

“PROACTIVE” HANDLING OF POWER FAILURE COMPLAINTS BY CALL CENTER

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ABSTRACT

Tata Power has deployed Automatic Meter Reading (AMR) System, Customer Relationship Management (CRM) System, and Geographic Information System (GIS) for asset mapping and enhancing consumer services like metering, billing, complaint management etc. The AMR system acquires data from consumer / Distribution Transformer meters at regular intervals through public GPRS network and automatically uploads the same in Meter Data Management System (MDMS).

The MDMS acts as a meter data repository and is seamlessly integrated with billing system, CRM, GIS Business Analytics etc. which has helped Tata Power to enhance consumer services. Field devices like modems and DCUs are configured to send a message to the CRM system in the event of power outages. The CRM system has also been integrated with GIS system which offers a map view of affected consumers /areas and facilitates call center executive to respond to consumer complaints effectively. This paper describes how Tata Power has enhanced consumer services through auto generation of service ticket on the basis of SMS received from Modem and in house development of a GIS tool that enables call center executive to respond to consumer complaints proactively.

INTRODUCTION

Tata Power is India’s largest integrated power company with a significant international presence. The Company has an installed generation capacity of 8623 MW in India and a presence in all the segments of power sector, viz Fuel & Logistics, Generation (thermal, hydro, solar and wind), Transmission, Distribution and Trading. It has successful public-private partnerships in Generation, Transmission and Distribution in India namely “Tata Power Delhi Distribution Limited” with Delhi Vidyut Board for distribution in North Delhi, ‘Power links Transmission Ltd.’ with Power Grid Corporation of India Ltd. for evacuation of Power from Tala hydro plant in Bhutan to Delhi and ‘Maithon Power Ltd.’ with Damodar Valley Corporation for a 1050 MW Mega Power Project at Jharkhand. It is one of the largest renewable energy players in India and has developed the country’s first 4000 MW Ultra Mega Power Project at Mundra (Gujarat) based on super-critical technology.

Tata Power has a customer base of 5.5 lakhs customers in Mumbai and an average of about 6,500 million units (MU) are sold in a year. Some of its bulk consumers include Railways, Airport, Port Trust, BARC, Refineries and other important installations in Mumbai.

Tata Power has taken number of initiatives to improve the quality and reliability of its power supply and enhance customer service.

The city of Mumbai is known for 24X7 reliable power supply. At the core of reliable power supply to the city is the unique ‘Islanding System’ pioneered by Tata Power. In case of a state grid failure, the Islanding System ensures uninterrupted power supply within Mumbai city.

BIBLIOGRAPHY

- AMR - Automated Meter Reading
- CRM - Customer Relationship Management
- GIS - Geographic Information System
- MDMS - Meter Data Management System
- SMS - Short Messaging Services
- GPRS - General Packet Radio Service
- OMS - Outage Management System
- DT - Distribution Transformer

EXISTING PROCESS OF HANDLING POWER OUTAGE COMPLAINT A “REACTIVE” APPROACH

In the event of power outage, the consumer makes a call to the call center and logs a complaint. Call center registers the complaint in Customer Relationship Management (CRM) system and raises a service ticket. The CRM system sends the service ticket automatically through an SMS to the respective fault duty engineer. The fault duty engineer attends the problem and closes the call in CRM system through an SMS which includes fault details. Fig-1 depicts the existing process.

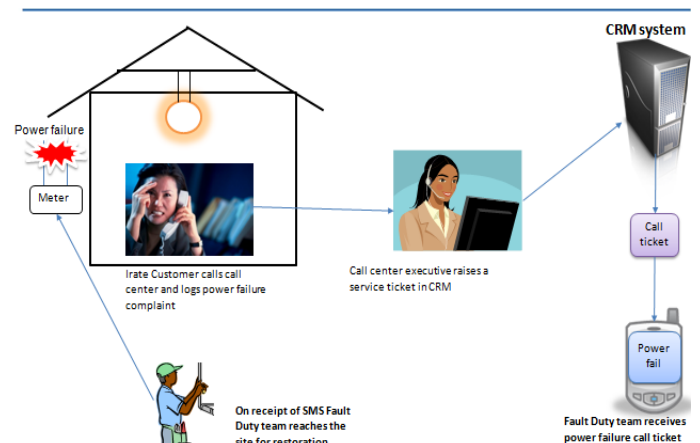


Fig 1: Existing Complaint handling process

IMPROVED PROCESS OF HANDLING POWER OUTAGE COMPLAINT..... A “PROACTIVE” APPROACH

The complaint handling process was improvised in two phases to make it proactive.

