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Integrity
Trust
Collaboration
Respect



Tata Power-Distribution: Application for Distribution License Case No 90 of 2014- Technical Validation Session

17th April 2014



Flow of presentation

1. Distribution License Application - Background
2. Tata power in brief
3. Eligibility of Tata Power for grant of License
 - a. Meeting the Criteria under the Government of India Rules of 2005
 - b. Adequacy of Power Purchase tie up
 - c. Network Rollout Plan
 - d. Adequacy of necessary Technical and Managerial Expertise
4. Business Plan Submission
 - a. Sales Projections
 - b. Power Purchase Plan and cost
 - c. Capital Investment and Financing Plan
 - d. Average Cost of Supply
5. Area of Supply and continuation of certain consumers
6. Prayers

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Distribution License Application: Background

Distribution License: Background

- Hon'ble Commission has initiated the process of Expression of Interest (Eoi) for the License Area in North and South Mumbai on 1st January 2014
- Interested parties were to submit the Expression of Interest by 31st January 2014
 - Three Parties submitted the Eoi including Tata Power –D
 - The Hon'ble Commission directed Tata Power to submit formal application
- License Application was submitted by Tata Power on 7th April 2014 under Section 14 and Section 15 of the Electricity Act 2003

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Tata Power in brief

Tata Power background



100+ year legacy



Presence in fuel, generation, transmission, distribution and trading



**Part of the \$100 billion
TATA Group...
One of the most reputed
and trusted industry
houses from India**



**Pioneer in technology
adoption**

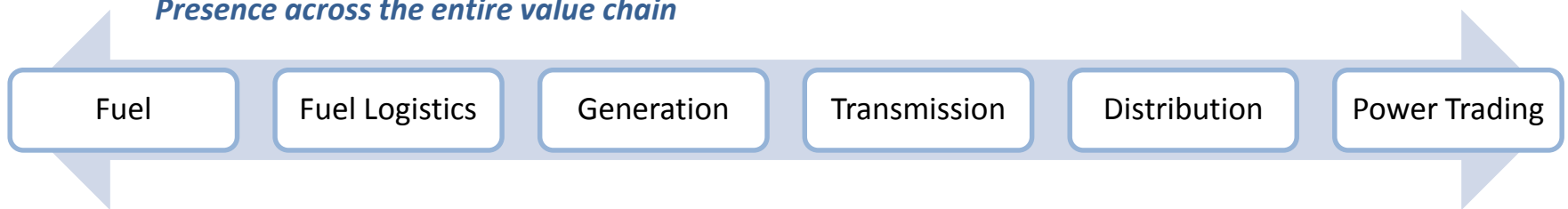


**Growing international
presence**

Tata Power is India's largest Integrated Power Utility

- **Founded in 1906** to supply power to Mumbai
 - First hydro plant commissioned in 1915
 - Was an integrated player and a licensee for - Generation , Transmission and Distribution (1907,1919,1921,1953)
 - Set up thermal power plants in Mumbai in the 1950s
- Expanded in India after private sector reforms in 1990s

Presence across the entire value chain



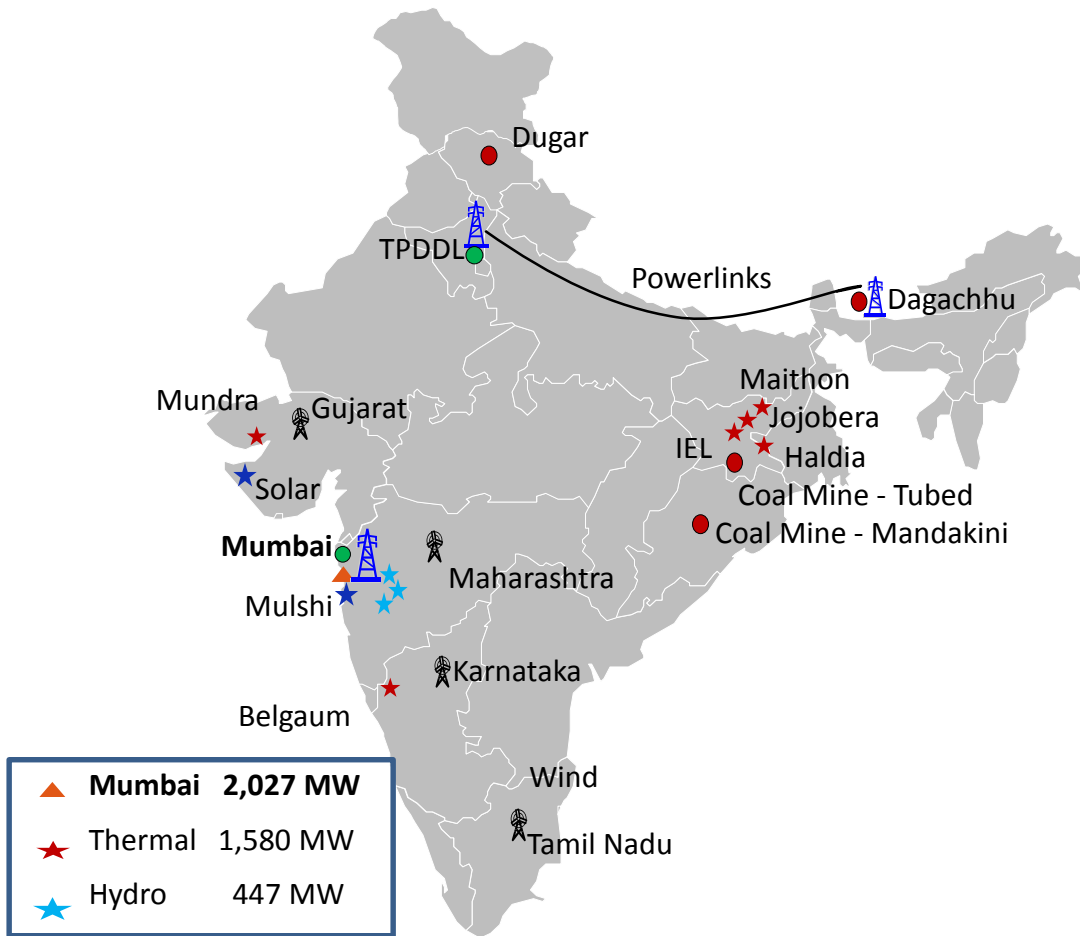
- **Thrust on renewable energy sources** including hydro, wind, solar and geothermal
- **Successful Public Private Partnerships** in generation, transmission and distribution



