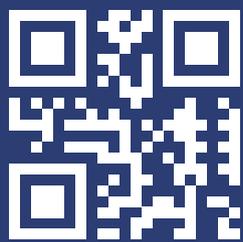




GPRD 3i



Year 2020
Volume 1



www.gprd.in

Gujarat Power Research
& Development Cell



Watch Dog Transformer

**RELIABLE & SUSTAINABLE
COMPREHENSIVE & CONCRETE
SOLUTION OF DISCOMS NEED**



ONE SOLUTION FOR MANY ISSUES LIKE

- **Monitoring the Power theft & overloading**
- **Reducing in failure of DTs**
- **No human intervention**
- **WDD is programmed device to take intelligent decisions**
- **Anytime On/Off without visiting the place of Transformer**
- **Customize the schedule Power On/Off operations**
- **Energy Audit at DT level**
- **Better electrical stress resistance**
- **Increased reliability & efficiency of Power**
- **Enhanced Total regulation at one place**
- **Need base control by way of connection/disconnection of the consumer installation**
- **Superior technology for reducing operating costs and increasing operational life**
- **Can check health of Transformer By monitoring oil and winding temperature, load, ampere, voltage etc**

For more information, please refer page no. 6



We are ready to hear and provide solutions to you at

GUJARAT POWER RESEARCH & DEVELOPMENT CELL

(A Government of Gujarat Initiative) Gujarat Urja Vikas Nigam Ltd

GPRD 3i

TEXT FROM THE COACH

Coach

R B Patel

R & D Team

R B Patel

GPRD Head & I/c CE(Tech), GUVNL

A R Vakhariya

Executive Engineer (R&D)

J B Upadhyay

I/c Executive Engineer (R&D)

D R Shah

Deputy Engineer (R&D)

R D Patel

Deputy Engineer (R&D)

K N Mandaliya

Manager

J H Borisagar

Junior Engineer (R&D)

S P Rathod

Junior Engineer (R&D)

H M Sakariya

Junior Engineer (R&D)

U N Joshi

Junior Engineer (IT)

M A Vhora

Senior Assistant (R&D)

K J Solanki

Junior Assistant (R&D)

J B Vadgama

Junior Assistant (R&D)

Editor

K N Mandaliya

+91 99252 13924

managerrnd@gprd.in

Dear Reader,

Season's greetings and special thanks for focusing on us!

We are a few people, the world knows us as the R & D Cell!

With a view to reshape the power sector of the state, we are engaged in Research & Development activities. Though, we are not confined to the DISCOMs, or not to the Power Sector, we starve for re-constructing today's Energy Sector to cultivate tomorrow's Powerful India.

We introduce ourselves as

We are Gujarat Power Research & Development Cell – which is reckoned as the GPRD Cell. The Gujarat Power Research & Development (GPRD) Cell is a research center established on 11-07-2017 by the Government of Gujarat for Gujarat Urja Vikas Nigam Limited (GUVNL) and its' subsidiary Companies- namely GSECL, GETCO, DGVCL, MGVCL, UGVCL and PGVCL.

After the embarkment of this Cell, we have initiated more than 110 R & D Projects. Amongst them, many of the Projects have proved to be essential for the staff working in the field and better service provider to our different stake holders. I am glad to inform you that in two & half years of this Cell's tenure, we have filed 9 Patent applications for the Intellectual Property Rights.

In view of all these things, I will state here that if the desired outcome of any Research activity or Innovation does not reach to its end users, it is worth useless. Thus, the Research or Innovations made by this Cell, should reach to its end beneficiaries in all the different ways. To achieve this motive, as a Head of this Cell, for a long, I am thinking to communicate with you about the Research & Development activities of the Cell. Pursuing this we have recently launched the website www.gprd.in for our cell and we are updating it continually for keeping aware to all the stakeholders. Now, this GPRD Volume is another passage towards you.

I hope this inaugural volume will be a distinguished start for us to keep you attentive towards the GPRD Cell. I am honoured to pen this newly launched GPRD 3i, an Energy Sector volume, contents of which are ensuing the Techno-Engineering Ethics, Research and Principles.

I am inviting you to be a part of GPRD 3i, this volume by becoming a permanent Reader or by contributing Research & Development articles/ ideas of the Energy field for the future issues.



