INTEGRATED POWER DEVELOPMENT SCHEME (IPDS)

Review of SCADA /DMS Implementation

24 Jan 2017
Venue – Power Finance Corporation Ltd, New Delhi
✓ Form and groom proper SCADA team for Control centre and field activities.

✓ Expedite award /installation of SCADA enablers RMU, Sectionlizer, FPIs and keep Substation SCADA ready. Provide locational details of SCADA enablers.

✓ Do & expedite progressive end to end testing for RTU / FRTU and ensure timely and progressive payments as per milestones for proper cash flow.

✓ Facilitate GIS based DMS data to SIA. In case of problem in GIS data from ITIA, DMS network with single line diagram may be drawn & populated for DMS functions.

✓ Get feeder and town-wise daily SAIFI/ SAIDI Reports generated from SCADA
Ensure proper connectivity of network with NBSP

Provide secured login to view SCADA from webclient link from DISCOM website, if utility agrees

Wherever 3G is not avlb, 2g connectivity for FRTU may be considered till the time it is upgraded

Outage for commissioning shall be provided

Operationalization for completion for commissioned RTU/FRTU shall be exercised from Control Centre by deployment of manpower (States such as TN & Maharashtra have led the way)
Timely preparation of Factory Acceptance Test (FAT) including testing of DMS functionality to enable commissioning of SCADA/DMS control centre.

Rєstain practice of change in make/models of equipment. The same shall only be permitted as per provisions of Model Technical Specification (MTS).

Immediate installation of RTU and FRTUs at all available sites.

In case of problem in GIS data from ITIA, DMS network with single line diagram may be drawn & populated for DMS functions.

Readiness of Dispatcher training simulator and commencement of training of officials.
Target by Mar 31, 2017

SCADA CC Commissioning (Balance 4 – Achieved - 2)

- 2 Kerala (Kozikhode, Kochi)
- 2 Chattisgarh (Durg-Bhilai, Raipur)
Target by Mar 31, 2017

(Achieved 5, Balance 26)

SCADA Completion for operationalization

- WEST BENGAL: 2
- UTTARAKHAND: 1
- TELANGANA-NORTH: 1
- TAMILNADU: 3
- RAJASTHAN-AJMER: 1
- RAJASTHAN-JODHPUR: 2
- PUNJAB: 1
- MP CENTRAL: 1
- MP-WEST: 1
- MAHARASHTRA: 2
- GUJ-PGVCL: 3
- GUJ-MGVCL: 1
- AP-SPDCL: 3
- ASSAM: 1

Target by Mar 31, 2017

COMPLETED: [bar]
TARGET IN FY: [bar]
STATE-WISE REVIEW
**ASSAM – Guwahati**

**SANC DATE:** October’2011, *Completion by Mar 17*

**AWARD DATE:** Sep. 2012 (Chemtrols)

<table>
<thead>
<tr>
<th>One Town</th>
<th>SANC Cost: Rs 21.82 Cr</th>
<th>Disb: Rs 12.75</th>
<th>Released to SIA: Rs 6.19</th>
</tr>
</thead>
</table>

Part-A (SCADA) town – Guwahati

**RTU Progress**

- **S/S:** 36
- **RTU INSTALLED:** 29
- **LINK AVALAIBILITY:** 26
- **RTU E TOT E:** 13

**FRTU Progress**

- **RMU+SECT:** 62
- **FRTU INSTALLATION:** 50
- **LINK AVALAIBILITY:** 3
- **FRTU E TO E:** 3
ASSAM – Guwahati Issues

- 5 Sub-Stations not constructed
- 4 sites are having new panel issue
- 10 sites are compact substation where (ABB-2, Schneider-7) make equipments were installed which needs to be integrate with RTU
- In Big Bazaar S/s , FRTU will be installed in place of RTU
- RTU at 3 locations is under testing
- GIS integration for DMS implementation
- I/O List finalization for A/R , Sect
### APEPDCL- Visakhapatnam

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Completion by Sep 16 (Requested upto 31 Mar 17)</td>
<td>Disbursement: Rs 2.93 Cr, Released to SIA: Rs 5.57 Cr</td>
</tr>
<tr>
<td>1 Town</td>
<td>SANC Cost: Rs 9.75Cr : Award 10.04 Cr</td>
</tr>
</tbody>
</table>

Part-A (SCADA) towns – 1 (Visakhapatnam)