Pan India presence with Generation Capacity of 8,583 MW



Tata Power – India presence

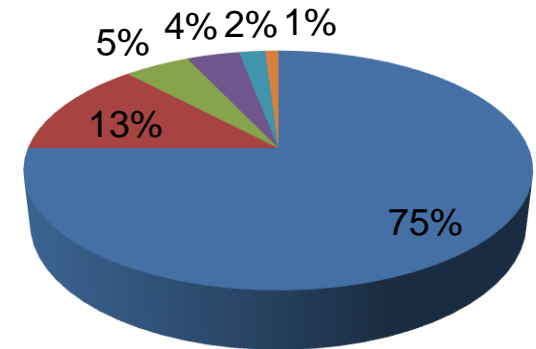


Power generation capacity

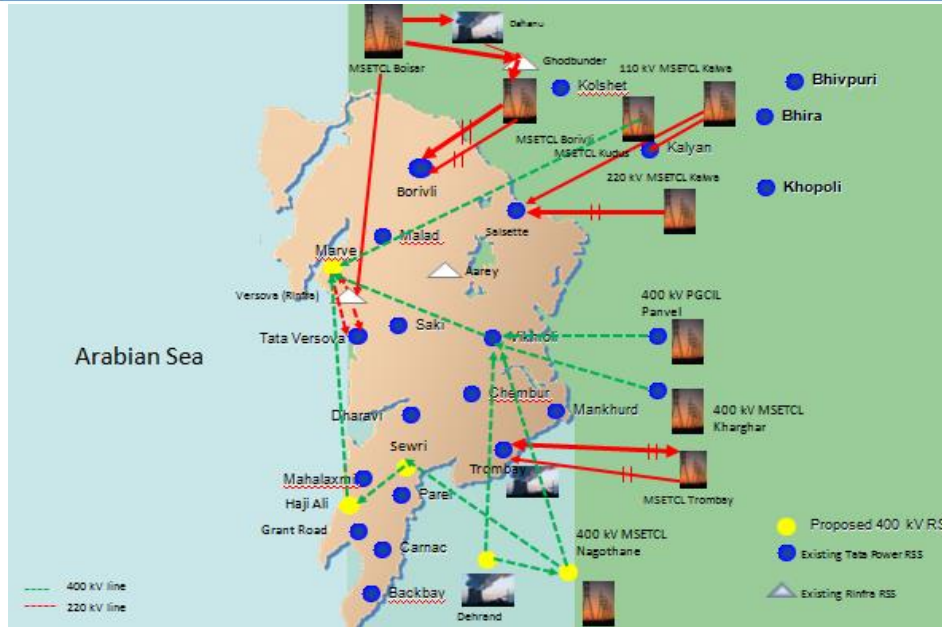
- ★ Thermal 7,646 MW
- ★ Hydro 447 MW
- 🌬️ Wind 437 MW
- ★ Solar 53 MW
- 🏗️ Transmission
- 🟢 Distribution
- 🟠 **Projects under construction**

Fuel Mix (MW%)

- Coal
- Gas
- Hydro
- Wind
- Oil/Diesel
- Solar



Transmission footprint in India and Mumbai



- **Tata Power presence in Mumbai**
- Tata Power Transmission has the second largest transmission capacity in Maharashtra
- One of five transmission licensees in Maharashtra
- The transmission network comprises of over 1,119 circuit km of 220 kV / 110 kV lines and 20 EHV receiving stations (about 9000 MVA)

Powerlinks Transmission Ltd.

is a JV between Tata Power & PGCIL (51:49)

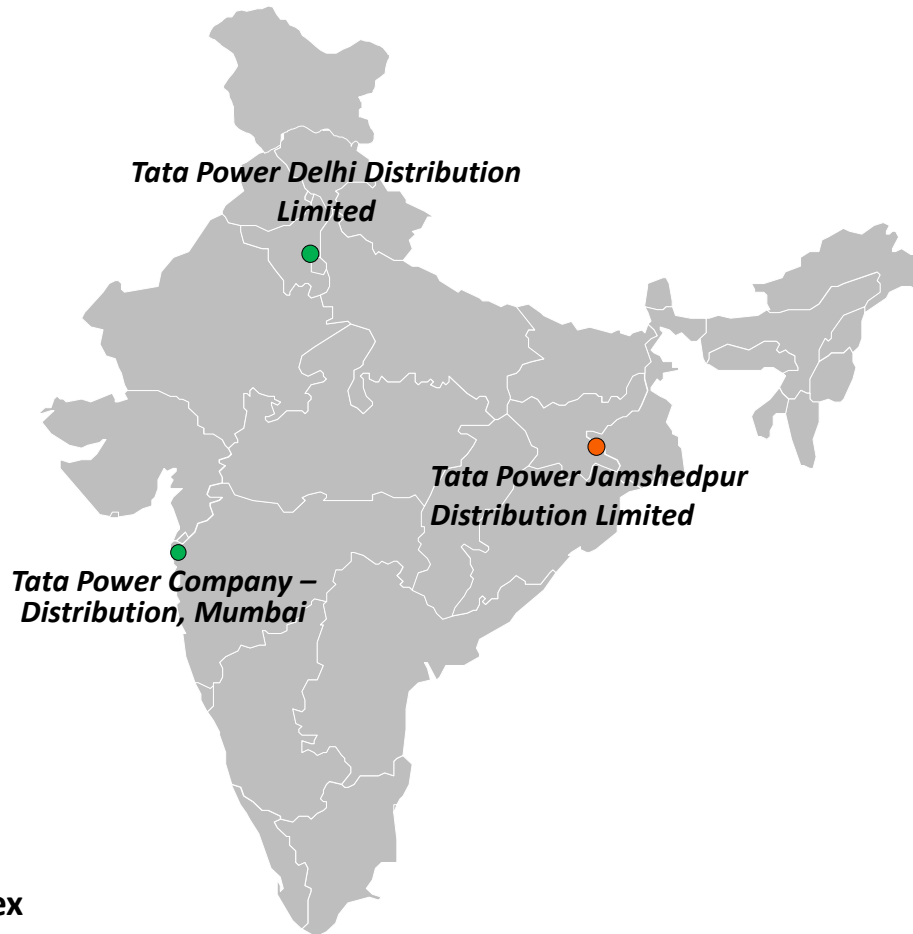
- Transmission lines between Siliguri (West Bengal) and Mandaula (Uttar Pradesh), spanning a distance of 1,166 kilometres
- Transmits power from
 - ✓ 1,020 MW Tala Hydro Electric Power Project in Bhutan
 - ✓ Surplus power from the Eastern/North-Eastern region of India



Distribution presence growing with 18 lakh consumer base



Tata Power – India presence



Efficiency and customer service – Hallmarks of Tata Power Distribution

Tata Power –D Mumbai

Retail customer base crossed 5 lakhs
Supplies about 38% of Mumbai’s requirements
24x7 reliable and uninterrupted power supply

TPDDL – 51:49 JV with Govt. of Delhi

Retail customer base >13 lakh
Reduction in AT&T losses from 53% to 11%

TPJDL – Jamshedpur Distribution franchisee

Recently won the Distribution Franchisee for the city of Jamshedpur
Expected retail customer base of 2.5 lakh