Phase 1: Integration of AMR and CRM systems

Tata Power has covered Commercial & Industrial consumer meters, Distribution Transformer check meters and high value residential consumer meters under Automatic Meter Reading system (AMR). A Modem is connected to each meter which collects meter data periodically and sends it to Meter Data management System using public GPRS network. In the first phase of improvising complaint handling process, these modems were configured to send a “Power failure” alarm by means of an SMS to “Tata Power SMS gateway” during consumer power outage. The “Power Off” SMS contains date and time and meter serial number. The CRM system was integrated with the SMS gateway and polls the same periodically for such messages. On detection of “Power Off” message, the CRM system generates service ticket automatically and sends the same to concerned Fault duty engineer. Fig-2 depicts the service ticket generated automatically.

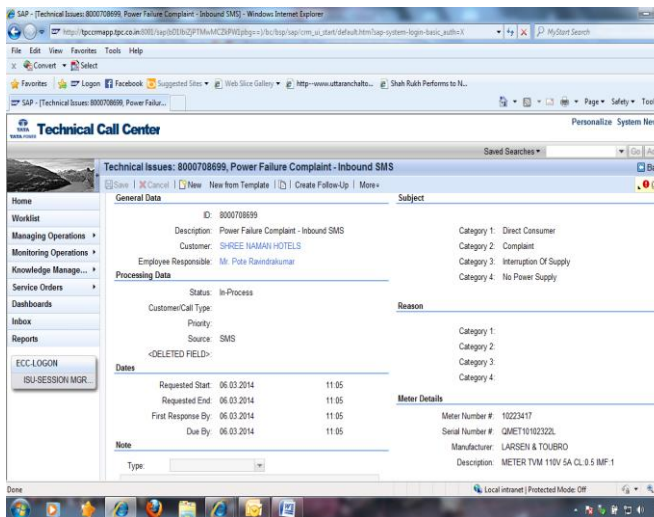


Fig.2 Service ticket generated in CRM

The fault duty engineer attends the problem and closes the service ticket by sending an SMS to CRM system. As the service ticket is raised proactively, the consumer is not required to log a call at the call center during power outage. Fig-3 depicts the complaint handling process after implementation of phase-1 as above.

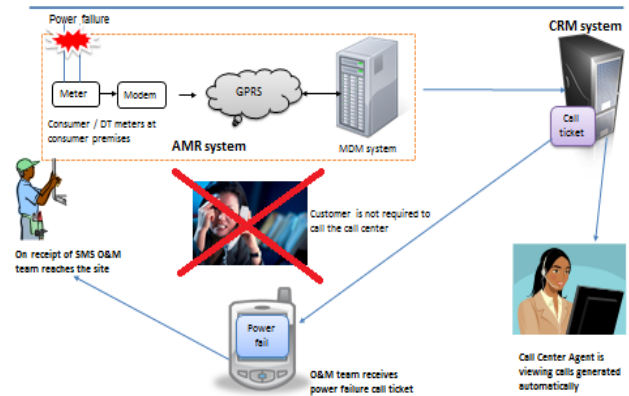


Fig.3 Revised process of complaint handling

With the Phase-1 going live, the load on call center agents has reduced significantly as the consumers covered under AMR are not required to call and service tickets are generated in CRM automatically.

Phase 2: Integration of AMR, CRM and GIS systems

The State Regulatory Commission recently empowered consumers in Mumbai with the right to get power supply from supplier of their choice. This required Tata Power to supply electricity to many consumers connected to the wires of another utility (Changeover consumers). Although changeover consumers log power failure complaints at Tata Power call center, the supply restoration activity is required to be carried out by fault duty staff of the wires utility. The Tata Power call center was unable to get updated information regarding nature of fault, area affected, number of consumers affected etc. from the wires utility. The call center was therefore not able to provide any feedback to consumers regarding expected supply restoration time and the consumers often had to make multiple calls to know the status of supply restoration activity. This resulted in high consumer dissatisfaction and increased call handling time at the call center.

The standard Outage Management System (OMS) solution could not be installed to resolve this issue as the network is owned by the wires utility. Tata Power therefore decided to develop an in-house solution leveraging the existing IT systems like AMR, CRM, and GIS to provide real time information about consumer power supply status to call center.

Thus, in Phase 2, the CRM system was integrated with GIS system to depict the status of power supply to consumers on real time basis. The GIS screen displays location and power on/off status of consumer meters in predefined colours as configured in GIS.

Once a service ticket is generated by Call center executive for consumers who logged power failure complaint in CRM, the GIS system changes the colour of

meters of concerned consumers to purple. Please refer Fig-4 which depicts the consumers affected by power outage on GIS screen.

