



Kerala State Electricity Board Limited

(Incorporated under the Companies Act, 1956)

Registered Office: Vydyuthi Bhavanam, Pattom,

Thiruvananthapuram – 695 004 CIN:U40100KL2011SGC027424

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ABSTRACT

Proposal for the re-organization of SCADA Control Room, SCADA Maintenance Team, RMU Maintenance Team and UG Cable Wing- sanctioned - orders issued.

CORPORATE OFFICE (SBU-D)

B.O(FTD)No.246/2021(D(D&IT)/D5/PG/2021-22/0001) Dated, Tvpmm 08.04.2021

Read:

1. Office Order (CMD)No.650/2020(D(D&IT)/D5/PG/2020-21/0001) dated 20.04.2020
2. Note No.DB3/RMU/2020-21/141 dated 17.11.2020 of the Deputy Chief Engineer, Electrical Circle, Thiruvananthapuram
3. Note No. CEIT/SCADA-DMS/Staff/2020-21/046 dated 22.12.2020 of the Chief Engineer(IT, CR &CAPs) to the Director(Distribution, IT & HRM)
4. Supplementary Note No. CEIT/SCADA-DMS/Staff/2020-21/60 dated 20.02.2021 of the Chief Engineer(IT, CR &CAPs) to the Director(Distribution, IT & HRM)
5. Note No. D(D&IT)/D5/PG/2020-21/0001 dated 10.03.2021 of the Director (Distribution, IT & HRM) to the Full Time Directors (*Agenda Item No.65/03/21*)

ORDER

A Committee was constituted as per Office Order read as 1st above to come up with the proposals for the constitution of dedicated teams for the maintenance and repair of Ring Main Units (RMUs) in Thiruvananthapuram, Ernakulam and Kozhikode Cities / Annual Maintenance Contract (AMC) with Suppliers OR outsourcing the entire job, with specific recommendations on manpower/tools/ spares/ other items required for each team, special delegation, if any required, and training for the newly constituted teams.

The Deputy Chief Engineer, Electrical Circle, Thiruvananthapuram as per note read as 2nd above has submitted the proposal for the re-organization of SCADA Control Room, SCADA Maintenance Team, RMU Maintenance Team and UG Cable Wing and the Chief Engineer(IT, CR & CAPS) as per notes read as 3rd and 4th above has furnished remarks on the report submitted by the Committee.

After considering both the proposals, a revised proposal with optimum additional expenditure is formulated by the Director (Distribution, IT & HRM) and the same is placed before the Full Time Directors for a decision.

Proposal for the re-organisation

The SCADA Control room operation may function with 2 AEEs and 4 Sub Engineers with the Sub Engineers engaged in round the clock shift duty. The AEEs should attend the duties in two shifts from 06:00 hrs to 22:00 hrs and will be under the direct control of the concerned Deputy Chief Engineers. Same pattern is proposed at Thiruvananthapuram, Ernakulam & Kozhikode.