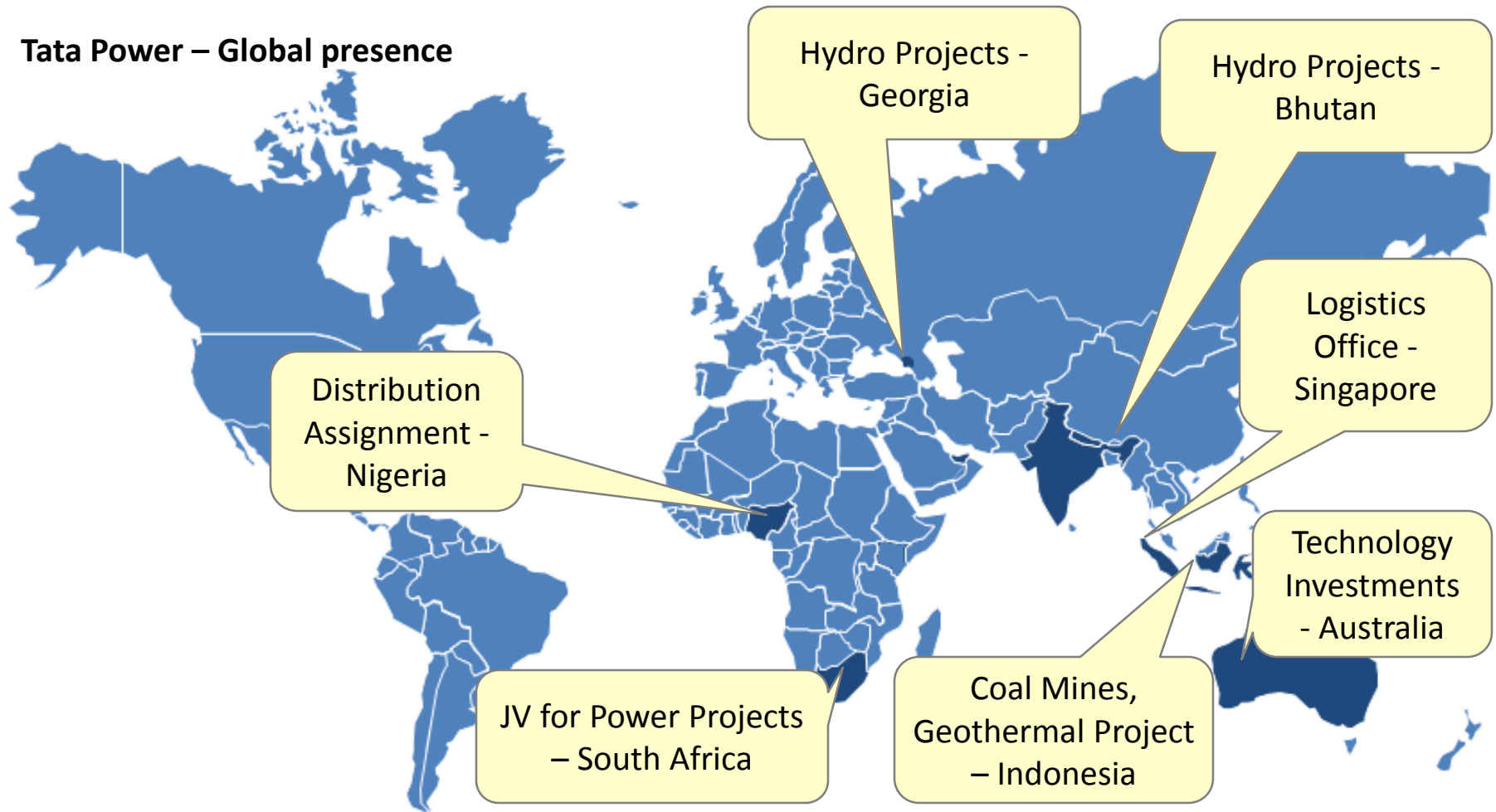
Index

- Existing operations
- Upcoming

Continuously expanding Global Footprint



Tata Power – Global presence



Partnerships have been built with several major players worldwide

1st

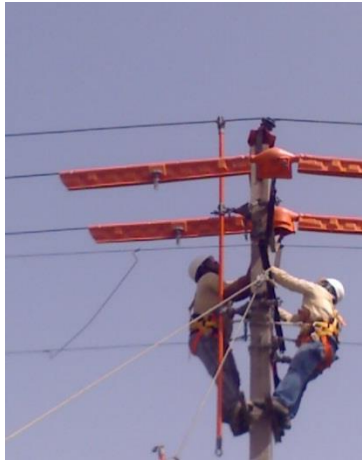
Generation

- 12 MW Hydro Unit (~ 1915)
- 150 MW Unit (1965)
- 500 MW Unit (1984)
- 150 MW Pumped Storage Unit (1995)
- 800 MW Unit with Supercritical Boiler (2012)
- 25 MW Solar Project (2012)
- Flue Gas Desulphurisation (FGD)1988

Transmission

- Gas Insulated Switchgear (GIS) 1988
- 220 KV Cable transmission (1988)
- 220 KV four circuit Transmission (1992)

Pioneer in Distribution



Live Line Maintenance



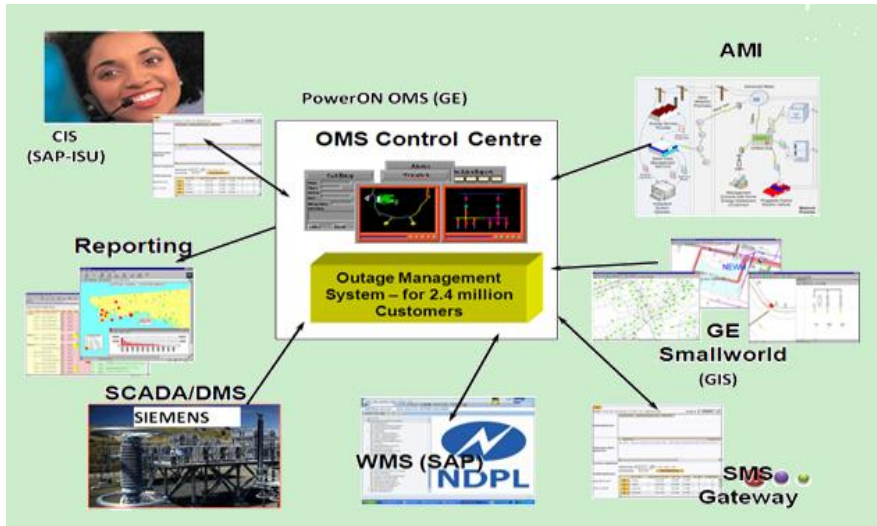
Conventional Sub-station



Packaged Sub-station

Package Substation

Auto Reclosures and Sectionalizer



Smart Grid Initiatives



High Voltage Distribution Substation- Being Replicated in Mumbai



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Capability of Tata Power in Distribution

Institutionalised Consumer Reach Mechanisms



Reach

Services

Engagement



Consumer Relation Centre (CRC)

- 25 CRCs/Bill Collection Centres (BCC) opened across Mumbai within 2-3 kM radius from any of the consumers. 5 to 6 are planned to be added.