#### RTU Progress

- **S/S**
- **RTU INSTALLED**
- **LINK AVALAIBILITY**
- **RTU E TOT E**

#### FRTU Progress

- **RMU+SECT**
- **FRTU INSTALLATION**
- **LINK AVALAIBILITY**
- **FRTU E TO E**
- FO switch is pending at S/S
- Interim solution - using SIM instead of MPLS is being exercised till establishment
- NBSP, M/s Bharti Airtel has to extend the connectivity for 28 Substations by 15.12.16. not done so far
- DCPS approved but on hold
APSPDCL - Vijayawada

SANC DATE: 22.02.2011  Completion by Mar’17

AWARD DATE: 21.01.13 (CHEMTROLS LTD)

3 Towns | SANC Cost: Rs 39.19 Crs
Disb: Rs 11.76 Crs Released to SIA: Rs 15Cr

Part-A (SCADA) towns – 3 (Vijayawada, Guntur & Nellore)
SCADA / DMS IMPLEMENTATION

SANC DATE : 22.02.2011  Completion by Mar’17

AWARD DATE : 21.01.13 (CHEMTROLS LTD)

3 Towns  SANC Cost : Rs 39.19 Crs
Disb : Rs 11.76 Crs Released to SIA : Rs 15Cr

Part-A (SCADA) towns – 3 (Vijayawada, Guntur & Nellore)

---

**RTU Progress**

- **S/S**
- **RTU INSTALLED**
- **LINK AVAILABILITY**
- **RTU E TOT E**

---

**FRTU Progress**

- **RMU+SECT**
- **FRTU INSTALLATION**
- **LINK AVAILABILITY**
- **FRTU E TO E**
APSPDCL - Nellore

SANC DATE : 22.02.2011  Completion by Mar’17

AWARD DATE : 21.01.13 (CHEMTROLS LTD)

3 Towns  | SANC Cost : Rs 39.19 Crs

Disb : Rs 11.76 Crs Released to SIA : Rs 15Cr

Part-A (SCADA) towns – 3 (Vijayawada, Guntur & Nellore)
- **Interim solution - using SIM instead of MPLS is being exercised till establishment**

- **NBSP**, M/s Bharti Airtel has to extend the connectivity for 28 Substations by 15.12.16. Not done

- **DCPS approved and FAT will be staged on 31 Jan**
Telangana- North - Warangal

SANC DATE : 22.02.2011  Completion by Dec 16


1 Towns  SANC Cost : Rs 12.47 Crs.

Disb : Rs 3.74 Crs, SIA Payment :2.33 Cr

Part-A (SCADA) towns – 1 (Warangal)

RTU Progress

FRTU Progress
- RMU to be installed
- DCPS approved and FAT will be staged on 31 Jan
Telangana- South - Hyderabad

SANC DATE : 30.06.2011 Completion by Dec 16  
AWARD DATE : 17.11.2012 (M/s. Chemtrols )

| 1 Town | Sanction : Rs 65.15 Crs | Disb : Rs 19.55 Crs, SIA Payment : 4.44 Cr |

Part-A (SCADA) towns – 1 (Hyderabad UA)

RTU Progress

FRTU Progress
- RTU/ FRTU and modem to be expedited
- DCPS approved but on hold
Gujarat- UGVCL - Ahmedabad

<table>
<thead>
<tr>
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<th>SANC DATE: Dec 2010 Completion by DEC16</th>
<th>AWARD DATE: Feb-Apr2013 (Chemtrol)</th>
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<tbody>
<tr>
<td>6 Towns</td>
<td>SANC Cost: Rs 138.51Cr</td>
<td>Disb: Rs 41.55 Crs</td>
</tr>
<tr>
<td>Part-A (SCADA) towns – 6 (Ahmedabad, Baroda, Bhavnagar, Jamnagar, Rajkot, Surat)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### RTU Progress

<table>
<thead>
<tr>
<th></th>
<th>S/S</th>
<th>RTU INSTALLED</th>
<th>LINK AVALAIBILITY</th>
<th>RTU E TO E</th>
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</thead>
<tbody>
<tr>
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<td>4</td>
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### FRTU Progress

