LOSS REDUCTION JOURNEY
TATA POWER DELHI DISTRIBUTION LTD.

Sanjay Banga
CEO – TATA Power Delhi Distribution Ltd.
ABOUT TATA POWER DELHI DISTRIBUTION LIMITED

“To be the most trusted and admired provider of reliable, competitive power and services, and be the company of choice for all stakeholders”

51:49 Joint Venture of The Tata Power Company Limited (Tata Power) and the Government of Delhi Formed on 1st July 2002 in Delhi.
ABOUT TATA POWER DELHI DISTRIBUTION LIMITED

we believe in .......... **MAKING A DIFFERENCE**

One of the Most Successful Private Power Distribution Utility

License Area: North and North West Delhi (510 sq. km)
License Period : 25 years

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>July ‘02</th>
<th>March’18</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPERATIONAL PERFORMANCE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AT&amp;C Losses</td>
<td>%</td>
<td>53.1</td>
<td>8.40</td>
<td>85%</td>
</tr>
<tr>
<td>System Reliability – ASAI -Availability Index</td>
<td>%</td>
<td>70</td>
<td>99.67</td>
<td>42%</td>
</tr>
<tr>
<td>Transformer Failure Rate</td>
<td>%</td>
<td>11</td>
<td>0.71</td>
<td>95%</td>
</tr>
<tr>
<td>Peak Load</td>
<td>MW</td>
<td>930</td>
<td>1852</td>
<td>85%</td>
</tr>
<tr>
<td>Length of Network</td>
<td>Ckt. Km</td>
<td>6750</td>
<td>15378</td>
<td>128%</td>
</tr>
<tr>
<td>Street Light Functionality</td>
<td>%</td>
<td>40</td>
<td>99.41</td>
<td>150%</td>
</tr>
<tr>
<td><strong>CONSUMER RELATED PERFORMANCE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Connection Energization Time</td>
<td>Days</td>
<td>51.8</td>
<td>2</td>
<td>96%</td>
</tr>
<tr>
<td>Meter Replacement Time</td>
<td>Days</td>
<td>25</td>
<td>2.09</td>
<td>92%</td>
</tr>
<tr>
<td>Provisional Billing</td>
<td>%</td>
<td>15</td>
<td>0.65</td>
<td>94%</td>
</tr>
<tr>
<td>Defective Bills</td>
<td>%</td>
<td>6</td>
<td>0.34</td>
<td>98%</td>
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<tr>
<td>Bill Complaint Resolution</td>
<td>Days</td>
<td>45</td>
<td>2</td>
<td>95%</td>
</tr>
<tr>
<td>Mean Time to Repair Faults</td>
<td>Hours</td>
<td>11</td>
<td>1.3</td>
<td>87%</td>
</tr>
<tr>
<td>Call Center Performance - Service Level</td>
<td>%</td>
<td>-</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>Payment Collection Avenues</td>
<td>Nos.</td>
<td>20</td>
<td>6725</td>
<td>33525%</td>
</tr>
<tr>
<td>Consumer Satisfaction Index</td>
<td>%</td>
<td>-</td>
<td>91</td>
<td></td>
</tr>
<tr>
<td><strong>OTHERS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capex (Cumm)</td>
<td>Mn USD</td>
<td>187</td>
<td>1060</td>
<td>467%</td>
</tr>
<tr>
<td>Consumers</td>
<td>Count Mn</td>
<td>0.7</td>
<td>1.7</td>
<td>143%</td>
</tr>
<tr>
<td>Employees</td>
<td>Count</td>
<td>5600</td>
<td>3283</td>
<td>41%</td>
</tr>
</tbody>
</table>
PRE-2002
A new dawn on 1st July 2002...

Birth of Tata Power Delhi Distribution Limited...
Asset valuation was done in Business Valuation Method.

License-based Regulated business for 25 years.

Guaranteed 16% RoE on meeting AT&C Targets.

Tariff set by regulator on cost plus RoE basis.
Improving Reliability and Quality of Power - Network / System Revamping
- Run-Repair-Replace Options – CAPEX Plan Preparation
- Roadmap for Network Reliability & N-1 Redundancy

State of Art IT Interface for enhanced Consumer Services and Revenue Protection - Automation & IT Roadmap

Understanding Customer Needs and Requirements
- Customer Satisfaction Survey
- Participation of Society / Meetings with Stakeholders

Commercial Process Reengineering – an industry first!
- 9 Module RCM
- Consumer Segmentation

Performance Measurement and Management
- Peer Competition through Monthly Score Cards
- Roles & Responsibilities through specific JDs & KRAs of individuals

Establish TATA Brand Image
- Govern in the psyche of the Employees by Developing a Sense of Assurance
- Social Audit and Corporate Sustainability

REFORM STRATEGY
Prioritizing Focus

Initiatives: AT&C Loss Reduction

Support by Big Data Analytics

Unique Efforts appreciated nationally and internationally

Front runner in Technology Implementation to improve efficiency and consumer service delivery
Initiatives: Network Reliability Improvements

Before

After

Outdoor Transformer

Network

Bus Bar

Grid Station
TATA POWER – DDL: Initiatives

Initiatives: Network Reliability Improvements

Legacy Infrastructures

Existing Infrastructures
TATA POWER – DDL : Initiatives

- Fully Automated Unmanned Grids
- Remote Monitoring & Control
- 24x7 Power Supply
TATA POWER – DDL : Initiatives

Integrated GIS-OMS-SCADA-CRM
TATA POWER – DDL : Initiatives

Pioneer In Utilizing Various Metering Technologies - Industry First

- Automatic Meter Reading
- Split Metering
- Group Metering
- Van Model Installation
- Pre-Paid Metering
- Pilot for SMART Meter
First Indian utility to implement AMR for all connections above 11 KW

Approx. 55,000 LT-CT, HT and DT meters contributing 70% to TPDDL’s revenue

Indigenously developed AMRDA carries out seamless reading and analysis

Success Rate: More than 98% per month
Geographical Information System

Complete Geography mapped.

