Visakhapatnam
Andhra Pradesh

APEPDCL is one of the two electricity distribution utilities of Andhra Pradesh. It is engaged in business in five districts: Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, and West Godavari. Established in March 2000, the utility’s vision is “To ensure reliable, efficient, and sufficient power supply to consumers and ensure a balanced all-round development of power infrastructure in all circles of operation.”

State Power Sector Structure

Customer Profile

- CUSTOMER BASE
  59.76 lakhs

- ANNUAL ENERGY SALES
  19,678 MU

- AVERAGE BILLING RATE
  5.73 INR/Unit

Business Profile

- Annual revenues (INR crore) 11,005
- State government subsidy as share of revenue 2.06%
- Profit/loss (INR crore) -629
- Peak demand (MW) 3,359
- Number of employees 7,559

Customer Services

- Average number of power cuts per customer per month was 9, percentage of complaints resolved was 100%
- 48% of customers reported paying bills at a utility office
- Utility customer initiatives include Any Time Payment (ATP) machines installed across towns for easy bill payments anytime throughout the year

Infrastructure Profile

- Substation capacity (MVA) 7,126
- DT capacity (MVA) 11,233
- Number of 11 kV feeders 3,462
- HT distribution lines (km) 53,105
- LT distribution lines (km) 82,613

Service & Efficiency Indicators

- Average daily supply hours 20
- Average electricity supplied/customer (kWh/year) 3,683
- Employees per 1,000 customers 1.26
- ACS-ARR gap (INR/unit) 0.71
- AT&C loss 18.27%
- Average DT failure rate 6.43%

Performance Highlights

- HT/LT connection and load enhancement process has been made available online through a customer services portal
- District-wise single-window counters for HT industrial connections and load enhancement requests; added alternate/double circuits supply for most substations
- Urja Mitra application for scheduled/unscheduled outages is utilized
- Strict monitoring of duration and frequency of power cuts from junior to managing director level
- Teleconference on the first Monday of every month at section level
- 4% of DT spares are available in stores at any given time; this takes care of the 50% requirement for yearly maintenance spares
AP South
Andhra Pradesh Southern Power Distribution Company Limited

APSPDCL is one of the two electricity distribution utilities of Andhra Pradesh. It is engaged in business in eight districts (Guntur, Krishna, Prakasam, Nellore, Kadapa, Kurnool, Ananthapur, and Chittoor) spread over 1,60,205 square kilometers. Established in April 2000, the utility’s vision is “To create an organization that is profitable, viable, responsive, serving the needs of the customer, suppliers and employees.”

State Power Sector Structure

Coverage

<table>
<thead>
<tr>
<th>Coverage</th>
<th>APSPDCL</th>
<th>Surveyed Utilities Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>8,010</td>
<td>15,321</td>
</tr>
<tr>
<td>Circles</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>Divisions</td>
<td>48</td>
<td>53</td>
</tr>
<tr>
<td>Subdivisions</td>
<td>171</td>
<td>156</td>
</tr>
</tbody>
</table>

Customer Profile

- **Customer Base**: 1.23 crore
- **Annual Energy Sales**: 34,889 MU
- **Average Billing Rate**: 6.05 INR/Unit

Infrastructure Profile

- **Substation capacity (MVA)**: 14,297
- **DT capacity (MVA)**: 1,809,738
- **Number of 11 kV feeders**: 8,465
- **HT distribution lines (km)**: 208,788
- **LT distribution lines (km)**: 261,065

Service & Efficiency Indicators

- **Average daily supply hours**: 21
- **Average electricity supplied/customer (kWh/year)**: 2,794
- **Employees per 1,000 customers**: 1.31
- **ACS-ARR gap (INR/unit)**: 0.25
- **AT&C loss**: 12.53%
- **Average DT failure rate**: 5.32%

Performance Highlights

- **Customer Services**
  - Average number of power cuts per customer per month was 23, percentage of complaints resolved was 79%
  - 51% of customers reported paying bills at utility office
  - Establishment of Mee-seva Service Centers; every process is now online with strict performance KPIs
  - Citizen charter that details service areas, their corresponding standards of performance, etc.

- **IT/IT connection and load enhancement process has been made available online through a customer services portal**

- District-wise single-window counters for HT industrial connections and load enhancement requests

- **Urja Mitra application for scheduled/unscheduled outages is utilized**

- **Strict monitoring of duration and frequency of power cuts from junior to managing director level**

- Teleconference on the first Monday of every month at section level

- 4% of DT spares are available in stores at any given time; this number takes care of the 50% requirement for yearly maintenance spares
APDCL is the electricity distribution utility of Assam and is engaged in business in the whole state, serving a combined population of 3 crore spread over 78,438 square kilometers. Established in October 2009, the utility’s vision is “To be the catalyst for holistic growth of the state of Assam by powering agriculture and industry; lighting homes - rural and urban; and generating internal resources for continually improving technology and delivery system to induce customer delight.”

Customer Profile
- Customer Base: 54.22 lakhs
- Annual Energy Sales: 6,968 MU
- Average Billing Rate: 7.56 INR/Unit

Business Profile
- Annual Revenues (INR crore): 5.269
- State government subsidy as % of revenue: 4.97%
- Profit/Loss (INR crore): 21
- Peak Demand (MW): 1,894
- Number of employees: 9,597

Customer Services
- Average number of power cuts per customer per month was 90, percentage of complaints resolved was 98%
- 76% of customers reported paying bills at utility office
- On the billing front, the utility provides doorstep spot billing and bill collection at collection counters, online payment collection (net banking, Paytm, etc.), bill collection by mobile vans, and bill collection at revenue collection camp

Infrastructure Profile
- Substation Capacity (MVA): 11,000
- DT Capacity (MVA): 5,497
- Number of 11 kV feeders: 1,550
- HT Distribution Lines (km): 96,719
- LT Distribution Lines (km): 313,020

Service & Efficiency Indicators
- Average Daily Supply Hours: 15
- Average Electricity supplied/customer (kWh/year): 1,804
- Employees per 1,000 Customers: 1.77
- ACS-ARR gap (INR/unit): 0.29
- AT&C loss: 19.17%
- Average DT Failure Rate: 5.28%

Performance Highlights
- Off-grid connectivity provided for remote areas and villages
- Aerial bunched and underground cabling in progress for theft reduction
- Data monitoring of the load profile is carried out in substation level
- Network strengthening projects: dedicated network for industrial loads, utilization of ADB loan for improving the HT-LT ratio, recently floated EOI for system strengthening with loan from Asian Infrastructure Investment Bank
- Complaints are received through SMS-based DT complaint system, Urja Mitra app, electricity distribution utility websites, respective cell/email IDs, and a dedicated WhatsApp number for theft complaints
Bihar North
North Bihar Power Distribution Company Limited

NBPDCL

State Power Sector Structure

Customer Profile

Customer Base: 93.03 lakhs

Customer Profile

Annual energy sales: 9,362 MU

Average billing rate: 6.65 INR/Unit

Coverage

<table>
<thead>
<tr>
<th>Coverage</th>
<th>NBPDCL</th>
<th>Surveyed Utilities Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>21</td>
<td>12</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>23,284</td>
<td>15,321</td>
</tr>
<tr>
<td>Circles</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>Divisions</td>
<td>34</td>
<td>53</td>
</tr>
<tr>
<td>Subdivisions</td>
<td>107</td>
<td>156</td>
</tr>
</tbody>
</table>

Business Profile

Annual revenues (INR crore): 4,230
State government subsidy as share of revenue: 54.65%
Profit/loss (INR crore): 0.00
Peak demand (MW): 2,443
Number of employees: 10,343

Customer Services

- Average number of power cuts per customer per month was 238, percentage of complaints resolved was 90%
- 29% of customers reported paying bills at utility office
- Extensive use of mobile bill collection vans, encouraging digital modes of bill payment such as payment banks, e-Wallets, mobile apps, and an online portal with discounts and cashbacks

Infrastructure Profile

- Substation capacity (MVA): 6,482
- DT capacity (MVA): 5,772
- Number of 11 kV feeders: 1,639
- HT distribution lines (km): 69,583
- LT distribution lines (km): 123,921

Service & Efficiency Indicators

- Average daily supply hours: 17
- Average electricity supplied/customer (kWh/year): 1,341
- Employees per 1,000 customers: 1.11
- ACS-ARR gap (INR/unit): 0.17
- AT&C loss: 26.76%
- Average DT failure rate: 6.00%

NBPDCL is one of the two electricity distribution utilities of Bihar. It is engaged in business in 21 districts: Araria, Begusarai, Darbhanga, East Champaran, Gopalganj, Katihar, Khagaria, Kishanganj, Madhepura, Madhubani, Muzaffarpur, Purnea, Saharsa, Samastipur, Saran, Sheohar, Sitamarhi, Siwan, Supaul, Vaishali, and West Champaran. Established in November 2012, the utility’s vision is “To ensure reliable quality power to its customers at competitive prices.”