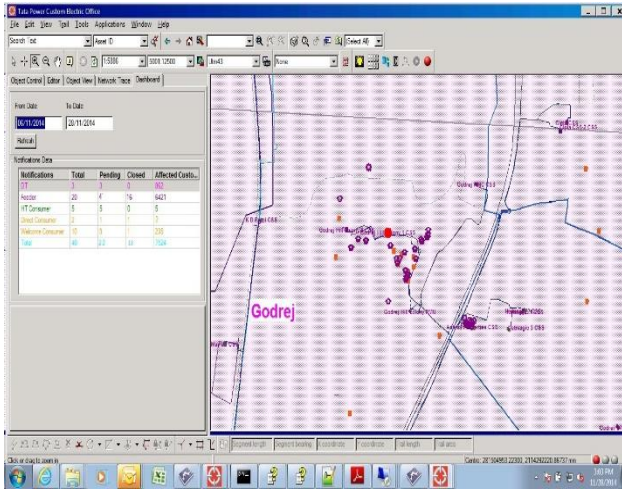


Fig.4 Affected consumers shown in Purple during power outage

The colour for DT check meters and feeder meters would change to yellow and red respectively in case of DT/Feeder fault. Also all downstream meters associated with the concerned DT / Feeder would change their colours. The status of meters would get normalized on receipt of “Power On” SMS from the modem or manual closure of tickets in CRM. Please refer fig-5 and fig-6 which depict DT power outage and Feeder power outage respectively.

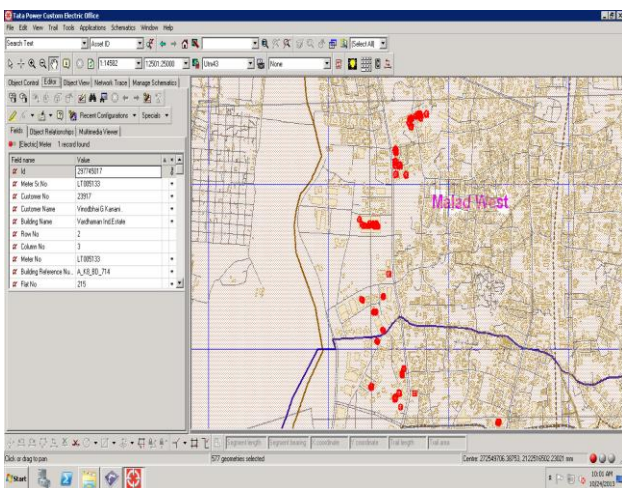


Fig.5: Map view of DT power outage

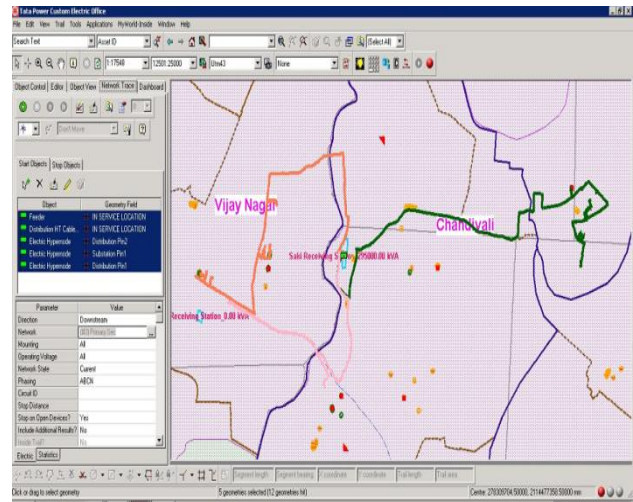


Fig.6 Map view of Feeder power outage

The call center agent thus gets a real time power supply on/off status of consumers along with the associated buildings, affected areas etc. and is not required to wait for a feedback from Wires utility. Thus, a call center agent can proactively provide an updated status to consumers.

With the implementation of phase-2, when a call from one consumer is registered in CRM, a call center agent is able to view all consumers connected to the concerned DT and Feeder through an automatic pop-up on the CRM screen.

Thus, when a fresh call is registered from another consumer either from same building or adjacent building, the CRM system would automatically pop-up an alert indicating that the two calls are from consumers connected to same DT / Feeder. With this, all the consumers associated with the concerned Building / DT / Feeder are populated on the CRM screen and the call center agent is able to visualise that this is a case of DT or a Feeder fault. The wires utility is then informed accordingly and advised to prioritize supply restoration activity.

Please refer Fig. 7 which depicts consumers from adjacent building registering power failure calls indicating a possible DT/Feeder Fault.