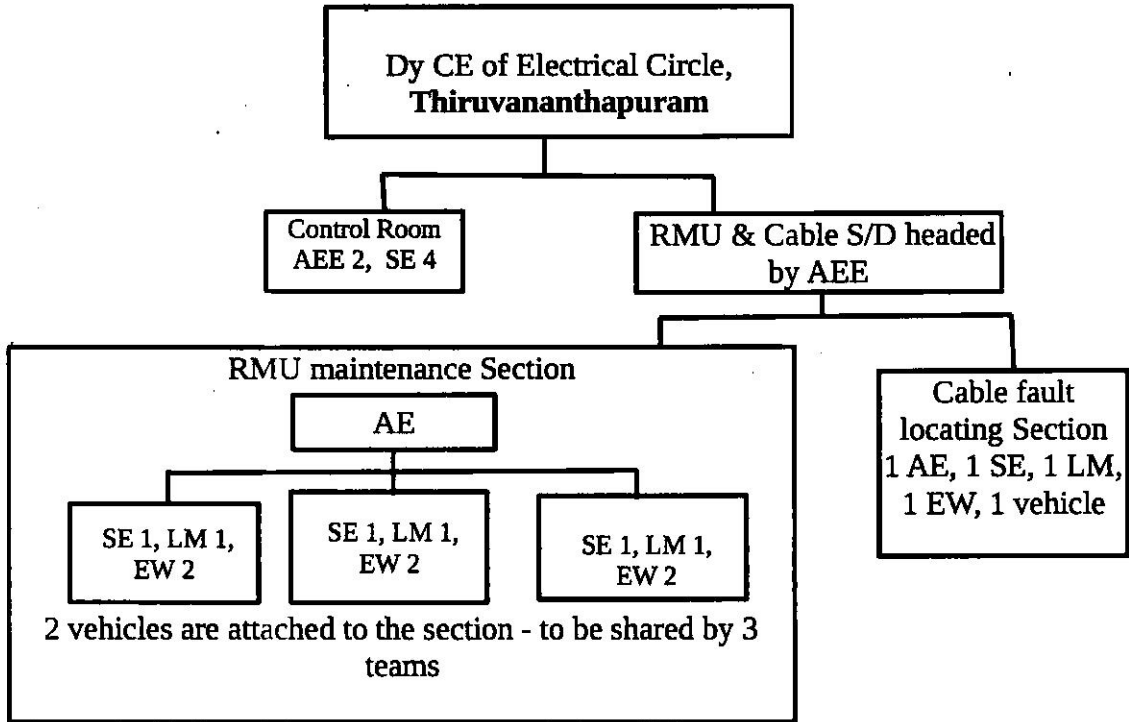
RMU & Cable Subdivision will be headed by an Asst Executive Engineer under the direct control of the Deputy Chief Engineer of the concerned Circle. There will be two teams, viz. RMU maintenance Section & Cable fault locating Section under the Subdivision. Each RMU maintenance wing will be headed by an Assistant Engineer and the team includes 1 Sub Engineer, 1 Lineman & 2 Electricity Workers. Considering the large number of RMUs, 3 teams at Thiruvananthapuram (1 AE, 3 SE, 3LM, 6 EW, 2 vehicles), 2 teams at Ernakulam (1 AE, 2 SE, 2 LM, 4 EW with 1 additional vehicle) and 2 teams at Kozhikode (1 AE, 2 SE, 2 LM, 4 EW with 1 additional vehicle) is proposed. The AB files relating to the existing RAPDRP Wing are to be handed over to one Senior Assistant of the concerned Electrical Circle and the DB files are to be handed over to the RMU Maintenance Wing.

Cable fault locating team includes 1 Assistant Engineer, 1 Sub Engineer, 1 Lineman, 1 Electricity Worker & 1 Vehicle – 1 team each at Thiruvananthapuram, Ernakulam and Kozhikode.

The SCADA / DMS maintenance wing will be under the direct control of Executive Engineer, Regional IT Unit (RITU) under Thiruvananthapuram, Ernakulam & Kozhikode under Chief Engineer (IT). Each SCADA / DMS maintenance wing will include a team having 1 Asst Executive Engineer, 1 Assistant Engineer(SCADA), 1 Sub Engineer, 1 Lineman – 2 teams are proposed at Thiruvananthapuram (with 1 AEE, 1 AE, 2 SE, 2 LM) and 1 team each at Ernakulam & Kozhikode. 1 vehicle is to be additionally provided for the SCADA/DMS maintenance wing at Thiruvananthapuram