Performance Highlights

- Processing new connection applications through mobile application, organizing customer application camps on a routine basis across villages
- Taking assistance of village admin and local MLAs to resolve right-of-way issues during execution works
- Reconductoring works amounting to INR 3300 cr being carried out for LT/HT network improvement
- Conversion of single circuit lines to double circuit lines in some of the critical overloaded feeders
- New grid and power substations were built to improve voltage profile near newly created load centers
- Engagement of rural revenue franchisee for facilitating doorstep bill delivery and cash collection
- Engagement of arrear collection agencies for improving collection efficiency, organizing collection camps in villages, etc.
SBPDCL is one of the two electricity distribution utilities of Bihar. It is engaged in business in 17 districts: Arwal, Aurangabad, Banka, Bhagalpur, Bhojpur, Buxar, Gaya, Jahanabad, Jamui, Kaimur, Lakhisarai, Munger, Nalanda, Nawada, Patna, Rohtas, and Shiekhpura. Established in November 2012, the utility’s vision is “To ensure reliable quality power to its customers at competitive prices.”

Customer Profile

- Customer base: 54.00 lakhs
- Annual energy sales: 9,503 MU
- Average billing rate: 7.13 INR/Unit

Business Profile

- Annual revenues (INR crore): 4.842
- State government subsidy as share of revenue: 57.71%
- Profit/loss (INR crore): -2,748
- Peak demand (MW): 2,729
- Number of employees: 10,344

Customer Services

- Average number of power cuts per customer per month was 106, percentage of complaints resolved was 89%
- 51% of customers reported paying bills at utility office
- Extensive use of mobile bill collection vans and encouraging digital modes of bill payment such as payment banks, e-wallets, mobile apps, and an online portal with discounts and cashbacks

Infrastructure Profile

- Substation capacity (MVA): 7,258
- DT capacity (MVA): 6,387
- Number of 11 kV feeders: 1,717
- HT distribution lines (km): 7,668
- LT distribution lines (km): 43,382

Service & Efficiency Indicators

- Average daily supply hours: 16
- Average electricity supplied/customer (kWh/year): 2,895
- Employees per 1,000 customers: 1.92
- ACS-ARR gap (INR/unit): 0.60
- AT&C loss: 27.75%
- Average DT failure rate: 6.45%

Performance Highlights

- Processing new connection applications through mobile application, organizing customer application camps on routine basis across villages
- Taking assistance of village admin and local MLAs to resolve right-of-way issues during execution works
- Reconductoring works amounting to INR 3300 cr being carried out for LT/HT network improvement
- Conversion of single circuit lines to double circuit lines in some of the critical overloaded feeders
- To improve voltage profile, new grid and power substations were created near the newly created load centers
- Engagement of rural revenue franchisee for facilitating doorstep bill delivery and cash collection
- Engagement of arrear collection agencies for improving collection efficiency, organizing collection camps in villages, etc.
MGVCL is one of the four electricity distribution utilities of Gujarat. It is engaged in business in the central districts of Gujarat (Anand, Vadodara, Dahod, Panchmahal, Kheda, Chota Udaipur, and Mahisagar), serving a combined population of 1.3 crore spread over 24,000 square kilometers. Established in September 2003, the utility’s vision is “To distribute and maintain reliable electric power, satisfy all its customers through excellence in service by way of safe and sturdy distribution network with dedication to continual improvement in all sphere of activities.”

### Coverage

<table>
<thead>
<tr>
<th>Coverage</th>
<th>MGVCL</th>
<th>Surveyed Utilities Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>4,404</td>
<td>13,143</td>
</tr>
<tr>
<td>Circles</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Divisions</td>
<td>18</td>
<td>53</td>
</tr>
<tr>
<td>Subdivisions</td>
<td>113</td>
<td>156</td>
</tr>
</tbody>
</table>

### Infrastructure Profile

- Substation capacity (MVA): 25,100
- DT capacity (MVA): 5,565
- Number of 11 kV feeders: 1,603
- HT distribution lines (km): 62,340
- LT distribution lines (km): 71,698

### Service & Efficiency Indicators

- Average daily supply hours: 20
- Average electricity supplied/customer (kWh/year): 3,907
- Employees per 1,000 customers: 2.04
- ACS-ARR gap (INR/unit): -0.08
- AT&C loss: 9.22%
- Average DT failure rate: 3.42%

### Business Profile

- Annual revenues (INR crore): 5,531
- State government subsidy as share of revenue: 8.61%
- Profit/loss (INR crore): 93
- Peak demand (MW): 2,027
- Number of employees: 6,483

### Performance Highlights

- Simple process for application of new connection under “Ease of Doing Business” through both physical and online mode
- Peak amperes of transformers are recorded in afternoon and night
- Customer survey is conducted two times a year for HT customers and yearly for LT customers
- Augmentation of existing overloaded substations and bifurcation of feeders and reduction in feeder length and LT line
- SMS sent to customer mobile numbers for shutdown and customer care centers in every sub-division office
- Pre-monsoon and post-monsoon patrolling carried out
- Monitoring of high loss feeders and surprise checking of HT and LT customers

### Customer Services

- Average number of power cuts per customer per month was 7, percentage of complaints resolved was 100%
- 96% of customers reported paying bills at utility office
- On the billing front, the utility has enabled multiple options including online and SMS delivered bills, combined with flexible payment options such as doorstep collections and online payments
UGVCL is one of the four electricity distribution utilities of Gujarat. It is engaged in business in the northern districts of Gujarat (Banaskantha, Patan, Mehsana, Sabarkantha, Gandhinagar, and Amdavad), serving a combined population of 1.75 crore spread over 50,000 square kilometers. Established in September 2003, the utility’s vision is “To be a world-class electricity utility, striving for the social and economic development of our region.”

### Customer Profile
- **Customer Base:** 35.62 lakhs

### Business Profile
- **Annual revenues (INR crore):** 9,960
- **State government subsidy as share of revenue:** 35.4%
- **Profit/loss (INR crore):** 101.32
- **Peak demand (MW):** 4,274
- **Number of employees:** 6,937

### Infrastructure Profile
- **Substation capacity (MVA):** 26,093
- **DT capacity (MVA):** 13,979
- **Number of 11 kV feeders:** 4,109
- **HT distribution lines (km):** 1,07,424
- **LT distribution lines (km):** 73,498

### Service & Efficiency Indicators
- **Average daily supply hours:** 21 hrs
- **Average electricity supplied/customer (kWh/year):** 7,279
- **Employees per 1,000 customers:** 1.95
- **ACS-ARR gap (INR/unit):** 10.03
- **AT&C loss:** 10%
- **Average DT failure rate:** 5.6%

### Performance Highlights
- **Winner of multiple national awards, including a Gold Shield and a Bronze Shield**
- **Pioneer for special design transformers, accredited with ISO 9001:2008 Standard for Management and Enhancement of Electricity Distribution Operations, and its Hi-Tech Meter Testing Laboratory is accredited with NABTCL, first among state electricity distribution utilities**
- **One of the highest HT:LT ratios (1.5) in the country among surveyed utilities**
- **One of the lowest rates of power cuts among all surveyed utilities**
- **The utility is typically in the first or second quartile on all parameters of capacity to deliver, except for performance on theft reported per 1,000 customers**

### Customer Services
- Average number of power cuts per customer per month was 4, percentage of complaints resolved was 100%
- 88% of customers reported paying bills at utility office
- On the billing front, the utility has enabled multiple options including online and SMS delivered bills, combined with flexible payment options such as doorstep collections and online payments
DGVCL is one of the four electricity distribution utilities of Gujarat. It is engaged in business in the southern districts of Gujarat (Bharuch, Narmada, Surat (except part of Surat City), Tapi, Dangs, Navsari, and Valsad), serving a combined population of 1.3 crore spread over 23,300 square kilometers. Established in September 2003, the utility’s vision is “Customer satisfaction through service excellence.”