<table>
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<th>FRTU INSTALLATION</th>
<th>LINK AVALAIBILITY</th>
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<tbody>
<tr>
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<td>631</td>
<td>51</td>
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</table>
- Utility to provide to provide shutdown for RTU/ FRTU
- Permission for installation of tower from GETCO not provided
<table>
<thead>
<tr>
<th></th>
<th>Gujarat- MGVCL -Vadodara</th>
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<tbody>
<tr>
<td>SANC DATE : Dec 2010 Completion by DEC16</td>
<td>AWARD DATE : Feb-Apr2013 (Chemtrol)</td>
</tr>
<tr>
<td>6 Towns</td>
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</tr>
<tr>
<td>Part-A (SCADA) towns – 6 (Ahmedabad, Baroda, Bhavnagar, Jamnagar, Rajkot, Surat)</td>
<td></td>
</tr>
</tbody>
</table>

### RTU Progress

- **S/S**
- **RTU INSTALLED**
- **LINK AVALAIBILITY**
- **RTU E TOT E**

- **Progress**
  - 18
  - 18
  - 18
  - 4

### FRTU Progress

- **RMU+SECT**
- **FRTU INSTALLATION**
- **LINK AVALAIBILITY**
- **FRTU E TO E**

- **Progress**
  - 614
  - 235
  - 0
  - 0
▪ 3G SIM from RCOMM shall be available
▪ RTU /FRTU to be completed
**Gujarat- PGVCL - Rajkot**

<table>
<thead>
<tr>
<th>SANC DATE: Dec 2010 Completion by DEC16</th>
<th>AWARD DATE: Feb-Apr 2013 (Chemtrol)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>SANC Cost: Rs 138.51Crs</td>
</tr>
<tr>
<td></td>
<td>Disb: Rs 41.55 Crs</td>
</tr>
<tr>
<td>Part-A (SCADA) towns – 6 (Ahmedabad, Baroda, Bhavnagar, Jamnagar, Rajkot, Surat)</td>
<td></td>
</tr>
</tbody>
</table>

### RTU Progress

- **S/S**
- **RTU INSTALLED**
- **LINK AVALAIBILITY**
- **RTU E TOT E**

### FRTU Progress

- **RMU+SECT**
- **FRTU INSTALLATION**
- **LINK AVALAIBILITY**
- **FRTU E TO E**

**Chart Details:**
- RTU Progress: S/S = 15, RTU INSTALLED = 15, LINK AVALAIBILITY = 2, RTU E TOT E = 1
- FRTU Progress: RMU+SECT = 0, FRTU INSTALLATION = 584, LINK AVALAIBILITY = 0, FRTU E TO E = 0
Gujarat- PGVCL - Bhavnagar

SANC DATE: Dec 2010 Completion by DEC16  
AWARD DATE: Feb-Apr 2013 (Chemtrol)

<table>
<thead>
<tr>
<th>Towns</th>
<th>SANC Cost: Rs 138.51Crs</th>
<th>Disb: Rs 41.55Crs</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Towns</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Part-A (SCADA) towns – 6 (Ahmedabad, Baroda, Bhavnagar, Jamnagar, Rajkot, Surat)

**RTU Progress**
- S/S: 9
- RTU INSTALLED: 9
- LINK AVAILABILITY: 1
- RTU E TOT E: 0

**FRTU Progress**
- RMU+SECT: 373
- LINK AVAILABILITY: 0
- FRTU INSTALLATION: 0
- FRTU E TO E: 0
Gujarat- PGVCL - Jamnagar

SANC DATE: Dec 2010 Completion by DEC16

AWARD DATE: Feb-Apr 2013 (Chemtrol)

6 Towns | SANC Cost: Rs 138.51 Crs
Disb: Rs 41.55 Crs

Part-A (SCADA) towns – 6 (Ahmedabad, Baroda, Bhavnagar, Jamnagar, Rajkot, Surat)

### RTU Progress

- **S/S RTU INSTALLED**
- **LINK AVALAIBILITY**
- **RTU E TOT E**

### FRTU Progress

- **RMU+SECT**
- **LINK AVALAIBILITY**
- **FRTU E TO E**

- **Gujarat - PGVCL**
  - **Jamnagar**

- **Progress Details:**
  - [Graphical Representation of Progress](#)
- Utility to provide to provide shutdown for RTU/ FRTU
- Permission for installation of tower from GETCO not provided
- FRTU Installation is lagging
**Gujarat- DGVCL - Surat**

**SANC DATE:** Dec 2010 Completion by DEC16

**AWARD DATE:** Feb-Apr 2013 (Chemtrol)

| 6 Towns | SANC Cost: Rs 138.51Crs | Disb: Rs 41.55 Crs |

Part-A (SCADA) towns – 6 (Ahmedabad, Baroda, Bhavnagar, Jamnagar, Rajkot, Surat)