Camps

- Mass awareness through Mass gathering -1382 in FY 2013-14
- Guidance meeting with Society Office bearers / Local influencers
- Pamphlet Distribution and Newspaper insertion before application collection drive ~ 9 Lakhs in FY 2013-14



Fleet on Street

- Visits are scheduled to the doorstep of individual consumer / society / area for addressing consumer convenience with respect to providing guidance, seeking applications for power supply and payment collection – 50000 application collected in FY 2013-14.



Advertisement

- Advertising in local dailies in line with MERC directive
 - In FY 2013-14 enrolling 0-300 residential consumers in five dailies
 - Printing Tata Power Tariff in newspaper

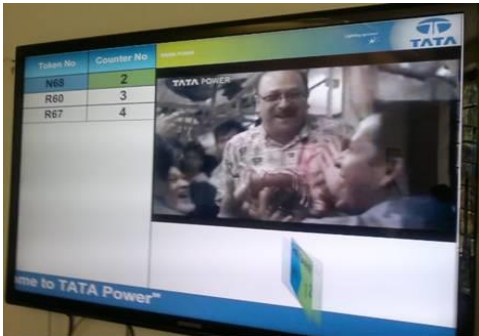
Consumer Services – CRCs



Reach

Services

Engagement



- ✓ Multilingual portal which offers wide array of services relating to billing, Consumer contact point, application forms, Bill calculator, energy calculator etc
- ✓ Consumer Relationship Centre (CRC): Managed by advanced technology like queue management system, consumer relationship management software and providing automated feedback mechanism
- ✓ Array of Bill payment options viz. CRC (35%), electronic kiosk, drop boxes (24%), ECS+ online payment (26%), Mobile Bill collection van, Banks, post offices, Credit Card ,Suvidha card, ITZ card.

Reach

Services

Engagement



Initiatives for Consumer engagement:

- Consumer Charter
- Safety inspection and Audits for consumers
- Safety awareness through training programmes
- Consumer payment behavior analysis – 100 % collection efficiency
- Wiremen training program
- Tata Power Green initiative - no to paper bills
- Original Equipment Manufacturer (OEM) training for consumers
- Demand Side Management
- Knowledge sharing session for staff of consumers

Tata Power-D - Technology Initiatives

Consumer Service

Varied Bill Payment Options

Consumer Relationship Mgmt. (CRM) software

Meter installation data - Personal Device Assistant

Automatic Meter Reading (AMR)

Network Augmentation & Expansion

CYMEDIST – Network Planning in GIS

Design of 3 Tier DSS

33 kV Ring Main Unit

Ester filled Transformers

Mobile Sub-Station

Network Maintenance

Line Resonance Analysis (LIRA)

Thermo Scan

Ultrasonic Detectors

Power Quality Management Systems

Distribution Automation System

- ❑ Tata Power has rich experience in Distribution Business which it undertakes through
 - ✓ Tata Power-D in its Mumbai License area
 - ✓ TPDDL in North Delhi

- ❑ The key statistics of the above two businesses is presented beside:

Mumbai Distribution

Particulars	Parameters	Tata Power-D (as on 31st March 2014)
Retail Servicing	Consumer Base (Nos)*	4,94,000
	Sales (Mus) (HT -52%, LT- 48%)	6541
	Collection efficiency	100%
Physical Infrastructure	Capitalisation (Rs Crs)-	1450
	Gross Fixed Asset	
	DSS (Nos)	27
	DSS (MVA)**	935+590
	HT (km)	1915
	CSS (Nos)	643
	CSS (MVA)	672
	LT (km)	1124

* Now crossed 5 Lakhs

**Additional 110 KV/22 KV stations for meeting Railways and large loads (about 10 stations) about 590 MVA

- ❑ Tata Power has rich experience in Distribution Business which it undertakes through
 - ✓ Tata Power-D in its Mumbai License area
 - ✓ TPDDL in North Delhi

- ❑ The key statistics of the above two businesses is presented beside:

Delhi Distribution

Particulars	Parameters	TPDDL
Retail Servicing	Consumer Base (Nos)	13,86,439
	Sales (Mus)	7364
	Collection efficiency	99.55%
Physical Infrastructure	GFA	4200
	DSS (Nos)- (66 KV + 33 KV)	66
	DSS (MVA)	3655
	HT (km)	4433
	CSS (Nos) (11 KV)	29281
	CSS (MVA)	4867
	LT (km)	6119

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Eligibility for grant of license to Tata Power

Criteria for Grant of Distribution License

Statutory/Legal Requirement

1

Meeting the requirement laid down under the GoI Rules of 2005

Additional Requirement

2

Tie up of adequate Power for purchase

3

Submission of Network Roll out plan

4

Availability of Technical and Managerial Expertise

Criteria for Grant of Distribution License



1

Meeting the requirement laid down under the GoI Rules of 2005

Criteria as per GoI Rules, 2005



Particulars	Criteria
Minimum area of supply requirement –	Should be a Revenue District, or a Municipal Corporation or a Municipal Council
Code of conduct requirement -	Should not be found guilty or has not been disqualified under certain sections of Companies Act, Income tax Act, SEBI Act, Excise Act and Customs Act
Credit worthiness requirement	- No specific requirement mentioned in the Rules
Capital Adequacy requirement –	Applicant to satisfy that it can raise 30% equity on cost of investment on the basis of Networth and generation of internal resources – excluding equity committed elsewhere

Criteria 1: Minimum Area Criteria

Proposed Area of License	How it meets the Criteria
<p>Has applied for the existing license area of Tata Power along with Chene Versave in Mira Bhayander Municipal Corporation</p>	<ul style="list-style-type: none"> Proposed Licence area include- South Mumbai which is a Revenue District With inclusion of Chene Varsave villages, the entire Mira Bhayandar Municipal Corporation is a part of the proposed Licensed Area

Criteria 2 : Code of Conduct

Code of Conduct	How it meets the Criteria
<p>Should not be found guilty or has not been disqualified under certain sections of Companies Act, Income tax Act, SEBI Act, Excise Act and Customs Act</p>	<p>Tata Power has not been found guilty under any of these statutes Tata Power recognised amongst worlds most ethical companies by Ethisphere Institute</p>