R B Patel
Head, GPRD

CONTENTS

GPRD 3i

Text From the Coach	iii
R B Patel, Head, GPRD	
Prelude	1
We, The GPRD Cell	
Theme upon We Work	2
Research & Development Area	
Projects	2
Research & Development	
Achievements	3
After Continuous Mining	
Delineate	4
Research Paper	
Adjudge	5
Skoch Award	
Rock Climbing	6
Text From The Desk Of Editor	
Trekking	8
From Field To National Rostrum	
Remote Interaction	10
Webinar	
Honoured Visitants	10
Power Sector Visit	
Hats Offff...	12
To a visionary man	

PRELUDE

WE, THE GPRD CELL

The Gujarat Power Research and Development (GPRD) Cell is a research center established by the Government of Gujarat for Gujarat Urja Vikas Nigam Limited (GUVNL) and its subsidiary Companies namely, GSECL, GETCO, DGVCL, MGVCL, UGVCL and PGVCL

The Cell is working under Gujarat Urja Vikas Nigam Limited (GUVNL) and is funded by the Government of Gujarat through the GUVNL. GUVNL is a parent holding Company for GSECL, GETCO, DGVCL, MGVCL, UGVCL and PGVCL. GSECL is looking after the electricity generation, GETCO is looking after the transmission of electricity and DGVCL, MGVCL, UGVCL and PGVCL are electricity distribution Companies looking after the distribution, operation and maintenance of electricity up to the consumer level in the state of Gujarat.

The Cell is equipped with necessary infrastructural facilities, manned with fully dedicated engineers having aptitude and who can deploy their skills, expertise and attention to research activities are selected from the GUVNL subsidiary Companies through a transparent and vigorous process.

The Study, Development and Experiments are carried out for innovations, updating or further improvement in designs of different type of materials being used in the power sector, improvement in the network components and efficiency, safety implementation of automation, IT enabled applications, cultivation of renewable energy resources, exploring energy storage, Electric Vehicles etc.

The Gujarat Power Research and Development Cell is an independent Cell to work and to carry out pilot projects to achieve the mottos set. This Cell is guided through a committee comprising of three layers of authenticities. The upper most committee is chaired by the Additional Chief Secretary, Energy & Petrochemicals Department, GoG, Gandhinagar.

The GPRD cell started functioning on 11th July, 2017 at IITGN and presently working with 13 dedicated personnels at IITGN Research Park, Gandhinagar, Gujarat, India.



Pride Moments: MoU with IIT Gandhinagar

THEME UPON WE WORK

RESEARCH & DEVELOPMENT AREAS

- IT & Automation
- Energy Efficiency, Smart Grid & Advance Metering
- Energy Security (Energy Resources Solar, Wind & Others)
- Power Quality, Safety & System Improvement

Scientists

Go Slow Men at work

PROJECTS

RESEARCH & DEVELOPMENT

The GPRD Cell is engaged in the Research and Development activities. The Cell has also initiated many activities which are related to the energy efficiency of the power network, Power quality and Power reliability, renewable energy for environmental benefits, improving customer services etc.

For by so far conception, **Total 29 Research Projects are completed and 52 Research Projects are on ongoing level.** Few of the key Research Projects are listed as under:

Completed Research Projects

- Load Management Transformer (LMT) earlier it was PAT
- Watch Dog Transformer with load setting
- Air Break Switch with Communication ABEB
- Mobile App GPS/GIS based Asset Mapping
- Stone Less Drop Out fuse (11 KV SLDO Fuse):
- HT AB Switch with Earth Blade (HT ABEB)
- HTMC (HT Metering Cubical)
- Wedge connectors for lossless connections:
- FRP x arm for DO fuse of T/C
- Mobile App guide 126 & 135
- Covered Conductor designing for dense coconut trees and forest
- Redesigning of Transformer Center Structure Dimension
- Eco-friendly Earthing system
- PLC/RF - LoRA Communication Technology
- Geo-Mapping of Earth resistivity measurement data of villages under Vijapur Division, UGVCL

On Going Research Projects

- Geo-Urja
- Surya Shakti Kishan Yojana - SKY AG. Feeder Solarization Scheme
- On line Testing of metering set of HT consumer Installation
- Common meter reading software using meter API_ Universal Modem
- LoRA WAN Communication Technology for existing DLMS meters
- Pole Erection Device