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**RTU Progress**

- **S/S**: 24
- **RTU INSTALLED**: 23
- **LINK AVAILABILITY**: 0
- **RTU E TO E**: 0

**FRTU Progress**

- **RMU+SECT**: 0
- **LINK AVAILABILITY**: 0
- **FRTU INSTALLATION**: 0
- **FRTU E TO E**: 0
- Utility to provide to provide shutdown for RTU/ FRTU
- Permission for installation of tower from GETCO not provided
- RTU/FRTU installation to be expedited
SANC DATE : October’2011, Completion Oct 16

AWARD DATE : February’2013 [Chemtrols]

3 Towns | SANC Cost : Rs 32.94 Crs
Disb : Rs 9.88 Crs, SIA payment : Rs 7.58 Cr

Part-A (SCADA) towns – 3 (Kolkata, Asansol, Siliguri)
## West Bengal - Asansol

<table>
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<tr>
<th>Details</th>
<th>Value</th>
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<tbody>
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<td>SANC DATE: Completion Oct 16</td>
<td></td>
</tr>
<tr>
<td>AWARD DATE: Feb’2013 [Chemtrols]</td>
<td></td>
</tr>
<tr>
<td>3 Towns / SANC Cost: Rs 32.94 Crs</td>
<td></td>
</tr>
<tr>
<td>Disb: Rs 9.88 Crs, SIA payment: Rs 7.58 Cr</td>
<td></td>
</tr>
<tr>
<td>Part-A (SCADA) towns: 3 (Kolkata, Asansol, Siliguri)</td>
<td></td>
</tr>
</tbody>
</table>

### RTU Progress

- **S/S**: 6
- **RTU INSTALLED**: 5
- **LINK AVAILABILITY**: 5
- **RTU E TOT E**: 0

![Graph showing RTU Progress](image)
West Bengal - Siliguri

SANC DATE: October’2011, Completion Oct 16

<table>
<thead>
<tr>
<th>3 Towns</th>
<th>SANC Cost: Rs 32.94 Crs</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>AWARD DATE: February’2013 [Chemtrols]</td>
</tr>
<tr>
<td></td>
<td>Disb: Rs 9.88 Crs, SIA payment: Rs 7.58 Cr</td>
</tr>
</tbody>
</table>

Part-A (SCADA) towns – 3 (Kolkata, Asansol, Siliguri)
• Utility Team to conduct concurrent testing at sites and towns required
• DCPS, Modem dispatch is in progress
SANC DATE: December 2010 Completion by Dec 16

7 Towns

SANC Cost: Rs 182.17 Crores

Part-A (SCADA) towns – 7 (Chennai, Trichy, Madurai, Tirunelvelli, Salem, Tiruppur, Coimbatore)
TamilNadu - Salem

SANC DATE: December 2010 Completion by Dec 16
7 Towns SANC Cost: Rs 182.17 Crores
Part-A (SCADA) towns – 7 (Chennai, Trichy, Madurai, Tirunelveli, Salem, Tiruppur, Coimbatore)

RTU Progress

<table>
<thead>
<tr>
<th>S/S</th>
<th>RTU INSTALLED</th>
<th>LINK AVAILABILITY</th>
<th>RTU E TOT E</th>
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<tbody>
<tr>
<td>6</td>
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FRTU Progress

<table>
<thead>
<tr>
<th>RMU+SECT</th>
<th>FRTU INSTALLATION</th>
<th>LINK AVAILABILITY</th>
<th>FRTU E TO E</th>
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<tbody>
<tr>
<td>334</td>
<td>334</td>
<td>184</td>
<td>106</td>
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</table>
TamilNadu - Tirupur

**SANC DATE:** December 2010 Completion by Dec 16

**7 Towns**

**SANC Cost:** Rs 182.17 Crores

Part-A (SCADA) towns – 7 (Chennai, Trichy, Madurai, Tirunelvelli, Salem, Tiruppur, Coimbatore)

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**RTU Progress**

- S/S: 12
- RTU Installed: 12
- Link Availability: 12
- RTU E TOT E

**FRTU Progress**

- RMU+SECT: 369
- FRTU Installation: 233
- Link Availability: 119
- FRTU E TO E: 0
TamilNadu - Coimbatore