Accurate Land base to the extent of 1 meter accuracy

Network at all voltage level mapped

Grid and Substation Internal Equipment Mapped

1.5 Mn customers have been mapped on GIS

Edison Award 2008 for GIS Implementation

Business Process Integration using GIS
Information Technology (IT)
Operation Technology (OT)
Supervisory Control and Data Acquisition (SCADA)
Outage Management System (OMS)
Demand Side Management (DSM)
Geographic Information System (GIS)
Automatic Meter Reading (AMR)
SAP’s Industry Specific Solution for Utilities Industry (SAP-ISU)
24*7*365 Centralized Call Center
Automated Demand Response (ADR)
Solar Rooftop PV Projects
Project Management Consultancy
Capacity Building
TATA POWER – DDL : Initiatives

Billing & Collection System

- Home Delivery of Connections
- Instant Connection
- Video Conference
- Automatic Payment Machines
- SMS based pull services
- Spot Billing
TATA POWER – DDL : Initiatives

- **Instant Service at Doorstep**
- **Integrated Web Services for Desktops & Handheld Devices**
TATA POWER – DDL : Social Innovation

Joy of Giving...

Drug Deaddiction camps

Commitment to Affirmative Action - E,E,E

Tutorial Centers

Tree Plantation Harit-ek-Pahal

Mobile Dispensary van

Vocational Training

Vocational Training

Adult Literacy Center for Women

Awareness Campaigns

Blood Donation

Support to Child Homes

Warm Clothes Donation

Helping the Special Abled

223 JJ Clusters across North and North-West Delhi
Pillars of Social Innovation
Our Commitment shows in more ways than One!!

Tata Power –DDL SAATHI

Youth Empowerment
Better Health
Societal Support for the SC & ST/underprivileged
We Care
Benefitted nearly 1.5 Mn people residing within Licensed Area
In House Development Capability through CENPEID, Test Beds, Labs etc..

High Value Trainings

Employee Exchange

Consortiums
Annually 23,916 mandays of trainings

Annually 650 mandays of external training

850+ employees opted for Higher Education avenues in last 4 yrs

Higher Education Sponsorship

World Class Training Facility

Mentoring

Collaborations

Sessions by Senior Management

Mentoring

Youth Power Confluence
93% Training Satisfaction Index

USD 0.23 Mn annual training expenditure

1500 mandays of training imparted to external delegates

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TATA POWER – DDL : EMPLOYEES @ CORE OF TRANSFORMATION

Training at Doorstep

Reskilling & deployment

Hands On Training

Buddy Up

Innovation Workshop

Cross Functional Teams
Employee Exchange with Oncor

MOU with Enedis

Employee Exchange with SDGE

Employee Exchange with CPFL

Employee Exchange with TEPCO
TATA POWER – DDL: R&D CAPABILITY

Smart Grid Lab

NABL Accredited Meter Testing Laboratory

Battery Test Lab

RMU Workshop

DT Workshop
TATA POWER – DDL :COLLABORATION PARTNERS

Tata Power-DDL is collaborating with 87 National and International Technology Partners, Institutional and Financial partners to not only bring efficiencies in its Licensed Area but also working towards Sectoral sustenance and building a future proof Industry.
Nationally
With presence in over 16 States in India and working with 30 state DISCOMS

Internationally
Present in Benin, Eko, Kaduna and Kano Discoms as Management Partners

TATA POWER – DDL: OUR PRESENCE

AT&C Loss Reduction Services
IT & Automation Services
Revenue Cycle Management Services
Capacity Building & Change Management Services

Technical & Maintenance Services
Metering Services
PMCs Services
Network Upgradation

Revenue Cycle Management Services
Capacity Building & Change Management Services

Network Upgradation

Revenue Cycle Management Services
Capacity Building & Change Management Services

Network Upgradation
TATA POWER – DDL: Employees taking TPDDL to greater heights
THINK US FOR

TECHNOLOGY ADOPTION
- State-of-the-Technology Implementation in Power Distribution
- Seamless Integration of Various Technologies

CREATING BUSINESS VALUES
- Managing Power Distribution services
- Transaction Advisory Services
- Consultancy services on Loss Reduction / Process Re-engineering / Functional Consultancy
- Project Management & Managing Capital Investment

CAPITALIZING BUSINESS IDEAS
- Setting up Green Field Distribution Project
- Distribution Privatization & other business transformation model
- Managing electrical infrastructure in SEZ / Townships

PREPARING FOR FUTURE
- Capacity Building Service
- Preparation of Business Plan
- Technology Roadmap Preparation for Information & Operation Technology

Powering Delhi....

NON-STOP