Coverage

<table>
<thead>
<tr>
<th>Coverage</th>
<th>DGVCL</th>
<th>Surveyed Utilities Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>3,461</td>
<td>15,321</td>
</tr>
<tr>
<td>Circles</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Divisions</td>
<td>19</td>
<td>53</td>
</tr>
<tr>
<td>Subdivisions</td>
<td>133</td>
<td>156</td>
</tr>
</tbody>
</table>

Customer Profile

- **Customer Base**: 32.3 lakhs
- **Annual Energy Sales**: 21,258 MU
- **Average Billing Rate**: 4.37 INR/Unit

Business Profile

- Annual revenues (INR crore): 11,647
- State government subsidy as share of revenue: 3.03%
- Profit/loss (INR crore): 94.5
- Peak demand (MW): 3,277
- Number of employees: 6,901

Infrastructure Profile

- Substation capacity (MVA): 19,331
- DT capacity (MVA): 8,782
- Number of 11 kV feeders: 1,332
- HT distribution lines (km): 56,053
- LT distribution lines (km): 52,364

Service & Efficiency Indicators

- Average daily supply hours: 20
- Average electricity supplied/customer (kWh/year): 7,288
- Employees per 1,000 customers: 2.14
- ACS-ARR gap (INR/unit): -0.11
- AT&C loss: 7.34%
- Average DT failure rate: 4.94%

Customer Services

- Average number of power cuts per customer per month was 3, percentage of complaints resolved was 100%
- 93% of customers reported paying bills at utility office
- On the billing front, the utility has enabled multiple options including online bill payment and a mobile app, combined with flexible payment options such as cash cards and e-wallets

Performance Highlights

- Incorporated innovative initiatives for operational and customer awareness, such as portable power factor testing kit, battery-operated handy tree cutters, mobile collection van for old debit arrears areas, etc.
- Single-window help desk and bill payment facility at sub-divisional level
- Approximately 8,200 solar connections issued as off-grid solutions
- Regular maintenance carried out through line patrolling
- Peak amperes of transformers are recorded afternoon and night to monitor the loading on the transformers
- R&D team working on drone-based pilot project on monitoring for hot points (transformers) / flickering at night hours
- Utility’s Apna Dwaar in which officials from DGVCL visit customer premises regularly
PGVCL is one of the four electricity distribution utilities of Gujarat. It is engaged in business in the western districts of Gujarat (Rajkot, Jamnagar, Junagadh, Porbandar, Bhuj, Bhavnagar, Saurashtra, Amreli, Botad, Morbi, Devbhumi Dwarka, and Gir Somnath), serving a combined population of 1.75 crore spread around 1,00,000 square kilometers. Established in September 2003, the utility’s vision is “value creation in the society and in the community in which it operates, through its services, conduct and initiatives, to promote sustained growth for the society and community.”

Coverage

<table>
<thead>
<tr>
<th>Coverage</th>
<th>PGVCL</th>
<th>Surveyed Utilities Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>5,707</td>
<td>15,321</td>
</tr>
<tr>
<td>Circles</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Divisions</td>
<td>45</td>
<td>53</td>
</tr>
<tr>
<td>Subdivisions</td>
<td>246</td>
<td>156</td>
</tr>
</tbody>
</table>

Customer Profile

Customer Base: 52.83 lakhs

Annual Energy Sales: 29,657 MU

Average Billing Rate: 3.83 INR/Unit

Business Profile

Annual Revenues (INR crore): 14,267
State Government Subsidy as a Share of Revenue: 19.36%
Profit/Loss (INR crore): 137
Peak Demand (MW): 6,499
Number of Employees: 14,652

Customer Services

- Average number of power cuts per customer per month was 30, percentage of complaints resolved was 90%
- 98% of customers reported paying bills at utility office
- SMS sent to customer mobile numbers for shutdown and customer care centers in every sub-division office
- Customer care centers in every sub-division office

Infrastructure Profile

Substation Capacity (MVA): 51,833
DT Capacity (MVA): 20,334
Number of 11 kV Feeders: 7,696
HT Distribution Lines (km): 207,126
LT Distribution Lines (km): 120,579

Service & Efficiency Indicators

Average Daily Supply Hours: 21
Average Electricity Supplied/Customer (kWh/year): 6,925
Employees per 1,000 Customers: 2.77
ACS-ARR Gap (INR/unit): -0.01
AT&C Loss: 18.95%
Average DT Failure Rate: 8.55%

Performance Highlights

- Only two documents required: ID proof and land ownership record; SOPs available for providing the new connections within the given time (i.e., seven days, etc.)
- Augmentation of existing overloaded substations and bifurcation of feeders and reduction in feeder length and LT line
- Feeder/line patrolling and peak amperes of transformers recorded afternoon and night to monitor loading
Bengaluru
Karnataka

State Power Sector Structure

Karnataka Power Sector

BESCOM
JUN 2002
MESCOM
JUN 2002
CESCOM
APR 2005
KERC
NOV 1999
KPCL
1970

Customer Profile

Customer Base
1.18 crore

Annual Energy Sales
27,736 MU

Average Billing Rate
6.99 INR/Unit

Business Profile

Annual revenues (INR crore) 19,377
State government subsidy as share of revenue 11.71%
Profit/loss (INR crore) 87.5
Peak demand (MW) 6,858
Number of employees 15,347

Customer Services

- Average number of power cuts per customer per month was 31, percentage of complaints resolved was 100%
- 46% of customers reported paying bills at utility office
- Utility has provided 24x7 customer helpline, well-customized iGPRS application including escalation matrix, technical dashboard and SMS gateway facility

Performance Highlights

- Electrification of household customers in rural areas by creating/extension of HT lines, erection of distribution transformers and creating/extension of LT lines
- Niranthara Jyothi Project enhances reliability and power quality by providing 24*7 three-phase power supply to non-agricultural loads
- System strengthening through new feeders, providing reconductoring, providing underground cable, providing aerial bunched cable, providing new DTC and augmentation of DTC, and providing AMR meter to high-load customers
- Model sub-division scheme and system improvement works in BMAZ area with objectives of providing reliable and quality power supply and reducing distribution system losses

BESCOM is one of the five electricity distribution utilities of Karnataka. It is engaged in business in eight districts (Bangalore Urban, Bangalore Rural, Chikkaballapura, Kolar, Davanagere, Tumkur, Chitradurga, and Ramanagara), serving a combined population of 2.1 crore spread over 41,092 square kilometers. Established in June 2002, the utility’s vision is “To be number one in customer satisfaction in South Asia in power distribution.”

Coverage

Coverage
BESCOM
Surveyed Utilities Avg

Districts
8
12

Revenue Villages
NA
15,321

Circles
9
16

Divisions
32
53

Subdivisions
147
156

Business Profile

Average daily supply hours 19
Average electricity supplied/customer (kWh/year) 2,348
Employees per 1,000 customers 130
ACS-ARR gap (INR/unit) -0.02
AT&C loss 4.87%
Average DT failure rate 6.96%

Service & Efficiency Indicators

- Electrification of household customers in rural areas by creating/extension of HT lines, erection of distribution transformers and creating/extension of LT lines
- Niranthara Jyothi Project enhances reliability and power quality by providing 24*7 three-phase power supply to non-agricultural loads
- System strengthening through new feeders, providing reconductoring, providing underground cable, providing aerial bunched cable, providing new DTC and augmentation of DTC, and providing AMR meter to high-load customers
- Model sub-division scheme and system improvement works in BMAZ area with objectives of providing reliable and quality power supply and reducing distribution system losses

Customer Services

- Average number of power cuts per customer per month was 31, percentage of complaints resolved was 100%
- 46% of customers reported paying bills at utility office
- Utility has provided 24x7 customer helpline, well-customized iGPRS application including escalation matrix, technical dashboard and SMS gateway facility

Performance Highlights

- Electrification of household customers in rural areas by creating/extension of HT lines, erection of distribution transformers and creating/extension of LT lines
- Niranthara Jyothi Project enhances reliability and power quality by providing 24*7 three-phase power supply to non-agricultural loads
- System strengthening through new feeders, providing reconductoring, providing underground cable, providing aerial bunched cable, providing new DTC and augmentation of DTC, and providing AMR meter to high-load customers
- Model sub-division scheme and system improvement works in BMAZ area with objectives of providing reliable and quality power supply and reducing distribution system losses

Customer Services

- Average number of power cuts per customer per month was 31, percentage of complaints resolved was 100%
- 46% of customers reported paying bills at utility office
- Utility has provided 24x7 customer helpline, well-customized iGPRS application including escalation matrix, technical dashboard and SMS gateway facility