SANC DATE: December 2010 Completion by Dec 16

7 Towns

SANC Cost: Rs 182.17 Crores

Part-A (SCADA) towns – 7 (Chennai, Trichy, Madurai, Tirunelvelli, Salem, Tiruppur, Coimbatore)

RTU Progress

<table>
<thead>
<tr>
<th></th>
<th>S/S</th>
<th>RTU INSTALLED</th>
<th>LINK AVAILABILITY</th>
<th>RTU E TO E</th>
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<tbody>
<tr>
<td>Progress</td>
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FRTU Progress

<table>
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<th>FRTU INSTALLATION</th>
<th>LINK AVAILABILITY</th>
<th>FRTU E TO E</th>
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<tr>
<td>Progress</td>
<td>799</td>
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</table>
• FRTU Commissioning in balance 4 towns and RTU Commissioning in Chennai to be expedited
**Rajasthan – JVVNL - Jaipur**

<table>
<thead>
<tr>
<th>SANC DATE: MAR 10 (3) &amp; JUN 10 (2)</th>
<th>AWARD DATE: AUG 2012 (DONGFANG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion Dec 16 - Jan 17</td>
<td></td>
</tr>
<tr>
<td>5 Towns</td>
<td>SANC Cost: Rs 151Crs</td>
</tr>
<tr>
<td></td>
<td>Disb: Rs 45 Crs</td>
</tr>
<tr>
<td>Part-A (SCADA) towns – 5 (Jaipur, Kota, Ajmer, Jodhpur, Bikaner)</td>
<td></td>
</tr>
</tbody>
</table>

**RTU Progress**
- S/S: 105
- RTU INSTALLED: 51
- LINK AVAILABILITY: 83
- RTU E TO E: 51

**FRTU Progress**
- RMU+SECT: 5
- FRTU INSTALLATION: 5
- LINK AVAILABILITY: 5
- FRTU E TO E: 5
Rajasthan – JVVNL - Kota

SANC DATE: MAR 10 (3) & JUN 10 (2)
Completion Dec 16 - Jan 17

AWARD DATE: AUG 2012 (DONGFANG)

5 Towns
SANC Cost: Rs 151Cr
Disb: Rs 45 Cr

Part-A (SCADA) towns – 5 (Jaipur, Kota, Ajmer, Jodhpur, Bikaner)

<table>
<thead>
<tr>
<th></th>
<th>RTU Progress</th>
<th>FRTU Progress</th>
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<tbody>
<tr>
<td>S/S</td>
<td>29</td>
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<tr>
<td>RTU INSTALLED</td>
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<tr>
<td>LINK AVAILABILITY</td>
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<tr>
<td>RTU E TOT E</td>
<td>12</td>
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<tr>
<td>RMU+SECT</td>
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<tr>
<td>LINK AVAILABILITY</td>
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<td>FRTU E TO E</td>
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</table>
### Rajasthan – AVVNL - Ajmer

<table>
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<th>AWARD DATE : AUG 2012 (DONGFANG)</th>
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<tr>
<td>Completion Dec 16 - Jan 17</td>
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<tr>
<td>5 Towns SANC Cost : Rs 151Crs</td>
<td>Disb : Rs 45 Crs</td>
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<tr>
<td>Part-A (SCADA) towns – 5 (Jaipur, Kota, Ajmer, Jodhpur, Bikaner)</td>
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#### RTU Progress

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<tr>
<th>S/S</th>
<th>RTU INSTALLED</th>
<th>LINK AVALAIBILITY</th>
<th>RTU E TOT E</th>
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<tr>
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#### FRTU Progress

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<th>RMU+SECT</th>
<th>LINK AVALAIBILITY</th>
<th>FRTU INSTALLATION</th>
<th>FRTU E TO E</th>
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## Rajasthan – JdVVNL - Bikaner

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<tbody>
<tr>
<td>Completion Dec 16 - Jan 17</td>
<td></td>
</tr>
</tbody>
</table>

### 5 Towns

- SANC Cost: Rs 151Crs
- Disb: Rs 45 Crs

**Part-A (SCADA) towns – 5** (Jaipur, Kota, Ajmer, Jodhpur, Bikaner)

### RTU Progress

- **S/S RTU INSTALLED**
  - 36
  - 35
  - 35
  - 35

- **LINK AVAILABILITY**
  - 0
  - 0
  - 0
  - 0

### FRTU Progress

- **RMU+SECT**
  - 116

- **FRTU INSTALLATION**
  - 0
  - 0
  - 0
  - 0
Rajasthan – JdVVNL - Jodhpur

SANC DATE: MAR 10(3) & JUN 10(2)  
Completion Dec 16 - Jan 17

AWARD DATE: AUG 2012 (DONGFANG)