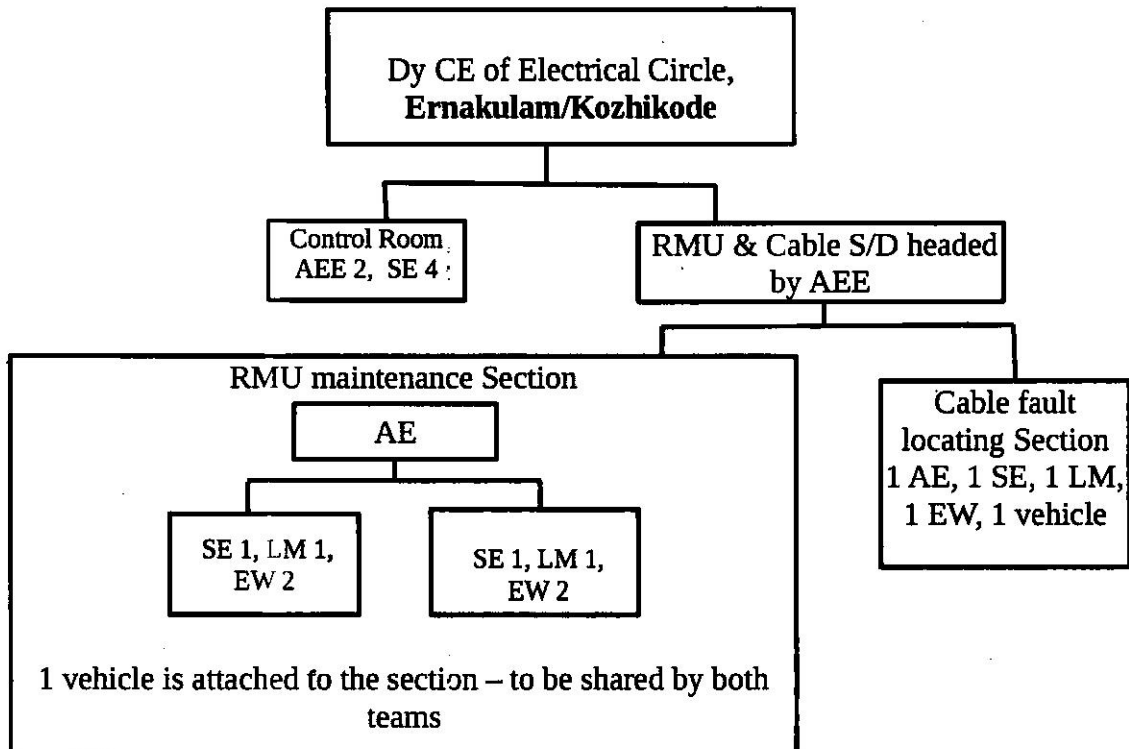
Organisation Chart 1

SCADA Control room, RMU maintenance team & UG Cable wing under Electrical Circle, Thiruvananthapuram