Performance Highlights

- Electrification of household customers in rural areas by creating/extension of HT lines, erection of distribution transformers and creating/extension of LT lines
- Niranthara Jyothi Project enhances reliability and power quality by providing 24*7 three-phase power supply to non-agricultural loads
- System strengthening through new feeders, providing reconductoring, providing underground cable, providing aerial bunched cable, providing new DTC and augmentation of DTC, and providing AMR meter to high-load customers
- Model sub-division scheme and system improvement works in BMAZ area with objectives of providing reliable and quality power supply and reducing distribution system losses

Customer Services

- Average number of power cuts per customer per month was 31, percentage of complaints resolved was 100%
- 46% of customers reported paying bills at utility office
- Utility has provided 24x7 customer helpline, well-customized iGPRS application including escalation matrix, technical dashboard and SMS gateway facility

Performance Highlights

- Electrification of household customers in rural areas by creating/extension of HT lines, erection of distribution transformers and creating/extension of LT lines
- Niranthara Jyothi Project enhances reliability and power quality by providing 24*7 three-phase power supply to non-agricultural loads
- System strengthening through new feeders, providing reconductoring, providing underground cable, providing aerial bunched cable, providing new DTC and augmentation of DTC, and providing AMR meter to high-load customers
- Model sub-division scheme and system improvement works in BMAZ area with objectives of providing reliable and quality power supply and reducing distribution system losses

Customer Services

- Average number of power cuts per customer per month was 31, percentage of complaints resolved was 100%
- 46% of customers reported paying bills at utility office
- Utility has provided 24x7 customer helpline, well-customized iGPRS application including escalation matrix, technical dashboard and SMS gateway facility

Performance Highlights

- Electrification of household customers in rural areas by creating/extension of HT lines, erection of distribution transformers and creating/extension of LT lines
- Niranthara Jyothi Project enhances reliability and power quality by providing 24*7 three-phase power supply to non-agricultural loads
- System strengthening through new feeders, providing reconductoring, providing underground cable, providing aerial bunched cable, providing new DTC and augmentation of DTC, and providing AMR meter to high-load customers
- Model sub-division scheme and system improvement works in BMAZ area with objectives of providing reliable and quality power supply and reducing distribution system losses
GESCOM is one of the five electricity distribution utilities of Karnataka. It is engaged in business in six districts (Bidar, Kalaburagi aka Gulbarga, Yadgiri, Raichur, Koppal, and Ballari), serving a combined population of more than 1.13 crore spread over 43,861 square kilometers. Established in June 2002, the utility’s vision is “To ensure reliable quality power to its customers at competitive prices.”

---

### State Power Sector Structure

**KARNATAKA POWER SECTOR**

- **BESCOM**: JUN 2002
- **GESCOM**: JUN 2002
- **MESCOM**: JUN 2002
- **HESCOM**: JUN 2002
- **CESCOM**: APR 2005
- **KPTC**: JUL 1999
- **KERC**: NOV 1999
- **KPCL**: 1970

---

### Customer Profile

**CUSTOMER BASE**

- 30.73 lakhs

**ANNUAL ENERGY SALES**

- 7,523 MU

**AVERAGE BILLING RATE**

- 6.65 INR/Unit

---

### Business Profile

- **Annual revenues (INR crore)**: 5,005
- **State government subsidy as share of revenue**: 32.87%
- **Profit/loss (INR crore)**: 7.52
- **Peak demand (MW)**: 1,800
- **Number of employees**: 7,296

---

### Customer Services

- Average number of power cuts per customer per month was 33, percentage of complaints resolved was 77%
- 21% of customers reported paying bills at utility office
- Customer care lines increased from 15 to 20 and 24*7 customer care centers increased to 53

---

### Performance Highlights

- All HT and LT connection requests are online now; SAKALA initiative since January 2019 to provide nine services online
- Additional manpower (10 per sub-division in rural and 5 per section in urban) and increased number of vehicles for quick resolution of service requests
- Load shedding through pre-planned time table and through input from SCADA available at district customer care centre
- Power cuts communicated through Urja Mitra Portal (20.5 lakh customers having access) and newspaper notifications
- Utility calculates and monitors reliability index using number of customers and number of supply hours, number of foreseen and unforeseen power cuts
- Feeder loading regularly monitored; bifurcation of feeders and load transfer from high loaded to low loaded feeders

---

### Coverage

<table>
<thead>
<tr>
<th>Coverage</th>
<th>GESCOM</th>
<th>Surveyed Utilities Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>4,955</td>
<td>15,321</td>
</tr>
<tr>
<td>Circles</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Divisions</td>
<td>16</td>
<td>53</td>
</tr>
<tr>
<td>Subdivisions</td>
<td>53</td>
<td>156</td>
</tr>
</tbody>
</table>

---

### Service & Efficiency Indicators

- **Average daily supply hours**: 16
- **Average electricity supplied/customer (kWh/year)**: 3,016
- **Employees per 1,000 customers**: 2.37
- **ACS-ARR gap (INR/unit)**: 0.09
- **AT&C loss**: 14.71%
- **Average DT failure rate**: 13.21%
HESCOM is one of the five electricity distribution utilities of Karnataka. It is engaged in business in seven districts (Dharawad, Belgaum, Gadag, Haveri, Uttarkannada, Bagalkot, and Bijapur), serving a combined population of 1.66 crore spread over 54,513 square kilometers. Established in June 2002, the utility’s vision is “To ensure reliable quality power to its customers at competitive prices.”

**State Power Sector Structure**

- **BESCOM**: Jun 2002
- **GESCOM**: Jun 2002
- **MESCOM**: Jun 2002
- **CESCOM**: Apr 2005
- **KERC**: Nov 1999
- **KPTC**: Jul 1999
- **KPCL**: 1970

**Coverage**

<table>
<thead>
<tr>
<th>Coverage</th>
<th>HESCOM</th>
<th>Surveyed Utilities Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>5,158</td>
<td>15,321</td>
</tr>
<tr>
<td>Circles</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>Divisions</td>
<td>26</td>
<td>53</td>
</tr>
<tr>
<td>Subdivisions</td>
<td>83</td>
<td>156</td>
</tr>
</tbody>
</table>

**Customer Profile**

- **Customer Base**: 50.30 lakhs

**Business Profile**

- Annual revenues (INR crore): 7,772
- State government subsidy as share of revenue: 39.59%
- Profit/loss (INR crore): -101.33
- Peak demand (MW): 2,401
- Number of employees: 9,812

**Customer Services**

- Average number of power cuts per customer per month was 33, percentage of complaints resolved was 97%
- 87% of customers reported paying bills at utility office
- Daily monitoring of supply-related complaints through call centre (1,912) at all levels and development of customer grievance escalation system
- Encouraging digital payments such as an online portal, payment banks, e-wallets, etc. and bill collection through ATP Machines

**Infrastructure Profile**

- Substation capacity (MVA): 1,798
- DT capacity (MVA): 10,667
- Number of 11 kV feeders: 3,965
- HT distribution lines (km): 85,094
- LT distribution lines (km): 135,109

**Service & Efficiency Indicators**

- Average daily supply hours: 20
- Average electricity supplied/customer (kWh/year): 2,338
- Employees per 1,000 customers: 1.95
- ACS-ARR gap (INR/unit): -0.03
- AT&C loss: 11.60%
- Average DT failure rate: 11.68%

**Performance Highlights**

- Processing new customer connection/load enhancement cases/applications through online system
- Timely guiding to sub-division users for quick release of new connection/load enhancement cases within SERC limit
- To fasten the LT temporary power supply applications for constructing buildings, prepaid energy meters used in Hubli and Belagavi towns
- Load management through Area Load Dispatch Centre (ALDC) to monitor hours of power supply and power cuts
- Door-to-door spot billing and checking quality of third party/contractual workmen before finalization of contract
- Conducting regular rating of HT and LT installations
- Construction of 11 kV link lines to reduce the load on the existing feeders
Karnataka Mangalore
Mangalore Electricity Supply Company Limited

MESCOM

State Power Sector Structure

Coverage

<table>
<thead>
<tr>
<th>Coverage</th>
<th>MESCOM</th>
<th>Surveyed Utilities Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>3,030</td>
<td>15,321</td>
</tr>
<tr>
<td>Circles</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Divisions</td>
<td>13</td>
<td>53</td>
</tr>
<tr>
<td>Subdivisions</td>
<td>61</td>
<td>156</td>
</tr>
</tbody>
</table>

Customer Profile

- **Customer Base**: 23.69 lakhs
- **Annual Energy Sales**: 4,954 MU
- **Average Billing Rate**: 6.66 INR/Unit