5 Towns | SANC Cost: Rs 151Crs  
Disb: Rs 45 Crs

Part-A (SCADA) towns – 5 (Jaipur, Kota, Ajmer, Jodhpur, Bikaner)

**RTU Progress**
- S/S: 53
- RTU INSTALLED: 47
- LINK AVALAIBILITY: 47
- RTU E TOT E: 45

**FRTU Progress**
- RMU+SECT: 0
- LINK AVALAIBILITY: 0
- FRTU INSTALLATION: 0
- FRTU E TO E: 148
Rajasthan – Issues

- FRTU installation to be expedited by SIA
- DISCOM to make progressive milestone payment for end to end test
Madhya Pradesh – Bhopal

<table>
<thead>
<tr>
<th>SANC DATE: MAR &amp; JUN 2011</th>
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</thead>
<tbody>
<tr>
<td>5 Towns</td>
<td>5 Towns</td>
</tr>
<tr>
<td>SANC Cost: Rs 103 Crs</td>
<td>Disb: Rs 31 Crs</td>
</tr>
</tbody>
</table>

**RTU Progress**

- **S/S**: 63
- **RTU INSTALLED**: 63
- **LINK AVAILABILITY**: 37
- **RTU E TOT E**: 31
Madhya Pradesh – Gwalior

<table>
<thead>
<tr>
<th>SANC DATE : MAR &amp; JUN 2011</th>
<th>AWARD DATE : Dec’2011 (DONGFANG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Towns</td>
<td></td>
</tr>
<tr>
<td>SANC Cost : Rs 103Crs</td>
<td>Disb : Rs 31 Crs</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Part-A (SCADA) towns – 5 (Bhopal, Gwalior, Jabalpur, Indore &amp; Ujjain)</td>
<td></td>
</tr>
</tbody>
</table>

![RTU Progress Chart]

- **S/S**: 46
- **RTU INSTALLED**: 43
- **LINK AVAILABILITY**: 40
- **RTU E TOT E**: 3

**RTU Progress**
### Madhya Pradesh – Indore

<table>
<thead>
<tr>
<th>SANC DATE : MAR &amp; JUN 2011</th>
<th>AWARD DATE : Dec’2011 (DONGFANG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Towns</td>
<td></td>
</tr>
<tr>
<td>SANC Cost : Rs 103Crs</td>
<td>Disb : Rs 31 Crs</td>
</tr>
</tbody>
</table>

Part-A (SCADA) towns – 5 (Bhopal, Gwalior, Jabalpur, Indore & Ujjain)

#### RTU Progress

- **S/S**
- **RTU INSTALLED**
- **LINK AVAILABILITY**
- **RTU E TOT E**

<table>
<thead>
<tr>
<th></th>
<th>S/S</th>
<th>RTU INSTALLED</th>
<th>LINK AVAILABILITY</th>
<th>RTU E TOT E</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>2</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>3</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>4</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>5</td>
<td>72</td>
<td>72</td>
<td>72</td>
<td>72</td>
</tr>
</tbody>
</table>
Madhya Pradesh – Ujjain

SANC DATE : MAR & JUN 2011

<table>
<thead>
<tr>
<th>5 Towns</th>
<th>SANC Cost : Rs 103Crs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disb : Rs 31 Crs</td>
<td></td>
</tr>
</tbody>
</table>

Part-A (SCADA) towns – 5 (Bhopal, Gwalior, Jabalpur, Indore & Ujjain)

AWARD DATE : Dec’2011 (DONGFANG)

RTU Progress

- S/S
- RTU INSTALLED
- LINK AVALAIBILITY
- RTU E TOT E

Progress:
- 21
- 21
- 21
- 21
### Madhya Pradesh – Jabalpur

<table>
<thead>
<tr>
<th>Towns</th>
<th>SANC Cost</th>
<th>Award Date</th>
<th>Disb Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhopal, Gwalior, Jabalpur, Indore &amp; Ujjain</td>
<td>Rs 103 Crs</td>
<td>Dec’2011 (Dongfang)</td>
<td>Rs 31 Crs</td>
</tr>
</tbody>
</table>