- Pilot Project for 11KV VAR compensation with Step less Voltage regulator
- Conductor Stringing Device (CSD)
- On field Safety Improvement by Live line indicator
- Effect of harmonics and its solution
- Smart Feeder Monitoring System for Power Distribution Network
- Mobile App for vigilance Activity
- LT AB Switch with Earth System (LT ABES)
- AL-59-Tech specs
- Common Line Earthing for HT feeder
- Best Practices of other utilities
- Assessing impact of EV on power sector
- Wind Turbine
- Load Break Switch with Earth Blade-Communicable
- Ideal Transformer Center
- GSECL-steam Turbine
- Ester Oil in Distribution System
- Feeder Pillar
- Drone Survey
- Integrated Solar Lighting System (ISLS)
- Battery Storage -Challenges of RE integration, storage and load pattern stabilization
- Development of SMART Ecosystem for Energy Metering and communication for system reliability, quality control and revenue generation
- Study for feasibility of reuse of cooling tower blow down water from bhavnagar lignite thermal power station in irrigation in nearby villages
- Research project to study RS 485 Modbus Based AMR technology for Group Energy meter installations
- Feeder panel Relay- Snapping of Conductor



ACHIEVEMENTS

■ AFTER CONTINUOUS MINING

We know that Patent means to grant a property right by a legal authority to an inventor. This grant provides the inventor special rights for patented procedure, design or invention for preselected period. Any new useful enhancement or development, Invention or discovery of any new and valuable method, device, creation or configuration of substance or material can obtain the patent, subject to the condition and necessities of the law. Most patents are valid up to 20 years.

We have filed nine (9) Patent Applications for the Intellectual Property Rights, as per below list:

- On-Line Testing Set up (OLTS)
- Watch Dog Transformer
- Remotely Communicable HT ABEB
- Remotely Controllable Capacitor Bank System for VAR Compensation of Feeder
- Dynamic VAR Compensation with HT Capacitors
- Stone-less DO Fuse (SLDO)
- Air Break Switch with Earth Blade Facility with FRP Base Channel(ABEB)
- Conductor Stringing Device
- A maintenance free ready capsule and Pipe-in-Cage type earthing system

DELINEATE

RESEARCH PAPERS

The Research Paper is a piece of academic writing based on its author’s original research on a particular topic, and the analysis and interpretation of the research findings. It can be either a term paper, or a master’s thesis or a doctoral dissertation and also that Research Paper is one kind of academic writing, where writers writes somewhat on specific points by providing Information related to the topic with supporting evidence to prove the subject. To write a Research Paper, needs broad skill and knowledge on specific subject.

This Cell has initiated many Research & Development Projects in its two years of tenure. On that research, this Cell’s Scientists have submitted few Research Papers at different level as below.



Smart Energy Management for the Grid Connected Solar Agricultural Prosumers and Consumers

Published in “Metering India” – leema, 08-09 Aug, 2019

Authors: R B Patel, GPRD Head & I/c Chief Engineer (Tech), GUVNL & R D Patel, Deputy Engineer (R&D)

IoT based Intelligent Monitoring and Control System for Effective Utilization of Distributed Solar Generation Assets of Agriculture Areas

Published in “Maladies in Distribution Sector and its Remedies” – CBIP, 29-30 Aug, 2019

Authors: J B Upadhyay, I/c Executive Engineer (R&D) & S P Rathod, Junior Engineer (R&D) and H M Sakariya, Junior Engineer (R&D)

Remote Meter Reading in Remotly Located Scattered Agricultural Areas through LPWAN Technology – An Effective Techno-Commercial Solution for DISCOMS

Published in “Maladies in Distribution Sector and its Remedies” – CBIP, 29-30 Aug, 2019

Authors: H M Sakariya, Junior Engineer (R&D) & R B Patel, GPRD Head & Chief Engineer (Tech),GUVNL

Assessing the Impact of Harmonics On Distribution Transformer Having Solar Rooftop PV Installations Published in “Maladies in Distribution Sector and its Remedies – CBIP, 29-30 August, 2019

Authors: S P Rathod, Junior Engineer(R&D) & H M Sakariya, Junior Engineer (R&D) and J B Upadhyay, I/c Executive Engineer(R&D)

Maintenance Free, Eco-Friendly, Ready Capsule, Pipe-In-Cage (Pic)Type Earthing for Power Distribution System - An Effective Solution for DISCOM Needs

Published in CBIP, 12th National Conference on “Earthing Systems” – On 10-11 October, 2019

Authors: D R Shah, Deputy Engineer (R&D) & H M Sakariya, Junior Engineer (R&D)

ADJUDGE

■ SKOCH AWARD



Gujarat Power Research & Development Cell has been recognized by the SKOCH Award under the name of GUVNL.