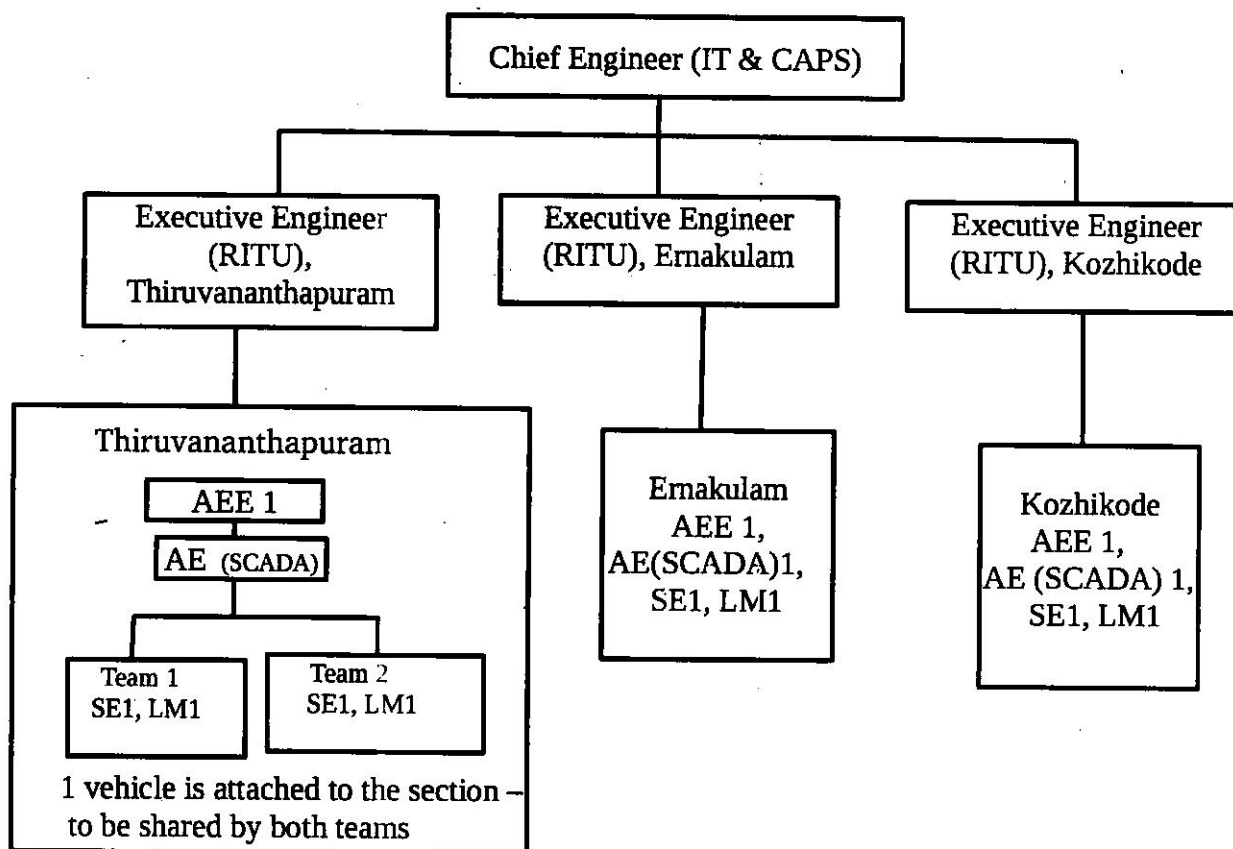
Organisation Chart 2

SCADA Control room, RMU maintenance team & UG Cable wing under Electrical Circle, Ernakulam & Kozhikode



Organisation chart 3

SCADA/ DMS maintenance wing under Thiruvananthapuram, Ernakulam and Kozhikode



SCADA Control Room

Team	Present working strength	Proposed Team	Additional requirement
Thiruvananthapuram	4 AEE, 4 SE	2 AEE, 4 SE	2 AEEs excess
Ernakulam	2 AEE, 4 SE	2 AEE, 4 SE	Nil
Kozhikode	2 AEE, 4 SE	2 AEE, 4 SE	Nil

RMU maintenance Section

Team	Present working strength	Proposed Team	Additional requirement
Thiruvananthapuram	1 AEE, 1 AE, 2 SE, 4 EW with 2 vehicles	3 teams under one Assistant Engineer. Each team consisting of SE 1, LM 1, EW 2 (Total: 1 AE, 3 SE, 3 LM, 6 EW, 2 vehicles)	1 SE, 3 LM, 2 EW - to be additionally provided by deployment.

Ernakulam	No separate team for RMU maintenance (<i>Single team for Cable Fault Location and RMU maintenance</i>)	2 teams under one Assistant Engineer. <i>Each team</i> consisting of SE 1, LM 1, EW 2 (Total: 1 AE, 2 SE, 2 LM, 4 EW, 1 vehicle)	1 AE & 2 EW from UG Cable team. 2 SE, 2 LM & 2 EW to be additionally provided by deployment. 1 vehicle is to be additionally provided.
Kozhikode	No separate team for RMU maintenance (<i>Single team for Cable Fault Location and RMU maintenance</i>)	2 teams under one Assistant Engineer. <i>Each team</i> consisting of SE 1, LM 1, EW 2 (Total: 1 AE, 2 SE, 2 LM, 4 EW, 1 vehicle)	1 AE, 1 SE & 1 EW from UG cable team. 1 SE, 2 LM & 3 EW to be additionally provided by deployment. 1 vehicle is to be additionally provided.

UG Cable wing

TEAM	Present working strength	Proposed Team	Additional requirement
Thiruvananthapuram	1 AE, 1 SE & 1 LM under 1 AEE (AEE is common for cable team and RMU team) with 1 vehicle	Single team consisting of 1 AE, 1 SE, 1 LM, 1 EW with 1 Vehicle.	One place of EW to be additionally provided by deployment.
Ernakulam	1 AEE, 2 AE, 1 SE, 1 LM & 3 EW with 1 vehicle (<i>Single team for Cable Fault Location and RMU maintenance</i>)	Single team consisting of 1 AE, 1 SE, 1 LM, 1 EW with 1 Vehicle.	1 AE & 2 EW are excess which can be utilised for RMU maintenance wing
Kozhikode	1 AEE, 2 AE, 2 SE, 2 EW with 1 vehicle (<i>Single team for Cable Fault Location and RMU maintenance</i>)	Single team consisting of 1 AE, 1 SE, 1 LM, 1 EW with 1 Vehicle.	1 AE, 1 SE & 1 EW are excess which can be utilised for RMU maintenance wing. One place of LM to be additionally provided by deployment

SCADA COMMUNICATION AND RTU/FRTU MAINTENANCE TEAM

TEAMS	Present working strength	Proposed Team	Additional requirement
Thiruvananthapuram	1 AEE (SCADA), 1 AE	1 AEE with Two teams under 1 Assistant Engineer. Each team consisting of 1 SE, 1 LM (Total: 1 AE, 2 SE, 2 LM, 1 vehicle)	2 SE, 2 LM are to be additionally provided by deployment along with 1 additional vehicle (one place of LM already created vide B.O (FTD) No.590/2019 (CEIT/SCADA-DMS/Staff/2019-20) dated 27.07.2019