**Bar Chart:**
- **S/S:** 39
- **RTU Installed:** 37
- **Link Availability:** 31
- **RTU E Tot E:** 0
- **Acute Delay in installation of enablers (Actual Sanction incl'd Enablers)**
- DMS data and locational details to be provided
Bihar – Patna

SANC DATE: Aug 2012 Completion by Sept 16

AWARD DATE: DEC 2012 (M/s. SCHNEIDER)

<table>
<thead>
<tr>
<th>1 Town</th>
<th>SANC Cost: Rs 22.02 Crs</th>
<th>Disb: Rs 6.61Crs</th>
</tr>
</thead>
</table>

Part-A (SCADA) towns – 1 (Patna)

**RTU Progress**

- S/S: 51
- RTU INSTALLED: 46
- RMU+SECT: 1
- LINK AVALAIBILITY: 0
- RTU E TO E: 0

**FRTU Progress**

- RMU+SECT: 305
- LINK AVALAIBILITY: 289
- FRTU INSTALLATION: 1
- FRTU E TO E: 0

---

52
- RTU /FRTU End to End test to be expedited
- GIS integration to be done
Maharashtra - Solapur

SANC DATE: June-2011 - 8 towns
Completion by Dec 2016 (Mar'17 requested)

AWARD DATE: DEC -2011 (SIEMENS)

<table>
<thead>
<tr>
<th>8 Towns</th>
<th>SANC Cost: Rs 116.57 Crs</th>
<th>Disb: Rs 48.48 Crs</th>
</tr>
</thead>
</table>

Part-A (SCADA) towns – 8 (Amravati, Solapur, Sangli, Malegaon, Greater Mumbai, Pune, Nashik and Kolhapur)
Maharashtra - Sangli

SANC DATE: June-2011 - 8 towns
Completion by Dec 2016 (Mar’17 requested)
AWARD DATE: DEC -2011 (SIEMENS)

<table>
<thead>
<tr>
<th>8 Towns</th>
<th>SANC Cost: Rs 116.57 Crs</th>
<th>Disb: Rs 48.48 Crs</th>
</tr>
</thead>
</table>

Part-A (SCADA) towns – 8 (Amravati, Solapur, Sangli, Malegaon, Greater Mumbai, Pune, Nashik and Kolhapur)

**RTU Progress**

**FRTU Progress**
SANC DATE: June-2011 -8 towns
Completion by Dec 2016 (Mar’17 requested)

<table>
<thead>
<tr>
<th>Towns</th>
<th>SANC Cost: Rs 116.57Crs</th>
<th>Disb: Rs 48.48 Crs</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Towns</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Part-A (SCADA) towns – 8 (Amravati, Solapur, Sangli, Malegaon, Greater Mumbai, Pune, Nashik and Kolhapur)

### RTU Progress

<table>
<thead>
<tr>
<th>Progress</th>
<th>S/S</th>
<th>RTU INSTALLED</th>
<th>LINK AVAILABILITY</th>
<th>RTU E TOT E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>80</td>
<td>71</td>
<td>6</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>17</td>
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</table>

### FRTU Progress

<table>
<thead>
<tr>
<th>Progress</th>
<th>RMU+SECT</th>
<th>FRTU INSTALLATION</th>
<th>LINK AVAILABILITY</th>
<th>FRTU E TO E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1025</td>
<td>877</td>
<td>419</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>419</td>
</tr>
</tbody>
</table>
Maharashtra - Pune

SANC DATE: June-2011 - 8 towns
Completion by Dec 2016 (Mar’17 requested)

<table>
<thead>
<tr>
<th>8 Towns</th>
<th>SANC Cost: Rs 116.57Crs</th>
</tr>
</thead>
</table>

AWARD DATE: DEC-2011 (SIEMENS)
Disb: Rs 48.48 Crs

Part-A (SCADA) towns – 8 (Amravati, Solapur, Sangli, Malegaon, Greater Mumbai, Pune, Nashik and Kolhapur)

RTU Progress

- S/S
- RTU INSTALLED
- LINK AVAILABILITY
- RTU E TOT E
Maharashtra - Nashik

<table>
<thead>
<tr>
<th>Towns</th>
<th>SANC Cost</th>
<th>AWARD DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Towns</td>
<td>Rs 116.57Crs</td>
<td>DEC -2011 (SIEMENS)</td>
</tr>
<tr>
<td>Disb</td>
<td>Rs 48.48 Crs</td>
<td></td>
</tr>
</tbody>
</table>