B. Capital Adequacy (1/3) – Computation of Net Worth for Tata Power



- ❑ The Hon'ble Commission in the past had given the empirical formula for calculation of Net worth and Internal Resource Generation.
- ❑ Based on the same empirical formula Tata Power has arrived at its Networth for the past three years as also its Internal Resource Generation as shown in the table below:

	Rs Cr			
Networth	FY 12-13	FY11-12	FY10-11	Max Networth in last 3 years
Equity Share capital	237	237	237	
Reserves and Surplus	10803	10389	10405	
Revaluation Reserve	0	0	0	
Intangible assets	103	43	12	
Miscellaneous expenditure to the extent not written off and carry forward losses		-	-	
Networth (Rs Crs)	10,937	10,583	10,630	10,937

B. Capital Adequacy (2/3) – Computation of Internal Resource Generation



Internal Resource Generation	FY12-13	FY11-12	FY10-11	Rs Cr
				Max IRG in the last three years
Profit After tax	1024.69	1169.73	941.49	
Depreciation & Amortisation	364.1	570.35	510.14	
Decrease in Net current assets (excluding cash)	-1332.13	-878.89	378.78	
Any other non cash expenditure (including deferred tax)	369.23	204.05	37.15	
Scheduled loan repayment and increase in net current assets (excluding cash)	558.96	236.88	524.79	
Internal Resource Generation	(133)	828	1,343	1,343

B. Capital Adequacy (3/3)



Does Tata Power satisfy the criteria as set by MERC

Sr No	Particulars	Test 1	Test 2
1	Maximum Networth in any of the previous 3 financial years	10,937	
2	5 times the maximum IGR in any of the past 3 years		6,714
3	Equity Committed elsewhere (CE) (26 % equivalent)	1,012	1,012
4	Residual amount	9,925	5,702
5	Equity required to be Committed in License Area (CIC)- 26 % of 30% of the Capital Investment in 5 years)	147	147
6	Whether it meets the Criteria (i.e is 5 less than 4)	Yes	Yes

Therefore Tata Power has met the eligibility requirement for capital adequacy as it passed the test for both Networth and Internal Resource Generation

C. How has Tata Power met the Credit Worthiness Criteria

1/2



- ❑ To assess the credit worthiness following two documents have been furnished:
 - ✓ Letter from a bank that the company is financially solvent
 - ✓ Credit rating of some of the debt instruments introduced by the company in the market

Dear Sir/Madam,

This is to certify that M/s. The Tata Power Company Ltd. having its office at Bombay House, 24, Homi Mody Street, Mumbai 400 001 is a customer of our Bank. Based on the audited financial statements of the Company for the year ended 31.03.2013, the tangible net worth of the company is Rs. 13,657crores. In our opinion considering the tangible net worth of the Company, the company may be considered solvent to the extent of Rs. 13,657crores.

The information given above is furnished to you in utmost secrecy and confidence without any liability, risk or responsibility on part of the bank or the bank(s) official signing this letter as a guarantor or otherwise. This certificate is being issued at the specific request of the customer.

For HDFC Bank Limited

Authorised Signatory

C. How has Tata Power met the Credit Worthiness Criteria 2/2



- ❑ To assess the credit worthiness the following two documents to be furnished:
 - ✓ Letter from a bank that the company is financially solvent
 - ✓ Credit rating of some of the debt instruments introduced by the company in the market



Brief Rationale

January 7, 2014

**CARE REAFFIRMS THE RATINGS ASSIGNED TO THE INSTRUMENTS OF
TATA POWER COMPANY LTD**

Ratings

Facilities	Amount (Rs. crore)	Ratings ¹	Remarks
Perpetual Bond	1,500	CARE AA [Double A]	Reaffirmed
Hybrid Bond	1,500	CARE AA [Double A]	Reaffirmed
Non Convertible Debenture	210	CARE AA [Double A]	Reaffirmed

Both the Credit Rating as well as the Solvency Certificate proves that Tata Power has good financial flexibility to undertake operations in the proposed area of License

Criteria for Grant of Distribution License



2

Tie up of adequate Power for Purchase

Adequacy of Power Purchase



Supply Availability	Generation Capacity	Net Generation Capacity	Contracted Capacity	Period 1 (FY 2014-15 to FY 2017-18)		Period 2 (FY 2018-19)	
				Base Contracted Capacity	Peak Contracted Capacity	Base Contracted Capacity	Peak Contracted Capacity
	MW	MW	%	MW	MW	MW	MW
Tata Power -G							
Unit 4*	150.00	138.00	26.84%	37	-	-	-
Unit 5	500.00	470.00	48.84%	230	230	230	230
Unit 6	500.00	482.50	48.84%	236	-	236	236
Unit 7	180.00	174.60	48.84%	85	85	85	85
Unit 8	250.00	228.75	60.00%	137	137	137	137
Hydro	447.00	440.30	48.84%	215	-	215	-
* Unit 4 has not been considered for assessing supply availability, Unit 6 shown in peak							
Renewable Source (Equivalent Thermal Capacity shown at 20% PLF/85% PLF for thermal				286	67	67	67
Long Term tie-up for Domestic Coal				276	276	276	276
Bilateral Power Purchase				0	-	-	-
Total Capacity				1502	795	1246	1031
Base / Average Demand					806	806	
Peak Demand						1,120	1,120
Supply Availability					99%	111%	128%
Composite index with weights of 75% for base and 25% for peak					102%	124%	

Plan for meeting RPO



Demand projections	Unit	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Requirement	MUs	6,205	6,480	6,972	7,523	8,140
Non Solar RPO						
Non Solar RPO	%	8.50%	8.50%	8.50%	8.50%	8.50%
Non Solar Requirement	MUs	527	551	593	639	692
Non Solar Met through identified sources not considering generation from Supa and Nivde for RPO	MUs	362	433	433	433	433
Deficit/(Surplus)	MUs	166	118	160	206	259
Solar RPO						
Solar RPO	%	0.50%	0.50%	0.50%	0.50%	0.50%
Solar Requirement	MUs	31	32	35	38	41
Solar Met	MUs	47	47	47	47	47
Deficit/(Surplus)	MUs	(16)	(14)	(12)	(9)	(6)

- Tata Power has tied up 220 MW of Non Solar Renewable capacity and 28.07 MW of Solar capacity
- A deficit in non solar obligation will be met by direct transfer of REC's generated by Nivede and Supa windfarms

