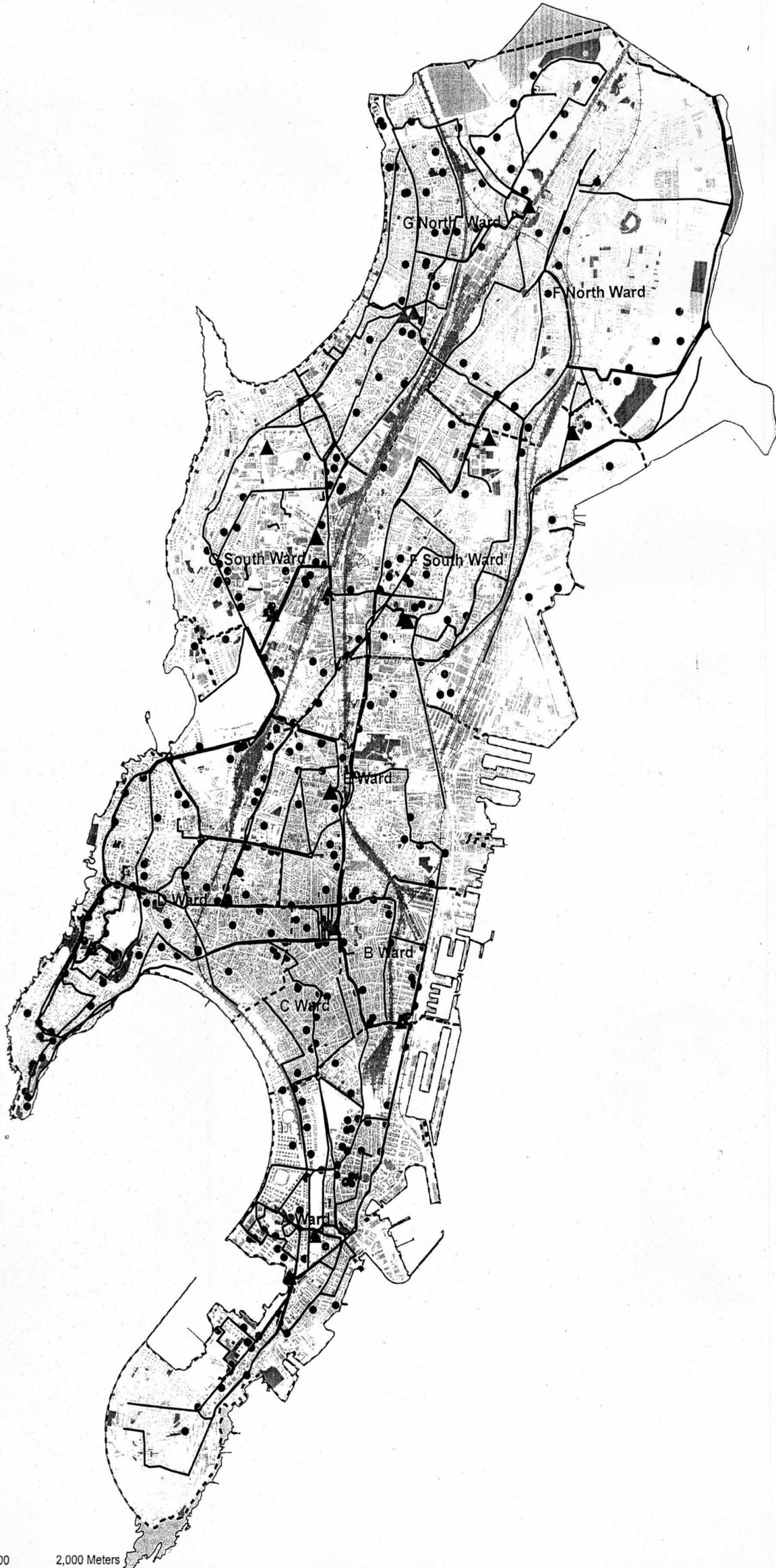


**Legend**

- CSS
- - - - OH\_HT\_NW
- 33 kV
- 22 kV
- 6.6 kV
- UG\_LT\_NW
- Rail
- - - - Ward Boundary
- Zone Boundary
- Building
- Green Area
- Water Area

0 1,000 4,000 Meters

Proposed : DSS, CSS and Network



0 500 1,000 2,000 Meters

**Legend**

- Proposed CSS
- ▲ Proposed DSS
- Proposed NW
- Rail
- - - Ward Boundary
- - - Zone Boundary
- ▭ Building
- Green Area
- Water Area

EXISTING & Proposed : DSS, CSS and NETWORK



0 500 1,000 2,000 Meters

- Legend**
- Existing CSS
  - 33 kV
  - 22 kV
  - 6.6 kV
  - - - OH HT NW
  - UG LT NW
  - Proposed CSS
  - ▲ Proposed DSS
  - Proposed NW
  - Rail
  - - - Ward Boundary
  - - - Zone Boundary
  - ▭ Building
  - ▨ Building
  - ▨ Green Area
  - ▨ Water Area