Ernakulam	1 AEE (RITU), 1 AE	1 AEE with Single team consisting of 1 AE, 1 SE, 1 LM	1 SE, 1 LM are to be additionally provided by deployment (one place of LM already created vide B.O (FTD) No.590/2019 (CEIT/SCADA-DMS/Staff/2019-20) dated 27.07.2019
Kozhikode	1 AEE (RITU), 1 AE	1 AEE with Single team consisting of 1 AE, 1 SE, 1 LM	1 SE, 1 LM are to be additionally provided by deployment (one place of LM already created vide B.O (FTD) No.590/2019 (CEIT/SCADA-DMS/Staff/2019-20) dated 27.07.2019

Having examined the matter in detail, the Full Time Directors in the meeting held on 23.03.2021, resolved to approve the proposal of the Director (Distribution, IT & HRM) as detailed above with Annexure -1 to 4, for the re-organisation of SCADA Control Room, RMU Maintenance Wing, UG Cable Wing, SCADA Communication and RTU/FRTU Maintenance Team.

Further resolved that the number of additional vehicles shall be limited to three.

Further resolved to authorise the Chief Engineer (HRM) to arrange posting of the required staff by deployment/rearrangement.

Orders are issued accordingly.

By Order of the Full Time Directors

Sd/-

Lekha G.

Company Secretary In Charge

To

The Chief Engineer, Distribution (South/ Central/ North/ North Malabar)/ The Chief Engineer (IT, CR & CAPs), Chief Engineer (HRM)

All Deputy Chief Engineers, Electrical Circles under South/Central/North/North Malabar

The Chief Public Relations Officer(CPRO), KSEBL

The Chief Vigilance Officer (CVO), KSEBL

Copy to:

The TA to Chairman & Managing Director/ The TA to Director (Distribution, IT & HRM/Transmission-System Operation & REES/ Generation-Electrical & Supply Chain Management/ Generation-Civil)

The Company Secretary

The RCAO/ECA, Vidyuthi Bhavanam, Pattom/ The Legal Liaison Officer

The PA to Director (Finance) / Senior C.A. to Secretary (Administration)

Fair Copy Section / Library / Stock File.

Forwarded / By Order

Lekha G. Dair

Assistant Executive Engineer

Duties and functions of RMU maintenance Section

- 1.Maintenance and upkeep of RMUs ready for remote operation.
- 2.The Preventive Maintenance of the RMUs in line with the technical operation manual provided by the Original Equipment Manufacturer (OEM).
- 3.The Breakdown maintenance of the RMUs after obtaining due permit to work by the authorised section Sub Engineer from the SCADA/DMS control Centre for the section identified as Faulty. After rectification of the fault, same shall be intimated to the SCADA/ Control centre for energisation, by giving clearance from the field.
- 4.Testing and commissioning of newly installed KSEB/Private RMUs.
- 5.Giving technical support to other wings in matters related to installation of new/serviced RMUs.
- 6.Procurement and upkeep of sufficient spares for RMUs.
- 7.Furnishing of reports, progress of works to higher authorities.
- 8.Monitoring availability of power supply at RMU locations.
- 9.Coordination with section offices and 11kV control room for the dismantling/shifting of the RMUs.
10. Schedule maintenance of RMU and RMU locations.