Criteria for Grant of Distribution License



3

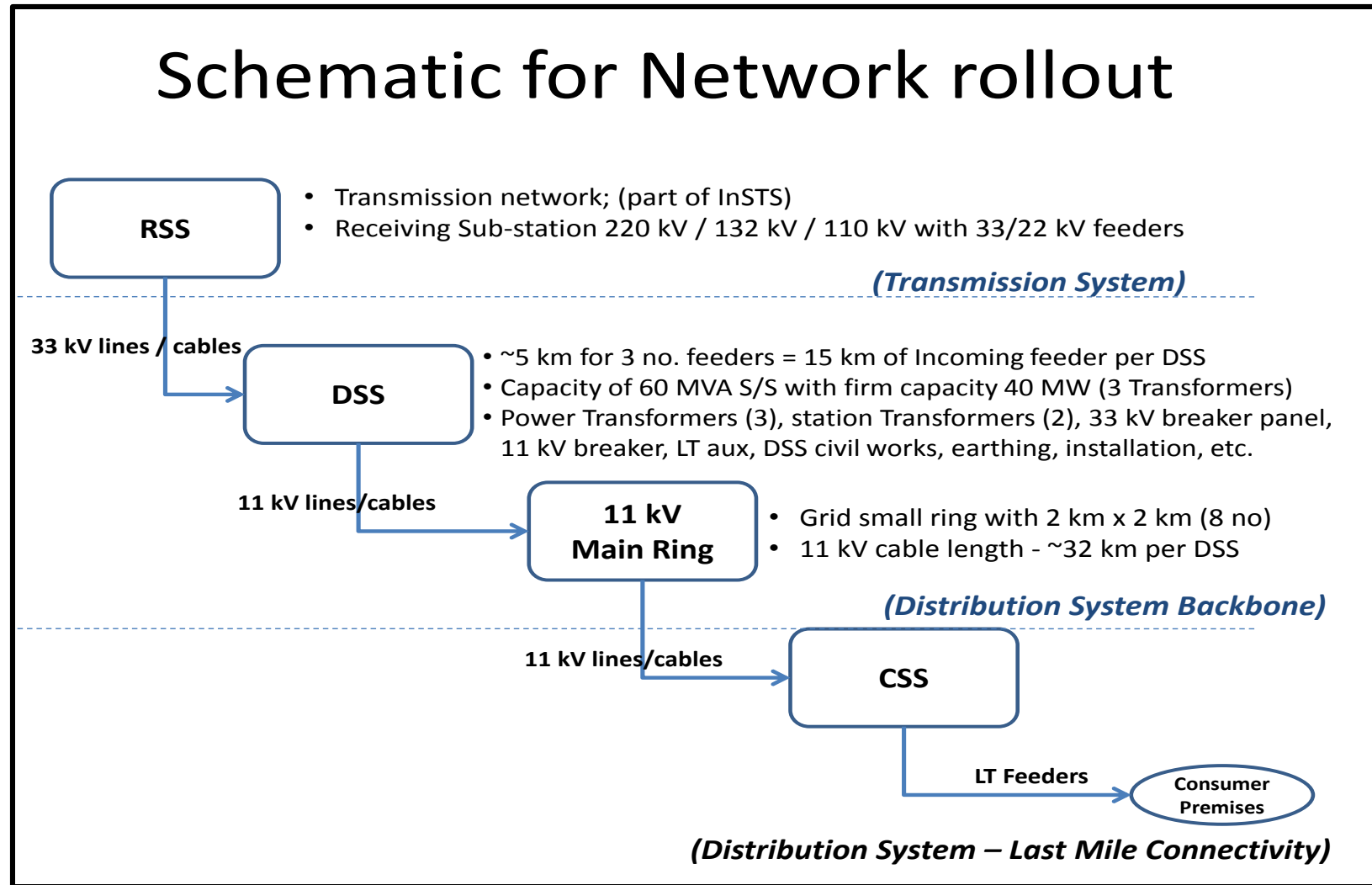
Submission of Network Roll out plan

Network Planning & Rollout Philosophy

- Network Rollout philosophy is based on the MERC Supply Code Regulations, SOP Regulations and CEA (Technical Standards for Construction of Electrical Plant and Electrical Lines) Regulations, 2010.
- In line with the above Regulations, Tata Power needs to
 - (a) create a backbone of distribution network backbone - (33kV/11kV) DSS
 - (b) identify source or outlet at RSS to feed supply to DSS,
 - (c) establish connectivity to feed the DSS from identified RSS and
 - (d) create 11 kV main ring network.

- **Developing network in this fashion will enable Tata Power to comply with the timelines laid down under SOP & Supply Code Regulations**
- **Also in line with the views of Rural Electrification Corporation (REC)**

Schematic for Network rollout



Network Rollout: Planning



		Units	South Mumbai	North Mumbai	Total
a	Licence Area	Sq Km	65	420	485
b	Less: Green Area, Marshy Lands, Water bodies & Non Development Area	Sq Km	5	158	163
c=a-b	Net Area for Development	Sq Km	60	262	322
d	Demand –MW (FY 12-13)	Mw FY 12-13	900	2300	3200
e=d/c	Load Density (MW/Sq km)	MW/Sq Km	15	9	10
f=d/40	No. of DSS @ 40 MW each	@ 40 Mw each	23	58	81
g	Geographic Area coverage per DSS	@ 6sq km per DSS	6	6	6
h=c/g	No of DSS to cover entire geography	No	10	44	54
i=f*50%	Tata Power DSS @ 50% (Load Criteria)	50%	12	29	41
j=h*100%	Tata Power DSS (Reach Criteria)	100%	10	44	54
k=max(i,j)	Max of above 2 Criteria		12	44	56
l	Existing DSS	No	1	26	27
m=k-l	Additional DSS to be Identified	No	11	18	29
n	Number of DSS planned for next five years on the basis of sites identified	No	5	11	16
o=m-n	Number of DSS planned beyond five years	No	6	7	13

Tata Power is planning to setup additional 30 Nos of DSS out of which 17 Nos of DSS (including DSS at Chene Varsave) will be commissioned in the next 5 years and another 13 Nos of DSS will be commissioned beyond FY 2018-19