SKOCH Award *, instituted in 2003, is the highest civilian honour in the country conferred by an independent organisation. It recognises people, projects and institutions that go the extra mile to make India a better nation. SKOCH Award covers the best of efforts in the area of digital, financial and social inclusion. It encompasses the best of governance, inclusive growth, excellence in technology and applications, change management, corporate leadership, corporate governance, citizen service delivery, capacity building, empowerment and other such softer issues that get normally lost in the glamour and glitz of industry sponsored or advertising focussed jamborees. SKOCH Award comes with a backing of reputation of more than two decades. It is distinctive for its approach of selection of awardees, which is based on nomination, jury evaluation, and presentation of shortlisted nominees, focus group discussions, interactions and peer evaluation. The SKOCH Award not only acknowledges exceptional achievers – organisations and individuals – but also spurs institutional guidance and best practices in the industry.

Gujarat Power Research & Development Cell participated in Skoch Award with the subject scheme of SURYASHAKTI KISAN YOJANA (SKY) SCHEME.

Suryashakti Kisan Yojana (SKY) is a revolutionary initiative by the Government of Gujarat in the Power Sector of the State. The SKY scheme extends an opportunity to the farmers, to generate Electricity for their captive consumption as per their requirements

and the surplus electricity generated shall be purchased by the Government of Gujarat through Power-Grid and make the Farmers earn to add to their income.

In this Pilot Project, the Farmers will generate their own Electricity by using Solar Panel in their farms and double the income. The Solar Panels will be given to the farmers as per their requirements, to those who have already the Electricity connection. The 60 % subsidy on the cost of projects will be given by the State and Central Governments, 35% of the Project cost will be provided to him through loan with the interest rates of 4.5% to 6% and remaining 5% of the Project cost shall be borne by the Farmers. Total life cycle of the project is envisaged 25 years, which is split between 7-year period and 18-year period. As per the Scheme, the Farmers will get per unit rate of Rs 7 (Rs 3.5 by GUVNL + Rs 3.5 by State Govt.) for the first 7 years and for the succeeding 18 years, Farmers will get at the rate of Rs 3.5 for each unit sold. Total 12,400 Farmers of 33 Districts were planned to be solarized under the pilot project.

SKY (Suryashakti Kisan Yojana) would be a tool for achieving Prime Minister Narendra Modi's dream to double the income of Farmers by year-2022, and also, this will provide Farmers 12-hours Power supply during the day time, relieving them from watering their farms during night hours. Now the SKY scheme is going to be aligned with PM-KUSUM scheme of GoI going to be implemented across the nation on the basis of the pilot project of SKY under taken by GoG.

*<https://www.skoch.in/skochaward/about-skochaward/>



ROCK CLIMBING

■ TEXT FROM THE DESK OF EDITOR

This Cell has initiated many R & D Projects. On this page, we are presenting here those R&D project's achievement one by one. In this issue, we are introducing our key initiative as Watch Dog Transformer

About Watch Dog transformer (WDT)

The WDT is a new concept for existing Distribution Transformers and Consumers for remote monitoring, controlling, analysis and operating to various specific applications.

Current Scenario

The Distribution Transformer is a critical component in the power distribution system for all the utilities. The reliability and quality of power supply, maintenance of SoP of the regulations and consequently to reduce the consumer grievances, it all depends upon the service life of the distribution transformer. Therefore, monitoring of the key parameters like voltage, current and temperature rise are necessary for evaluating the performance of the distribution transformer and also helpful to avoid or reduce disruption due to a sudden

unexpected failure. Overloading and rise in oil & winding temperature of transformer are the major causes of failure in a distribution transformers. There is no such monitoring of above critical electrical operational parameters at distribution transformer level, in the utility. **For this issue, the WDT is the best solution.**



Limitations of the present system

- No monitoring and controlling of the working and its operating parameters of the distribution transformer once they are installed in the field
- Over loading of the distribution transformers by the consumers specifically in agriculture and industrial areas are also not monitored precisely and regularly
- Bypassing the distribution transformer from LV bushings are the usual practice for power theft in some of the utilities and are very difficult to monitor.