Business Profile

- **Annual revenues (INR crore)**: 3,300
- **State government subsidy as share of revenue**: 19.05%
- **Profit/loss (INR crore)**: 23.53
- **Peak demand (MW)**: 1,281
- **Number of employees**: 5,451

Customer Services

- Average number of power cuts per customer per month was 56, percentage of complaints resolved was 100%
- 82% of customers reported paying bills at utility office

Infrastructure Profile

- **Substation capacity (MVA)**: 385
- **DT capacity (MVA)**: 4,122
- **Number of 11 kV feeders**: 979
- **HT distribution lines (km)**: 38,772
- **LT distribution lines (km)**: 82,959

Performance Highlights

- Processing new customer connection applications through online system and rigorous tracking at headquarters level
- Procurement of only star-rated energy efficiency distribution transformers
- Installation of capacitor banks in substations for reactive power compensation
- DT metering and micro-level energy audit conducted at a regular basis
- Arranged safety awareness week throughout company jurisdiction, conducted elocution competition/quiz competition in schools related to safety and energy savings issues
- Feeder managers allocated responsibility to achieve 100% billing and collection efficiency

MESCOM is one of the five electricity distribution utilities of Karnataka. It is engaged in business in four districts (Dakshina Kannada, Udupi, Shivamogga, and Chikmagaluru), serving a combined population of 61.55 lakhs spread over 25,222 square kilometers. Established in June 2002, the utility’s vision is “To not only strengthen economic progress through supply of quality power at competitive prices but also contribute to the overall development of the society.”
CESCOM is one of the five electricity distribution utilities of Karnataka. It is engaged in business in five districts (Mysore, Chamarajanagar, Mandya, Hassan, and Madakeri), serving a combined population of 82 lakhs spread over 27,773 square kilometers. Established in April 2005, the utility’s vision is “To ensure reliable quality power to its customers at competitive prices.”

**State Power Sector Structure**

<table>
<thead>
<tr>
<th>KARNATAKA POWER SECTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>BESCOM</td>
</tr>
<tr>
<td>MESCOM</td>
</tr>
<tr>
<td>CESCOM</td>
</tr>
<tr>
<td>KERC</td>
</tr>
<tr>
<td>KPCL</td>
</tr>
</tbody>
</table>

KARNATAKA Power Sector

<table>
<thead>
<tr>
<th>Coverage</th>
<th>CESCOM</th>
<th>Surveyed Utilities Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>123</td>
<td>15,321</td>
</tr>
<tr>
<td>Circles</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Divisions</td>
<td>18</td>
<td>53</td>
</tr>
<tr>
<td>Subdivisions</td>
<td>62</td>
<td>156</td>
</tr>
</tbody>
</table>

**Customer Profile**

- **Customer Base**: 31.65 lakhs
- **Annual Energy Sales**: 6,360 MU
- **Average Billing Rate**: 6.34 INR/Unit

**Business Profile**

- **Annual Revenues (INR crore)**: 4,126
- **State Government Subsidy as Share of Revenue**: 44%
- **Profit/Loss (INR crore)**: 1.76
- **Peak Demand (MW)**: 1,687
- **Number of Employees**: 6,910

**Infrastructure Profile**

- **Substation Capacity (MVA)**: 6,334
- **DT Capacity (MVA)**: 5,910
- **Number of 11 kV Feeders**: 1,748
- **HT Distribution Lines (km)**: 175,842
- **LT Distribution Lines (km)**: 343,769

**Service & Efficiency Indicators**

- **Average Daily Supply Hours**: 14
- **Average Electricity Supplied/Customer (kWh/year)**: 2,007
- **Employees per 1,000 Customers**: 2.18
- **ACS-ARR Gap (INR/unit)**: -0.02
- **AT&C Loss**: 15.46%
- **Average DT Failure Rate**: 9.93%

**Performance Highlights**

- Feeder-wise analysis and outage management application software is used for generating load shedding protocol in case of loss of generation/emergency and contacting the feeders to be shed by SLDC, to ease off loads
- Customers contacted through SMS for load shedding and use of UrjaMitra app
- Additional substations and transformers at the tail end, and increasing substation/PT capacity from 33kV to 11 kV
- Monthly division and feeder-wise maintenance, cranes acquired for transformer replacement
- Utility calculates and monitors reliability index using number of customers and number of supply hours, number of foreseen and unforeseen power cuts

**Customer Services**

- Average number of power cuts per customer per month was 30, percentage of complaints resolved was 92%
- 54% of customers reported paying bills at utility office
- Establishment of Soujanaya centers and service stations in all sub-divisions for speedy resolution of complaints
- Customers can also register online and apply for LT/HT connection and conduct bill, consumption, payment, etc.
Established in March 2010, MePDCL is the only electricity distribution utility of Meghalaya. It is engaged in business in 11 districts (West Jaintia Hills, East Jaintia Hills, East Khasi Hills, West Khasi Hills, South West Khasi Hills, Ri-Bhoi, North Garo Hills, East Garo Hills, South Garo Hills, West Garo Hills, and South West Garo Hills), serving a combined population of 30 lakhs spread over 22,429 square kilometers.

**State Power Sector Structure**

<table>
<thead>
<tr>
<th>Meghalaya Power Sector</th>
<th>MePDCL</th>
<th>MePGCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MePDCL MAR 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MePGCL MAR 2010</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Coverage**

<table>
<thead>
<tr>
<th>Coverage</th>
<th>MePDCL</th>
<th>Surveyed Utilities Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>6,098</td>
<td>15,321</td>
</tr>
<tr>
<td>Circles</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>Divisions</td>
<td>-</td>
<td>53</td>
</tr>
<tr>
<td>Subdivisions</td>
<td>28</td>
<td>156</td>
</tr>
</tbody>
</table>

**Customer Profile**

- **Customer Base**: 4.21 lakhs
- **Annual Energy Sales**: 1,016 MU
- **Average Billing Rate**: 6.22 INR/Unit

**Business Profile**

- **Annual revenues (INR crore)**: 566
- **State government subsidy as share of revenue**: 3.14%
- **Profit/loss (INR crore)**: -287
- **Peak demand (MW)**: 356
- **Number of employees**: 5,187

**Infrastructure Profile**

- **Substation capacity (MVA)**: 8
- **DT capacity (MVA)**: 97
- **Number of 11 kV feeders**: 331
- **HT distribution lines (km)**: 5,134
- **LT distribution lines (km)**: 10,971

**Service & Efficiency Indicators**

- **Average daily supply hours**: 18
- **Average electricity supplied/customer (kWh/year)**: 5,752
- **Employees per 1,000 customers**: 7.46
- **ACS-ARR gap (INR/unit)**: 1.32
- **AT&C loss**: 33.24%
- **Average DT failure rate**: 5.00%

**Customer Services**

- Average number of power cut per customer per month was 3, percentage of complaints resolved was 94%
- 62% of customers reported paying bills at utility office
- A utility kiosk is being held during the market days (one in eight days) to facilitate customer services (payment, complaint registration, applications)

**Performance Highlights**

- Division-wise single-window system has been established for customers for all applications: new connection, load enhancement, etc.
- Because of high hydro dependence, power banking is being done to ensure availability during lean season
- Single phase transformers are used in places with dispersed population to avoid load imbalance
- Overhead bare lines are being replaced with insulated conductors in forest areas to prevent frequent power outages
- Mobile vans (MeghaPower Scheme) provided to divisions/circles for attending to supply complaints in remote areas
- Regular R&M is being done for tree cutting, checking DTs and power transformers, proper grounding of poles
- Complaint gangs have been formed at all sub-divisions, and mobile phones are being provided to these gangs
### State Power Sector Structure

<table>
<thead>
<tr>
<th>MPMKVVCL</th>
<th>MPUKVVCL</th>
<th>MPPTCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUL 2002</td>
<td>JUL 2002</td>
<td>NOV 2001</td>
</tr>
</tbody>
</table>

### Coverage

<table>
<thead>
<tr>
<th>Coverage</th>
<th>MPMKVVCL</th>
<th>Surveyed Utilities Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>15,820</td>
<td>15,321</td>
</tr>
<tr>
<td>Circles</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>Divisions</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>Subdivisions</td>
<td>-</td>
<td>156</td>
</tr>
</tbody>
</table>

### Customer Profile

- **Customer Base**: 43.88 lakhs
- **Annual Energy Sales**: 15,032 MU
- **Average Billing Rate**: 6.03 INR/Unit

### Business Profile

- **Annual Revenues (INR crore)**: 9,434
- **State government subsidy as share of revenue**: 26.38%
- **Profit/Loss (INR crore)**: 3,915
- **Peak Demand (MW)**: 14,089
- **Number of Employees**: 21,193