Part-A (SCADA) towns – 8 (Amravati, Solapur, Sangli, Malegaon, Greater Mumbai, Pune, Nashik and Kolhapur)

---

**RTU Progress**

<table>
<thead>
<tr>
<th>RTU</th>
<th>Status</th>
<th>Count</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>S/S</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>RTU INSTALLED</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>LINK AVAILABILITY</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>RTU TO E</td>
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</tr>
</tbody>
</table>

---

SANC DATE: June-2011 -8 towns

Completion by Dec 2016 (Mar’17 requested)
SANC DATE : June-2011 - 8 towns
Completion by Dec 2016 (Mar’17 requested)

| 8 Towns | SANC Cost : Rs 116.57 Crs | Disb : Rs 48.48 Crs |

Part-A (SCADA) towns – 8 (Amravati, Solapur, Sangli, Malegaon, Greater Mumbai, Pune, Nashik and Kolhapur)
- R-COMM /BSNL to deliver links
Punjab - Amritsar

**SANC DATE**: November 2011  *Completion by Aug. 16*

**AWARD DATE**: Feb. 2015  *(Siemens)*

| 3 Towns | SANC Cost: Rs 52.36 Crs | Disb: Rs 15.71 Crs |

Part-A (SCADA) towns – 3 (Amritsar, Jalandhar & Ludhiana)

---

**RTU Progress**

<table>
<thead>
<tr>
<th>S/S</th>
<th>RTU INSTALLED</th>
<th>LINK AVAILABILITY</th>
<th>RTU E TOT E</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**FRTU Progress**

<table>
<thead>
<tr>
<th>RMU+SECT</th>
<th>FRTU INSTALLATION</th>
<th>LINK AVAILABILITY</th>
<th>FRTU E TO E</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Punjab - Jalandhar

SANC DATE: November 2011  Completion by Aug.16

AWARD DATE: Feb. 2015  (Siemens)

<table>
<thead>
<tr>
<th>Towns</th>
<th>SANC Cost: Rs 52.36 Crs</th>
<th>Disb: Rs .15.71 Crs</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Towns</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Part-A (SCADA) towns – 3 (Amritsar, Jalandhar & Ludhiana)

**RTU Progress**

- S/S
- RTU INSTALLED
- LINK AVAILABILITY
- RTU E TOT E

**FRTU Progress**

- RMU+SECT
- FRTU INSTALLATION
- LINK AVAILABILITY
- FRTU E TO E
Punjab - Ludhiana

SANC DATE: November 2011 Completion by Aug. 16

AWARD DATE: Feb. 2015 (Siemens)

3 Towns SANC Cost: Rs 52.36 Crs
Disb: Rs .15.71 Crs

Part-A (SCADA) towns – 3 (Amritsar, Jalandhar & Ludhiana)
• RTU and FRTU installation /End to End to be speeded up
• Link availability to be ensured
### Uttarakhhand - Dehradun

<table>
<thead>
<tr>
<th>SANC DATE: JAN 12 Completion by JAN 17</th>
<th>AWARD DATE: DEC 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Towns</td>
<td>SANC Cost: Rs 16.55 Crs.</td>
</tr>
</tbody>
</table>

Part-A (SCADA) towns – 1 (DEHRADUN)

#### RTU Progress

<table>
<thead>
<tr>
<th>S/S</th>
<th>RTU INSTALLED</th>
<th>LINK AVAILABILITY</th>
<th>RTU E TOT E</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>13</td>
<td>9</td>
<td>5</td>
</tr>
</tbody>
</table>

#### FRTU Progress

<table>
<thead>
<tr>
<th>RMU+SECT</th>
<th>FRTU INSTALLATION</th>
<th>LINK AVAILABILITY</th>
<th>FRTU E TO E</th>
</tr>
</thead>
<tbody>
<tr>
<td>364</td>
<td>131</td>
<td>194</td>
<td>80</td>
</tr>
</tbody>
</table>
Delay in installation of RTU/ FRTU installation

MPLS Connectivity issue in some sites to be resolved

SIM errors in AIRTEL SIMs to be resolved

SCADA enabler work to expedited to complete project in Jan’17
- **Chattisgarh** - Both CC to be commissioned by Feb 17

- **Kerala** - Both CC to be commissioned by Feb 17
धन्यवाद।

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@URJA_India

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