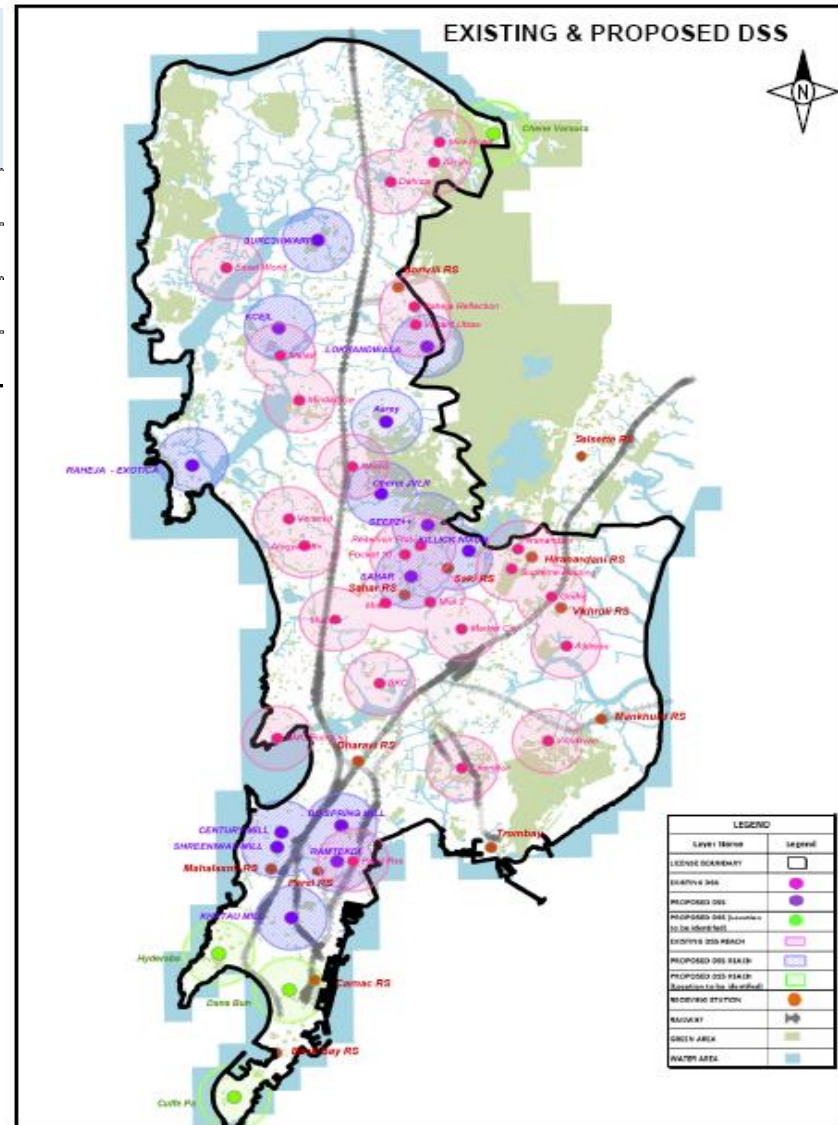
Distribution License: Network Rollout



Particulars (DSS)	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total	Beyond FY 2018-19	Grand Total
South Mumbai		1	2	1	1	5	6	11
North Mumbai	4	2	2	1	2	11	7	18
Chene Versova				1		1	0	1
Total	4	3	4	3	3	17	13	30

Note: For North Mumbai the DSS addition is likely to be enhanced to 2 after due diligence in FY 2017-18

- MVA Capacity will be developed from 1525 MVA to 2445 MVA by FY 2018-19 and to 2725 MVA beyond
- The developed capacity of Tata Power would meet 50 % of the Mumbai Load which is assumed to be growing at 3 % p.a even after 15 years
- The DSS whose areas have not been identified will set up on identification of the land (13 No)



- ❑ Establishment of CSS and last mile connectivity would be critically dependent on the choice to be exercised by the consumers
- ❑ It will be difficult to assess the location and quantify the requirement for establishment of CSS/last mile infrastructure at this stage under the network rollout plan
- ❑ However, for the purpose of business plan projections, we have assumed that around 24 numbers of CSS would be installed per DSS.
 - Actual number of CSS development would depend on the load and demand for the area to be served
 - Some load would be on HT.

Innovation used/planned for installation of CSS

- Mobile Sub-station
- High Voltage Distribution System
- Ester filled transformers

Network Rollout : Infrastructure Planned



Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
Backbone Network						
DSS (no.)	4	3	4	3	3	17
33 kV cable (km)	60	45	60	45	45	255
11 kV cable (km)	128	96	128	96	96	544
CSS Onwards + LT						
CSS (no.)	96	72	96	72	72	408
LT Feeder (km)	480	360	480	360	360	2040

Capital Cost Estimate (Rs Crore)

Backbone Network						
DSS incl. 33kV and 11kV	237	178	237	178	178	1007
CSS Onwards + LT						
CSS	30	23	30	23	23	128
LT Feeders	175	131	175	131	131	744
Capex Investment	442	332	442	332	332	1879

Criteria for Grant of Distribution License



4

Availability of Technical and Managerial Expertise

Management and Technical Expertise



Area	Expertise
Key Personnel (Details of 15 personnel shown in Annexure-5 of Application)	Key personnel of Tata have rich experience of about 20 -30 years in both Managerial and Technical functions viz. Distribution, Power Purchase and other support services
Experience of Management in Handling businesses with large no of consumer and employees	Tata Power through Tata Power-D in Mumbai serves 5 lakh consumers (18 lakhs with TPDDL) and have a total employee strength of about 500 employees (excluding the outsourced manpower) and 4000 employees with TPDDL

Management and Technical Expertise



Area	Expertise
<p>Experience and record of accomplishment of the firm in the value chain of electricity</p>	<p><u>Generation:</u> Tata Power has a total installed capacity of 8560 MW comprising of various sources. Out of this capacity 2027 MW is embedded within Mumbai</p> <p><u>Transmission:</u> Tata Power has 1119 Ckt km of network coupled with 20 Receiving stations with 9000 MVA capacity. 400 KV network underway.</p> <p><u>Distribution:-</u>Tata Power through its Distribution businesses has a retail annual sales of about 13000 Mus (including TPDDL)</p>
<p>Experience of Rolling out advanced technology</p>	<p>Tata Power has introduced various technologies which can be broadly classified under:-</p> <ul style="list-style-type: none"> • Network Augmentation and Expansion • Reliable Power supply • Disaster Management Plan in line with National Disaster Management Authority (NDMA) guideline. Was well implemented during the deluge of 2005

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Business Plan of Tata Power –D

- a. Sales Projections
- b. Power Purchase Costs
- c. Capital Costs
- d. Financing Plan
- e. Average Cost of Supply

Key Assumptions for estimating Sales for the period FY 2015 – 2019

- ❑ Hon'ble Commission has projected the sales in the MYT Tariff Order of Tata Power at 6974 MUs in FY 2013-14 increasing to 8306 MUs in FY 2015-16.
- ❑ Thereafter, significant regulatory developments have taken place which has resulted in decline in sales as compared to that estimated in the MYT Order.
- ❑ Tata Power has worked out the growth rates based on various parameters:
 - ✓ Growths in various categories of consumers experienced in the past and expected in future
 - ✓ expected additions and deletions from the present sales on account of tariff differentials,
 - ✓ orders of the Hon'ble Commission and
 - ✓ the network that is being proposed to be rolled out in the next five years.