### Infrastructure Profile

- **Substation Capacity (MVA)**: 11,268
- **DT Capacity (MVA)**: 305,900/14,520
- **Number of 11 kV Feeders**: 5,594
- **HT Distribution Lines (km)**: 169,753
- **LT Distribution Lines (km)**: 125,754

### Service & Efficiency Indicators

- **Average Daily Supply Hours**: 17
- **Average Electricity Supplied/Customer (kWh/Year)**: 4,818
- **Employees per 1,000 Customers**: 4.83
- **ACS-ARR Gap (INR/unit)**: 0.99
- **AT&C Loss**: 36.67%
- **Average DT Failure Rate**: 10.90%

### Customer Services

- Average number of power cuts per customer per month was 248, percentage of complaints resolved was 100%
- 90% of customers reported paying bills at utility office
- On the billing front, the utility has enabled multiple options including online and SMS delivered bills, combined with flexible payment options such as doorstep collections and online payments

### Performance Highlights

- Conducting proper training of linemen and other officers to make them well versed with the SOP of repairs and maintenance
- To manage demand, daily and monthly demand projections are made with feeder-level load data, which then is fed into the centralized demand-forecasting tool
- All of the energy input points (33 kV and 11 kV feeders) are metered, with most of them on AMR for remote data acquisition; network profile parameters including peak loading and voltage profile are continuously monitored
- Any increases in loading patterns, load growth of particular areas, etc. is considered for preparing the sub-transmission and distribution network plan
Jabalpur
Madhya Pradesh

State Power Sector Structure

Customer Profile

Customer Base
58.39 lakhs

Coverage

MPoKKVVCL
JUL 2002

MPKVVCL
JUL 2002

MPPGCL
NOV 2001

Coverage MPPoKKVVCL Surveyed Utilities Avg

Districts 20 12
Revenue Villages 24,556 15,321
Circles 21 16
Divisions 53 53
Subdivisions 118 156

Average Billing Rate
6.03 INR/Unit

ANNUAL ENERGY SALES
14,681 MU

Annual Revenues (INR crore)
9,386

State government subsidy as share of revenue
27.12%

Profit/Loss (INR crore)
-2,928

Peak demand (MW)
4,010

Number of employees
10,857

Business Profile

Customer Services

• Average number of power cuts per customer per month was 9, percentage of complaints resolved was 88%
• 66% of customers reported paying bills at utility office
• Organizing camps in villages for customer dispute resolution

Performance Highlights

• Connections having no infrastructure required have been provided on the spot, and connections requiring minimal LT lines are taken first with available resources of the utility without any waiting experienced by customers
• An incentive is provided for early completion of the connection target of circle under the scheme to increase healthy competition and employee motivation
• Development of in-house mobile app (SMART Bijlee app) for ease of new connection process
• Interconnection of 33/11 kV substations for ring main system/network and installation of capacitor banks for reactive power compensation

Infrastructure Profile

Substation capacity (MVA)
20,444/9,289

DT capacity (MVA)
11,940

Number of 11 kV feeders
4,622

HT distribution lines (km)
178,630

LT distribution lines (km)
144,231

Average Daily Supply Hours
18

Average Electricity supplied/customer (kWh/Year)
2,514

Employees per 1,000 Customers
186

ACS-ARR gap (INR/unit)
1.09

AT&C loss
31.57%

Average DT Failure Rate
13.49%

Service & Efficiency Indicators

MPoKKVVCL is one of the three electricity distribution utilities of Madhya Pradesh. It is engaged in business in 20 districts: Jabalpur, Chhindwara, Seoni, Balaghat, Mandla, Dindori, Narsinghpur, Kati, Sagar, Damoh, Chhatarpur, Panna New, Tikamgarh, Rewa, Satna, Sidhi, Singrauli, Shahdol, Umaria, and Anuppur. Established in July 2002, the utility’s vision is “To be the best electricity supply company in India by continuously enhancing its technological leadership and commercial acumen to satisfy its customers.”

Jabalpur
Madhya Pradesh

Customer Profile

ANNUAL ENERGY SALES
14,681 MU

Average Billing Rate
6.03 INR/Unit

Coverage MPPoKKVVCL Surveyed Utilities Avg

Districts 20 12
Revenue Villages 24,556 15,321
Circles 21 16
Divisions 53 53
Subdivisions 118 156

Average Billing Rate
6.03 INR/Unit

Average Daily Supply Hours
18

Average Electricity supplied/customer (kWh/Year)
2,514

Employees per 1,000 Customers
186

ACS-ARR gap (INR/unit)
1.09

AT&C loss
31.57%

Average DT Failure Rate
13.49%
MP West
Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Limited

MPPKVVCL is one of the three electricity distribution utilities of Madhya Pradesh. It is engaged in business mainly in the western part of the state. Established in July 2002, the utility’s vision is “To rank amongst the best ten power distribution companies in India.”

**State Power Sector Structure**

**Customer Profile**

- **Customer Base**: 53.58 lakhs
- **Average Billing Rate**: 6.02 INR/Unit
- **Annual Energy Sales**: 20,599 MU

**Business Profile**

- **Annual Revenues (INR crore)**: 13,601
- **State Government Subsidy as Share of Revenue**: 38.87%
- **Profit/Loss (INR crore)**: -1,541
- **Peak Demand (MW)**: 5,329
- **Number of Employees**: 20,032

**Customer Services**

- Average number of power cuts per customer per month was 508, percentage of complaints resolved was 100%
- 89% of customers reported paying bills at utility office
- On the billing front, the utility has enabled multiple options including online and SMS delivered bills, combined with flexible payment options such as doorstep collections and online payments

**Infrastructure Profile**

- **Substation Capacity (MVA)**: 12,014
- **DT Capacity (MVA)**: 15,457
- **Number of 11 kV Feeders**: 6,278
- **HT Distribution Lines (km)**: 148,061
- **LT Distribution Lines (km)**: 170,614

**Service & Efficiency Indicators**

- **Average Daily Supply Hours**: 20
- **Average Electricity Supplied/Customer (kWh/year)**: 4,586
- **Employees per 1,000 Customers**: 3.74
- **ACS-ARR Gap (INR/unit)**: 0.60
- **AT&C Loss**: 15.06%
- **Average DT Failure Rate**: 8.17%

**Performance Highlights**

- 100% rural feeder metering, however only 23% of rural DT metering is implemented
- Enterprise resource planning is not implemented in the utility
- Utility has controlled AT&C losses, however it is substantially dependent on the state government subsidy (39% of total revenue)
Punjab
Punjab State Power Corporation Limited
PSPCL

State Power Sector Structure

Customer Profile

Customer Base
94.78 lakhs

Annual Energy Sales
47,971 MU

Average Billing Rate
6.28 INR/Unit

Business Profile

Annual revenues (INR crore) 21,496
State government subsidy as share of revenue 42.04%
Profit/loss (INR crore) -288
Peak demand (MW) 12,638
Number of employees 35,446

Customer Services

• Average number of power cut per customer per month was 24, percentage of complaints resolved was 47%
• 32% of customers reported paying bills at utility office
• Extension of 1912 helpline number for new customer applications (currently a pilot project in five subdivisions)

Infrastructure Profile

Substation capacity (MVA) 59,207
DT capacity (MVA) 0
Number of 11 kV feeders 11,935
HT distribution lines (km) 242,012
LT distribution lines (km) 147,083

Performance Highlights

• First utility to implement digital bill collection
• First utility to implement 1912 helpline number and implementation of 100% complaint feedback system
• Online application and easy documentation for new connections
• Feeder segregation based on customer category, such as agricultural, commercial, domestic, industrial, urban, rural, etc.
• Additional initiatives include power banking, long-term PPA, infrastructure strengthening for increasing power supply availability
• Availability of secondary source of supply for important feeders and implementation of smart grid on a pilot basis
• 100% spot billing for household, commercial, and small industrial customers, and AMR billing for high-load customers

PSPCL is the only electricity distribution utility in the state of Punjab. It is engaged in business in 23 districts (Amritsar, Barnala, Bathinda, Faridkot, Fatehgarh Sahib, Fazilka, Ferozepur, Gurdaspur, Hoshiarpur, Jalandhar, Kapurthala, Ludhiana, Mansa, Moga, Muktsar, Nawanshahr, Pathankot, Patiala, Rupnagar, Sahibjada Ajit Singh Nagar, Sangrur, and Tarn Taran), serving a combined state population of 2.77 crore spread over 55,319 square kilometers. It also owns power generating plants. Established in April 2010, the utility’s vision is “To be a vibrant, responsive, and self-reliant institution.”