The WDT will overcome the above limitations

Delivering towards the situation by WDT

The watch dog transformer is the combination of a distribution transformer (DT) with monitoring and controlling Watch Dog Device. The WDD shall be mounted on the LV terminals of DT in such a way that there shall not be direct access to LV terminals of DT. The Watch Dog Device comprises of heavy duty contactors, semi intelligent IoT base DCU for real time data acquisition, monitoring & controlling of the parameters of the transformer and the energy meter for the accurate energy measurement. The energy exported from the transformers are measured and monitored by WDD. The WDD will keep monitoring the energy exported to the consumers from the transformer and recorded in the consumer tariff meter, periodically on the basis of the data available on a single platform. Whenever the system finds the difference in the energy measured, it notifies the concern DISCOM authority for the corrective actions to be taken. It is also equipped with the disconnection of the consumer power function, if such irregularities persist. The WDD is facilitated with short circuit and over current protection. Thus, WDD shall effectively monitor and control without human intervention, the distribution transformer system for over loading, irregular usage, three phase/single phase working hours, & monitoring the health parameters of the transformer etc. A remote monitoring of electrical parameters, tap oil winding temperature (by using necessary sensors) will consequently help in reducing the distributor transformer failure.

Quality Assurance

For any equipment, we know that quality is a major concern for any tool, for its durability and performance. In WDT, it has been already focused on its quality, by usage of rigorously type tested components of WDT. The components are verified, certified and reviewed before its usage in the manufacturing process for the WDT. The best quality's IoT Gateway (Processor & Clock, Power Supply etc.), Three Phase Redundant SMPS, Energy Meter, Operational Logic Controller are used in the WDT. A part of future inter-operability for the functionality of WDT, standardization of Data Acquisition is set at every platform.

Strategic ability

- We have prepared a strategic design to challenge the prevailing operational limitations
- The prosperous plan and manufacturing of WDTs were taken on by the competent and the skilled engineers, who have endlessly shined to modify the Transformers as per stakeholder's need
- By using latest engineering tools & software, the WDT's complex design is prepared for the rapid performance of the transformer

Soundless Natures

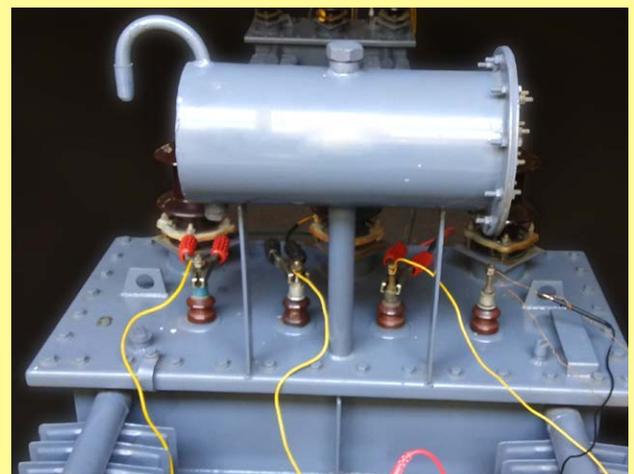
- Monitoring the Power theft & overloading
- Reducing in failure of DTs
- No human intervention
- WDD is programmed device to take intelligent decisions
- Anytime On/Off without visiting the place of Transformer
- Customize the schedule Power On/Off operations
- Energy Audit at DT level
- Better electrical stress resistance
- Increased reliability & efficiency of Power
- Enhanced Total regulation at one place
- Need base control by way of connection/disconnection of the consumer installation
- Superior technology for reducing operating costs and increasing operational life
- Can check health of Transformer By monitoring oil and winding temperature, load, ampere, voltage etc

Field Study Report

As on Aug 2019, total 1380 units of WDT at 11KV feeder level and total 631 units of WDD at consumer level have been already installed, commissioned and successfully being monitored through responsive web platform under the SKY scheme. All the WDTs having been found working satisfactory since more than one year.