Sales Estimate and Demand Projections



	Unit	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Total Sales	MUs	5625.06	5874.39	6317.83	6813.74	7368.79
HT	MUs	2,968	3,109	3,307	3,523	3,758
LT	MUs	2,657	2,765	3,011	3,291	3,611
Distribution Loss						
Applicable						
HT	%	1.94%	1.94%	1.94%	1.94%	1.94%
LT	%	9.00%	9.00%	9.00%	9.00%	9.00%
Distribution Loss	%	5.41%	5.40%	5.44%	5.48%	5.53%
Sales of Tata Power-D at T<>D Interface	MUs	5946.55	6209.40	6681.02	7208.92	7800.28
HT	MUs	3026.86	3170.53	3372.49	3592.39	3832.02
LT	MUs	2919.69	3038.87	3308.53	3616.53	3968.26
Total consumption (at T<>D Interface)	Mus	5946.55	6209.40	6681.02	7208.92	7800.28
Transmission Loss	%	4.17%	4.17%	4.17%	4.17%	4.17%
Applicable						
Demand at delivery point (at G<>T interface)	Mus	6205.32	6479.60	6971.74	7522.61	8139.70
Average Demand	MW	708.37	739.68	795.86	858.75	929.19
Load Factor		0.72	0.72	0.72	0.72	0.72
Peak demand	MW	983.85	1027.33	1105.36	1192.70	1290.54

Key Assumptions for Power Purchase for the period FY 2015 – 2019 -1/3

- Although the current PPA of Tata Power-D with Tata Power-G is ending in FY 2017-18, same power purchase arrangement considered till FY 2018-19 and beyond.
- Unit 4 not considered as a standby unit and no generation considered from Unit 4.
- Economy shutdown of Unit 6 proposed to be continued till the unit is converted to a coal fired unit. –Unit 6 would be brought on line for meeting the Mumbai Demand as and when required
- However, Conversion of Unit 6 proposed in FY 2018-19 instead of FY 2015-16 as proposed in the MYT in light of delay in permissions

Key Assumptions for Power Purchase for the period FY 2015 – 2019 -2/3

- Power Purchase from Domestic Coal based source
- Renewable Power purchase will be as per the obligations required to be met and the procurement will include existing tied up capacities and purchase through REC.
- Balance requirement is proposed to be procured through bilateral power purchase and from imbalance pool

Distribution License: Power Purchase Plan



MUs

	FY 2014-15		FY 2015-16		FY 2016-17		FY 2017-18		FY 2018-19	
Energy Required at G<> T Interface	6,205.32	100%	6,479.60	100%	6,971.74	100%	7,522.61	100%	8,139.70	100%
Met Through										
Tata Power -G	3,214.85	52%	3,970.82	61%	3,970.82	57%	3,970.82	53%	4,775.11	59%
Unit 5	1,709		1,709		1,709		1,709		1,709	
Unit 6	0		0		0		0		804	
Unit 7	598		598		598		598		598	
Unit 8	266		1,022		1,022		1,022		1,022	
Hydro	642		642		642		642		642	
Renewable Source	409	7%	480	7%	480	7%	480	6%	480	6%
Long Term tie-up for Domestic Coal	661	11%	1,362	21%	1,525	22%	2,033	27%	2,033	25%
Bilateral Power Purchase & Imbalance pool Purchase/ Unit 6*	1,921	31%	667	10%	997	14%	1,039	14%	852	10%

Avg Cost of Power Purchase	Rs/Kwh	3.91	4.18	4.16	4.00	4.05
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Capital Investment Plan



Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
Backbone Network						
DSS (no.)	4	3	4	3	3	17
33 kV cable (km)	60	45	60	45	45	255
11 kV cable (km)	128	96	128	96	96	544
CSS Onwards + LT						
CSS (no.)	96	72	96	72	72	408
LT Feeder (km)	480	360	480	360	360	2040

Capital Cost Estimate (Rs Crore)

Backbone Network						
DSS incl. 33kV and 11kV	237	178	237	178	178	1007
CSS Onwards + LT						
CSS	30	23	30	23	23	128
LT Feeders	175	131	175	131	131	744
Capex Investment	442	332	442	332	332	1879

- ❑ The Capital Investment would be financed in the Debt to Equity ratio of 70:30
- ❑ For the purpose of Business Plan, it has not identified specific sources of Debt to Equity
 - ❑ However considering its financial strengths and Credit worthiness, Internal Revenue Generation, Equity Infusion and External Borrowings would be made available

Average Cost of Supply



Rs. Crore

	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Power Purchase Cost	2949.38	3248.15	3449.07	3562.18	3857.72
RoE	5.56	6.63	7.72	8.81	9.91
Depreciation	6.05	7.10	8.19	9.28	10.35
O&M	69.51	76.51	86.77	98.65	112.48
Interest on Long Term Loans	5.11	5.95	6.71	7.36	7.88
Interest on Working Capital	93.30	104.26	110.82	115.32	127.57
Interest on Security Deposit	25.97	28.97	31.25	32.87	35.87
Provision of Doubtful Debts	2.98	3.34	3.67	3.99	4.48
Contingency Reserve	0.24	0.29	0.34	0.39	0.44
Less: Non Tariff Income	-11.06	-11.77	-11.77	-11.77	-11.77
Income Tax	1.21	1.21	1.21	1.21	1.21
Tata Power -D Supply Costs	3148.25	3470.64	3693.98	3828.30	4156.13
Tata Power -D Wheeling Costs	316.47	394.84	474.82	557.30	628.37
Total Cost of Supply	3464.72	3865.47	4168.80	4385.60	4784.50
Total Sales (in Mu)	5816.50	6054.60	6494.34	6984.26	7533.39
Average Cost of Supply (Rs./kWh)	5.96	6.38	6.42	6.28	6.35

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Distribution License: Area Sought under License

Areas and Consumers sought under License

➤ Grant of Distribution License sought for **25 Years** under Section 14 and 15 of the Electricity Act, 2003 for the following area:

Existing Area

Existing Area Colaba in the South to Mira Road in the North and Vikhroli on the central with a total spread of 485 sq. km

Additional Area

Chene and Varsova which are part of the Mira Bhayander Municipal Corporation in adherence to the Electricity Rules for Minimum Area

Additional consumers not in the Geographical License Area

1. 110 kV Ordinance Factory Ambernath,
2. BMC Bhandup,
3. 110 kV Railways, Chola -Thakurli sub-station, (it was considered part of the Railway supply to be left with Tata Power)-It was known as Tata Railway System



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Prayer

Prayer to the Hon'ble Commission

In the facts and circumstances of the case, it is most respectfully prayed that this Hon'ble Commission may be pleased to:

- (a) Admit the present Application alongwith the attached documents, submitted by Tata Power for grant of license under Section 14 and 15 read with Section 86(1)(d) of Electricity Act, 2003;
- (b) Grant Distribution License to Tata Power for a period of 25 years with effect from 16th August, 2014 which includes South Mumbai and parts of Mumbai Suburban Areas, areas of Mira Bhayandar Municipal Corporation including area covered under Chene and Varsave;
- (c) Condone any inadvertent omissions / errors / shortcomings and permit Tata Power to add / change / modify / alter this filing and make further submissions as may be required at a future date;
- (d) Any other relief that Hon'ble commission may deem fit.



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Backup slides

HVDS in Mumbai