Coverage

<table>
<thead>
<tr>
<th>Coverage</th>
<th>PSPCL</th>
<th>Surveyed Utilities Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>23</td>
<td>12</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>12,729</td>
<td>15,321</td>
</tr>
<tr>
<td>Circles</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Divisions</td>
<td>100</td>
<td>53</td>
</tr>
<tr>
<td>Subdivisions</td>
<td>600</td>
<td>156</td>
</tr>
</tbody>
</table>

Service & Efficiency Indicators

Average daily supply hours 14
Average electricity supplied/customer (kWh/year) 5,829
Employees per 1,000 customers 3.74
ACS-ARR gap (INR/unit) -0.05
AT&C loss 12.04%
Average DT failure rate 4.00%
MVVNL is one of the five electricity distribution utilities of Uttar Pradesh. It is engaged in business in 19 districts: Budaun, Bareilly, Pilibhit, Shahjahanpur, Lakhimpur, Hardoi, Sitapur, Unnao, Bahraich, Shrawasti, Balrampur, Gonda, Barabanki, Rae Bareli, Faizabad, Sultanpur, Ambedkarnagar, Lucknow, and Chhatrapati Sahuji Maharaj Nagar. Established in August 2003, the utility’s vision is “To be one of the best managed utilities in power sector and to provide access to electricity to everyone in the DISCOM.”

Customer Profile

- **Customer Base**: 51.77 lakhs
- **Average Billing Rate**: 5.15 INR/Unit
- **Annual Energy Sales**: 17,007 MU

Business Profile

- **Annual Revenues (INR crore)**: 11,165
- **State Government Subsidy as Share of Revenue**: 12%
- **Profit/Loss (INR crore)**: -431.00
- **Peak Demand (MW)**: 2,495
- **Number of Employees**: 10,474

Customer Services

- Average number of power cut per customer per month was 7, percentage of complaints resolved was 90%
- 71% of customers reported paying bills at utility office
- E-Nivaran mobile app enabled customers to avail UPPCL and the utility’s bill-related services and queries at their fingertips

Performance Highlights

- Launch of Jhatpat connection scheme for fast release of new connections
- More than 17,000 DTs, 8400 km length of 11kV lines and around 12000 km of DT lines installed recently
- Camps in villages for customer applications and rigorous monitoring at headquarters level for new connection application
- Shifting of peak demand from day to night by providing cheaper electricity to industrial customers during off-peak hours
- Availability of secondary source of supply and installation of capacitor bank in substations
- Inspection checklist for monitoring of network asset conditions, scheduled asset testing and tracking at substation level
- E-Sanyojan mobile app introduced by UPPCL for its customers

Infrastructure Profile

- **Substation Capacity (MVA)**: 9,291
- **DT Capacity (MVA)**: 11,282
- **Number of 11 kV Feeders**: 4,254
- **HT Distribution Lines (km)**: 138,340
- **LT Distribution Lines (km)**: 433,616

Service & Efficiency Indicators

- **Average Daily Supply Hours**: 14
- **Average Electricity Supplied/Customer (kWh/year)**: 3,803
- **Employees per 1,000 Customers**: 2.02
- **ACS-ARR Gap (INR/unit)**: 0.13
- **AT&C Loss**: 6.90%
- **Average DT Failure Rate**: 2160%
PuVVNL is one of the five electricity distribution utilities of Uttar Pradesh. It is engaged in business in 21 districts: Varanasi, Ghazipur, Chandauli, Jaunpur, Sant Ravidas Nagar (Bhadohi), Mirzapur, Sonbhadra, Mau, Azamgarh, Ballia, Deoria, Kushinagar, Gorakhpur, Maharaiganj, Sant Kabir Nagar, Basti, Sidharth Nagar, Allahabad, Pratapgarh, Fatehpur, and Kaushambi. Established in August 2003, the utility’s vision is “To be a professionally managed utility supplying reliable and cost-efficient electricity to every customer of discom.”

Customer Profile
- Customer Base: 68.58 lakhs
- Annual Energy Sales: 20,795 MU
- Average Billing Rate: 5.31 INR/Unit

Business Profile
- Annual revenues (INR crore): 6,321
- State government subsidy as share of revenue: 33.1%
- Profit/loss (INR crore): 840
- Peak demand (MW): -
- Number of employees: 7,374

Infrastructure Profile
- Substation capacity (MVA): 11,819
- DT capacity (MVA): 9,516
- Number of 11 kV feeders: 3,572
- HT distribution lines (km): 16,832
- LT distribution lines (km): 125,208

Service & Efficiency Indicators
- Average daily supply hours: 15
- Average electricity supplied/customer (kWh/year): 3,055
- Employees per 1,000 customers: 1.08
- ACS-ARR gap (INR/unit): 2.26
- AT&C loss: 47.47%
- Average DT failure rate: 18.15%

Customer Services
- Average number of power cut per customer per month was 76, percentage of complaints resolved was 92%
- 68% of customers reported paying bills at utility office
- Encouraging digital modes of bill payment, such as an online portal, payment banks, e-wallets, mobile apps and bill collection through village CSCs (Common Service Centers) and VLEs (Village Level Entrepreneurs)

Performance Highlights
- Launch of Jhatpat connection scheme and mobile application for new electricity connection
- Approximately 11,000 new connections released for household customers located in far-flung areas where it is difficult to build conventional infrastructure
- Nilesh-Mitra online portal for industrial customers has been formed to address issues related to ease of doing business
- Transformer load balancing, feeder segregation, installation of new DTs and substation augmentation
- Use of inspection checklist for regular monitoring of network asset conditions, scheduled asset testing and tracking the progress at substation level
KESCo is one of the five electricity distribution utilities of Uttar Pradesh. It is engaged in business in Kanpur and the neighboring area, serving a combined population of 27.65 lakhs spread over 3,155 square kilometers. Established in January 2000, the utility’s vision is “To provide cost effective, good quality, uninterrupted power at competitive rates to all the customers in operating area.”

Coverage

<table>
<thead>
<tr>
<th>Coverage</th>
<th>KESCo</th>
<th>Surveyed Utilities Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>-</td>
<td>15,321</td>
</tr>
<tr>
<td>Circles</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Divisions</td>
<td>20</td>
<td>53</td>
</tr>
<tr>
<td>Subdivisions</td>
<td>43</td>
<td>156</td>
</tr>
</tbody>
</table>

Customer Profile

- **Customer Base**: 6.13 lakhs
- **Annual Energy Sales**: 3,023 MU
- **Average Billing Rate**: 8.95 INR/Unit

Business Profile

- **Annual revenues (INR crore)**: 2,594
- **State government subsidy as share of revenue**: 0%
- **Profit/loss (INR crore)**: 0.00
- **Peak demand (MW)**: 719
- **Number of employees**: 1,718

Infrastructure Profile

- **Substation capacity (MVA)**: 1,567
- **DT capacity (MVA)**: 1,467
- **Number of 11 kV feeders**: 497
- **HT distribution lines (km)**: 504
- **LT distribution lines (km)**: 2,556

Service & Efficiency Indicators

- **Average daily supply hours**: 13
- **Average electricity supplied/customer (kWh/year)**: 4,931
- **Employees per 1,000 customers**: 2.80
- **ACS-ARR gap (INR/unit)**: -112
- **AT&C loss**: 13.84%
- **Average DT failure rate**: 12.13%

Customer Services

- Average number of power cuts per customer per month was 143, percentage of complaints resolved was 44%
- 61% of customers reported paying bills at utility office
- For all breakdowns, IT system sends SMS immediately to customer if any feeder is tripped

Performance Highlights

- Online portal Jhatpat for new connections and load enhancement; monitoring at central parent organisational level
- E-nivesh portal for industrial connections
- Re-conductoring of old wires, erection of stable poles, aerial bunched cabling and concrete poles undertaken at distribution level
- 24*7 WhatsApp group for operation executives; resolution time is calculated and communicated; the call center updates these details on Twitter as well
- High current information is checked every 2-3 days for DTs and replaced if defective
- Tripping free projects for four divisions, DTs to be installed with TPMOS (3 pole manual operated switch) to avoid switching off of a particular feeder to isolate the defective one
DVVNl is one of the five electricity distribution utilities of Uttar Pradesh. It is engaged in business in 21 districts (Agra, Mathura, Mainpuri, Aligarh, Hathras, Etawah, Etah, Farrukhabad, Firozabad, Kanpur City, Kanpur rural, Banda, Jhansi, Kannauj, Auraiya, Jalaun Urai, Hamirpur, Mahoba, Lalitpur, Chitrakoot, and Kanshiram Nagar), serving a combined population of 4.38 crore spread over 31,350 square kilometers. Established in August 2003, the utility’s vision is “To be one of the best managed utility corporation in Uttar Pradesh Power Corporation Ltd. and to provide access electricity to everyone in the zones.”