Patent detail

For the Watch Dog Transformer, we have already applied for the patent which is registered by IPA no 201821019946.





TREKKING

FROM FIELD TO NATIONAL ROSTRUM

1. National Conference on “Maladies in Distribution Sector and its Remedies” - was organized by CBIP on August 29-30, 2019 at Vishwa Yuvak Kendra, Teen Murthi Marg, Chanakyapuri, New Delhi. On behalf of GPRD Cell, Mr. J B Upadhyay, I/c EE (R & D), Mr. H M Sakariya, JE (R & D) and Mr. S P Rathod, JE (R & D) participated in the Conference and Presentations and Research Papers.
2. On September 12-13, 2019, Mr. J H Borisagar, JE (R & D) attended the Program at Torrent Power Ltd, Ahmedabad on the subject of “Best Practices Knowledge Sharing Program”.
3. On September 18, 2019, Mr. J H Borisagar, JE (R & D) visited Dhandhuka for Feeder Survey under the Project of “Loss Reduction Distribution Box”.
4. On September 23, 2019, Mr. J H Borisagar, JE (R & D) visited the Raychem Factory, Baroda for feeder Pillar Testing under the Project of “Touch Proof Vertical Feeder Pillar Testing”.
5. On 05/10/2019, The website of GPRD Cell as www.gprd.in, was launched and made public by the Head of the GPRD Cell for the benefits to the Staff of the DISCOMs and other Research Fellows & Technical Organizations.
6. 12th National Conference on “Earthing Systems” was organized by CBIP on October 10 -11, 2019 at CBIP, Conference Hall, Malcha Marg, Chanakyapuri, New Delhi. Behalf of GPRD Cell, Mr. A R Vakhariya, EE (R & D), Mr. D R Shah, DE (R & D) and Mr. H M Sakariya, JE (R & D) participated in that Conference and incorporated Presentations and Research Papers.
7. On October 15, 2019, Mr. R D Patel, DE (R & D) visited Sabarmati NABL HiTech Laboratory for Meter specification.
8. 18th National Conference on “IT & OT IN POWER – Steps Towards a Digital Transformation” was organized by PowerLine, Smart Utilities & Renewable Watch on October 16 - 17, 2019 at ITC Maurya, New Delhi. Behalf of GPRD Cell, Mr. R D Patel, DE (R & D), Mr. U N Joshi, JE (IT) and Mr. M A Vhora, SA (R & D) participated in that Conference and incorporated views of IT related R & D Projects of GPRD Cell.
9. On October 17, 2019, Mr. D R Shah, DE (R & D) attended the “Conference on Solar Energy” at

Mahatma Mandir, Gandhinagar with playing the Key-Role as a Speaker on two-way Commutation of Question – Answer.

- 10. On October 18, 2019, Mr. D R Shah visited Hon'ble Shri PH Rana Sir, Director, GPCL, Udyog Bhavan, Gandhinagar and discussed on the Project of BESS.
- 11. On October 18, 2019, Mr. J B Upadhyay, I/c EE (R & D) and Mr. S P Rathod, JE (R & D) with GETCO & MGVL Officials carried out Hardware Simulation and Data Acquisition for Down Conductor relay Development Projects.
- 12. On October 18, 2019, Mr. R J Vala, EE, GUVNL and Mr. H M Sakariya, JE (R & D) attended the MNRE meeting. In this meeting, all States were invited. Mr. Vala expressed the views of the Energy sector

by the way of Presentation specifically on the scheme of SKY and its financial Model. Many DISCOMM's officials expressed their interest in it and also this Cell's best other Projects like Watch Dog Transformer, ABEB & Earthing etc.

- 13. GPRD Cell has participated in IITGN's Amlathea 2019 which was organized by IITGN during October 19-20, 2019 and honored with the Memorial Trophy
- 14. This Cell is guided through a different Committee comprising of three layers of authenticities like GC, TC and EC. On October 21, 2019, the TCM was held & on October 23, 2019, the ECM was held for the review, suggestions and approval of the R & D Projects.





REMOTE INTERACTION

WEBINAR

We know that a Webinar (Web-based Seminar) is a presentation that is transmitted over the Web. It is interactive via Web base two way Communication where Participants can discuss, send and receive in simultaneous each other's Ideas. In Webinar, it is live and Web based two way audiovisual transmission.