Duties and functions of SCADA COMMUNICATION AND RTU/FRTU MAINTENANCE TEAM

- 1.Preventive and Breakdown Maintenance of RTUs in substations, FRTUs & FPIs in RMU locations, 3G modems, GPS System Servers, software, VPS, Workstations, RVDUs, LDMS, communication network, control Room Equipments. DR center equipments, ICCP integration equipments upto the router installed at LD Centres (For Ernakulam)and communication with other systems as required etc.
- 2.Carrying out all the server & database administration works at Control center and DR (For Ernakulam).
- 3.Monitoring of services & Performance monitoring.
- 4.Monitoring of MPLS VPN links, monitoring of network management system.
- 5.Clearing Server Log files & Database backup.
- 6.Maintenance of Control Room Infrastructure (Temperature, Network cabling, Battery Voltage, Routine Maintenance activities etc).
- 7.Importing & deploying of CIM-XML file in the SCADA system and rectifying the issues in coordination with GIS team,
- 8.Addition & mapping of new RMUs & feeder segments in the network.
- 9.Addition and mapping of new panels installed / modifications at substations.
10. Updating the Delta changes reflecting in the Distribution network in line with the approval received from PMU/Control room through GIS system and Extracting to SCADA/DMS system.
11. Imparting adequate training to operators.
12. Ensuring the SLA conditions executed with SIA for entire SCADA system and Control Centre Infrastructure maintenance.
13. Arranging & configuring new FRTUs for the upcoming RMU locations, etc.
14. Rectification of anomalies, non-availability of Field signals, System failures etc. reported by the Control Centre Operators.
15. Carry out periodic and Preventive Maintenance of SCADA/DMS systems & field components and control centre Electrical system, AC System, UPS etc .
16. Monitor the availability of required Bandwidth and signal strength.
17. Overall coordination activities with all the stake holders- SIA, GSIA.NBSP etc.
18. Compilation of the Managerial Information and proposal of the Distribution Network expansions based on the reports generated from the SCADA/DMS system
19. Monitoring the status of communication of feeder meters and boarder meters on regular basis and rectification in coordination with IT wing

Duties and functions of Operators in SCADA Control Room Operation

1. Remote monitoring of the power position of the town by keeping vigil on the overall EHT feeder status which are available in the SCADA/DMS system through the Sub Station SLD.
2. Monitoring and Remote operation of 11 kV feeder breakers at Substations based on the real time Scenario.
3. Monitoring of Electrical System, AC system in server room and control room, UPS system, DG system
4. Remote operation of RMUs from SCADA/DMS Control Centre.
5. Back feeding and Feeder rearrangement.
6. Providing shutdown based on the forced /planned Outages in the network.
7. Issue work permit as per requirement.
8. Restoration of Power after completion of Maintenance, etc.
9. Assisting PMU in finalizing the network modifications suggested by the Field Offices.
10. Coordinating with the SCADA/DMS Maintenance wing for effecting the network modifications in the SCADA/DMS system
11. Preparation of periodic reports & vital information noted during the control center operation and forward the same to higher officers.
12. Reporting of anomalies, maintenance requirements, etc. to the respective SCADA/DMS Maintenance Wing
13. Sharing the observations/ non availability of field information / failures of any SCADA/DMS system noted to the respective SCADA/DMS Maintenance Wing
14. Each operator has to log in to the SCADA/DMS system's individual work station using employee code.
15. Work in coordination with State Load Despatch Centre (SLDC) integration.
16. Execution of functions such as Load shedding, FLISR, Load Flow studies, etc.
17. Reports of peak loads, over loading of feeders based on limits set, Interruption reports, etc, can be generated and printouts can be taken for management information.

Duties and functions of SCADA COMMUNICATION AND RTU/FRTU MAINTENANCE TEAM

1. Preventive and breakdown maintenance of RTUs in substations, FRTUs & FPIs in RMU locations, 3G modems, servers, software, VPS, workstations, RVDUs, LDMS, communication network, control room UPS etc.
2. Carrying out all the server and database administration works.
3. Monitoring of services and performance monitoring
4. Monitoring of MPLS VPN links, monitoring of network management system.
5. Clearing server log files & database backup.
6. Maintenance of control room infrastructure (temperature, network cabling, battery voltage, routine maintenance activities etc.)
7. Importing and deploying of CIM-XML file in the SCADA system and rectifying the issues in co-ordination with GIS team.
8. Addition & mapping of new RMUs & feeder segments in the network.
9. Updating the delta changes reflecting in the distribution network in line with the approval received from PMU/ Control room through GIS system and extracting to SCADA/ DMS system.
10. Imparting adequate training to Operators.
11. Ensuring the SLA conditions executed with SIA for entire SCADA System and Control Centre Infrastructure maintenance.
12. Arranging & configuring new FRTUs for the upcoming RMU locations etc.
13. Rectification of anomalies, non availability of field signals, system failures etc. reported by the Control Centre Operators.
14. Carry out periodic and preventive maintenance of SCADA/ DMS Systems & field components.
15. Monitor the availability of required Bandwidth and signal strength.
16. Overall co-ordination activities with the stake holders- SIA, GSIA, NBSP etc.
17. Compilation of the Managerial Information and proposal of the Distribution network expansions based on the reports generated from the SCADA/ DMS System.