**State Power Sector Structure**

**Coverage**

<table>
<thead>
<tr>
<th></th>
<th>DVVNl</th>
<th>Surveyed Utilities Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>21</td>
<td>12</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>16,038</td>
<td>15,321</td>
</tr>
<tr>
<td>Circles</td>
<td>29</td>
<td>16</td>
</tr>
<tr>
<td>Divisions</td>
<td>77</td>
<td>53</td>
</tr>
<tr>
<td>Subdivisions</td>
<td>175</td>
<td>156</td>
</tr>
</tbody>
</table>

**Customer Profile**

- **Customer Base**: 50.24 lakhs
- **Annual Energy Sales**: 19,035 MU
- **Average Billing Rate**: 3.80 INR/Unit

**Business Profile**

- Annual revenues (INR crore): 7,241
- State government subsidy as share of revenue: 36.71%
- Profit/loss (INR crore): 398
- Peak demand (MW): 0
- Number of employees: 6,630

**Customer Services**

- Average number of power cut per customer per month was 24, percentage of complaints resolved was 99%
- 76% of customers reported paying bills at utility office
- On the billing front, the utility has enabled multiple options including online bills, combined with flexible payment options such online payments and mobile app

**Infrastructure Profile**

- Substation capacity (MVA): 10,049
- DT capacity (MVA): 16,052
- Number of 11 kV feeders: 3,875
- HT distribution lines (km): 81,558
- LT distribution lines (km): 140,617

**Service & Efficiency Indicators**

- Average daily supply hours: 13
- Average electricity supplied/customer (kWh/year): 3,789
- Employees per 1,000 customers: 1.32
- ACS-ARR gap (INR/unit): 1.67
- AT&G loss: 29.25%
- Average DT failure rate: 18.38%

**Performance Highlights**

- Launch of Jhatpat connection scheme for quick release of new connections
- Nivesh-Mitra online portal for industrial customers to address issues related to ease of doing business and assistance related to electricity
- Shifting of peak demand from day to night by providing cheaper electricity to industrial customers during off-peak hours
- Use of preventive maintenance checklist for regular monitoring of network asset conditions
- Metering – smart metering, IT capability building of utility staff, daily meter installation tracking and attendance of meter installation team at division level
- E-Suvidha portal to increase collection efficiency
PVVNL is one of the five electricity distribution utilities of Uttar Pradesh. It is engaged in business in 11 districts: Meerut, Baghpat, Ghaziabad, Gutamudh Nagar, Bulandshahar, Muzaffarnagar, Saharanpur, Bijnor, Moradabad, J.P. Nagar, and Rampur. Established in August 2003, the utility’s vision is “To be a professionally managed utility supplying reliable and cost-efficient electricity to every customer of discom.”

**State Power Sector Structure**

<table>
<thead>
<tr>
<th>Uttar Pradesh Power Sector</th>
<th>UTTAR PRADESH Power Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVVNL AUG 2003</td>
<td>MVVNL AUG 2003</td>
</tr>
<tr>
<td>PuVVNL AUG 2003</td>
<td>DVVNL AUG 2003</td>
</tr>
<tr>
<td>KESCO JAN 2003</td>
<td></td>
</tr>
</tbody>
</table>

**Customer Profile**

- **Customer Base: 60.81 lakhs**

- **Annual Energy Sales: 28,393 MU**

- **Average Billing Rate: 5.75 INR/Unit**

**Business Profile**

- **Annual Revenues (INR crore): 15,226**
- **State government subsidy as share of revenue: 13.17%**
- **Profit/loss (INR crore): -**
- **Peak Demand (MW): 6,760**
- **Number of Employees: 5,811**

**Customer Services**

- **Average number of power cuts per customer per month was 52, percentage of complaints resolved was 100%**
- **70% of customers reported paying bills at utility office**
- **Development of customer grievance escalation system, daily monitoring of supply-related complaints**
- **Bill collection through village CSCs (Common Service Centers) and VLEs (Village Level Entrepreneurs)**

**Infrastructure Profile**

- **Substation Capacity (MVA): 18,629**
- **DT Capacity (MVA): 23,129**
- **Number of 11 kV Feeders: 5,030**
- **HT Distribution Lines (km): 115,000**
- **LT Distribution Lines (km): 268,000**

**Service & Efficiency Indicators**

- **Average Daily Supply Hours: 14**
- **Average Electricity Supplied/customer (kWh/year): 5,648**
- **Employees per 1,000 Customers: 0.96**
- **ACS-ARR gap (INR/unit): -0.42**
- **AT&C Loss: 15.31%**
- **Average DT Failure Rate: 10.00%**

**Performance Highlights**

- **Agricultural and rural feeder segregation with supply to agricultural feeder only during daytime**
- **Shifting of peak demand from day to night by providing cheaper electricity to industrial customers during off-peak hours**
- **Balancing transformer and feeder loading**
- **Availability of secondary source of supply with installation of RMU and installation of capacitor bank in substations**
- **Use of inspection checklist for regular monitoring of network asset conditions, and scheduled asset testing and tracking the progress at substation level**
- **Utility checks the quality of third party/contractual workmen responsible for billing before finalization of contract**
- **Monthly meeting to monitor billing and collection efficiency at zonal and headquarters level**

**Coverage**

<table>
<thead>
<tr>
<th>Coverage</th>
<th>PVVNL</th>
<th>Surveyed Utilities Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>13,137</td>
<td>15,321</td>
</tr>
<tr>
<td>Circles</td>
<td>21</td>
<td>16</td>
</tr>
<tr>
<td>Divisions</td>
<td>95</td>
<td>53</td>
</tr>
<tr>
<td>Subdivisions</td>
<td>212</td>
<td>156</td>
</tr>
</tbody>
</table>
WBSEDCL is the only state electricity distribution utility in West Bengal. It is engaged in business in 18 districts (North 24 Parganas, South 24 Parganas & Bidhannagar, Howrah, Hooghly, Burdwan, Birbhum, Paschim Midnapore, Purba Midnapore, Bankura, Purulia, Nadia, Murshidabad, Malda, Uttar Dinajpur, Dakshin Dinajpur, Coochbehar, Jalpaiguri, and Darjeeling), serving a combined population of 9 crore spread over 86,090 square kilometers. Established in April 2007, the utility’s vision is “To be the best power utility in India in terms of customer service, efficiency, and financial viability.”

### Customer Profile

**Customer Base**: 1.91 crore

**Annual Energy Sales**: 27,678 MU

**Average Billing Rate**: 7.05 INR/Unit

### Business Profile

- **Annual revenues (INR crore)**: 21,653
- **State government subsidy as share of revenue**: 5.02%
- **Profit/loss (INR crore)**: 51
- **Peak demand (MW)**: 6,125
- **Number of employees**: 13,318

### Infrastructure Profile

- **Substation capacity (MVA)**: 11,271
- **DT capacity (MVA)**: 12,855
- **Number of 11 kV feeders**: 3,948
- **HT distribution lines (km)**: 183,247
- **LT distribution lines (km)**: 336,596

### Service & Efficiency Indicators

- **Average daily supply hours**: 20
- **Average electricity supplied/customer (kWh/year)**: 2,173
- **Employees per 1,000 customers**: 1.95
- **ACS-ARR gap (INR/unit)**: 0.03
- **AT&C loss**: 10.03%
- **Average DT failure rate**: 7.04%

### Performance Highlights

- New connection process was reformed and made available online
- System upgrade and strengthening work being carried out where new substation is being constructed, bifurcation of HT line, augmentation of substation with line conductor capacity, high-voltage distribution system, underground cabling, LT aerial bunched cabling. DT quantity and capacity augmentation, LT lines conductor and phase augmentation
- Condition-based monitoring system is being followed by using condition monitoring equipment, provided at five zonal testing units and one central testing unit; periodic line patrolling and associated maintenance program as well
- Upgrade of sub-transmission infrastructure, construction of new 33/11 kV substations to improve power quality with reduction of technical loss

### Customer Services

- Average number of power cuts per customer per month was 22, percentage of complaints resolved was 26%
- 67% of customers reported paying bills at utility office
- Spot billing system to majority of light and medium voltage customers and for all bulk customers, M-DAS billing introduced