The GPRD Cell is equipped with necessary infrastructural facilities to update the all GUVNL's subsidiary Companies' Workforces through organizing different Webinar Programs.

This Cell has organised its first Webinar on 3rd October, 2019 , 04:00 PM to 05:00 PM and second Webinar on 24th October, 2019. Details are as under:

1st Webinar

Subject: **Functionality and Capability of GeoUrja - DISCOM Power Portal**

In the Webinar, it covered the functionalities of a "DISCOM Power Portal" and demonstration of HT VR calculation, Feeder Map creation, Power flow tracing, Schemes Geo tagging and many more.

2nd Webinar

Subject: **GPS-GIS mapping of Electrical Network by easy Survey Mobile Application 3.1 under the GeoUrja Project**

Both Webinars were Hosted by **Shri R D Patel**, Deputy Engineer(R&D), GPRD Cell

HONOURED VISITANT

POWER SECTOR VISIT

The Team from the Punjab State Power Corporation Limited visited GPRD Cell on September 23 – 25, 2019. Mr. J. P. S. Trehan, Dy.CE., Mr. Jatinder Singh Jammu, SE & Mr. Abhiraj Singh Randhava, PO visited the different locations of the R & D Projects of this Cell, specifically, they studied LoRa Projects, Watch Dog Transformer Projects and SKY Metering Console of SKY Scheme in details and by site visit.



The Team from the UPNEDA visited GPRD Cell on October 16, 2019. Mr. RamKumar and Mr. Verma, CE (Tech) visited the Nityanand SKY Feeder for learning more about the Scheme SKY. They thoroughly discussed on GPRD Cell's different Research Projects, specifically more on GeoUrja Project.





HATS OFFFF...

■ TO A VISIONARY MAN



SHRI SUJIT GULATI, IAS

Dear Readers,

On the occasion of launching of this first volume of the Publication with due great respect to the visionary shri SUJIT GULATI, IAS, the then ACS, E&PD, GoG, Gandhinagar and the Hon'ble Chairman to the Executive Committee, GPRD Cell is remembered. An IITian and a learned person, he shall always be a light house for paving the path for us to a new horizon in the Power sector of the State and the Nation, too.

It was none but he, who envisaged for the atmosphere in which the Cell gets flourished. He did believe that the R&D activities differ from the routine business of a State utility. The ideas that may get converted in to a usable product or system can only be transformed through the Technology at disposal. The Technology updated, if precisely employed, can get us to the desired results. And who else can be a better than an academic wizard for the same!

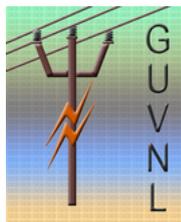
One of the thumb rules for the R&D activities, a failure is the ladder to the success, was taught to the Cell by this long-sighted bureaucrat. His encouragement, support and extending freedom to the cell infused hope, dedication and patience. He made us to think 'what next' on every occasion of an Achievement.

With an eye on Consumer satisfaction and the Costumer services, he empathised to work on the subjects related. The Cell is adhering the pious Vision of him. The Cell dedicatedly pursues with the "3i" s as imagine, innovate and implement for the activities related. His Vision for the Power sector tomorrow in the back ground of the Battery Energy Storage System is a fascinating revolutionary idea with the space-time.

He, also, empathised upon undertaking the Research activities to develop System and Products that enhance the service quality and safety to the life and assets, with economic viability. It is our privilege to acknowledge his worthy great heart as the mentor to the Cell for yesterday, today and tomorrow!

R B Patel
Head, GPRD Cell &
I/c CE (Tech), GUVNL

GUJARAT POWER RESEARCH & DEVELOPMENT CELL



(A Government of Gujarat Initiative)

Gujarat Urja Vikas Nigam Ltd
IIT Gandhinagar Research Park
Academic Block 3, Room No. 214
IIT Gandhinagar, At. Po : Palaj-382355
Dist. Gandhinagar, Gujarat, India



www.gprd.in



guvnlrnd@gprd.in



guvnlrnd@gmail.com



[@gprd_guvnl](https://twitter.com/gprd_guvnl)

Your views are important for us, we are here



managerrnd@gprd.in



+91 99252 13924