Urban Distribution Feeder Monitoring system in NPP
Presentation Outline

- Objective and Process
- National Power Portal
- Information Coverage
- Activity Flow
- Status of Implementation
- Sample Snapshots
- Issues and Challenges
- Road Ahead
National Power Portal

• NPP - to be developed by NIC.
  • Unified Portal to collect and disseminate all standardized data on Power Generation, Transmission & Distribution

• PFC has defined Data parameters for Urban Distribution Feeders shared with NIC.

• Information exchange formats finalized by NIC shared with States

• A pilot to establish the communication between West Bengal State Discom and NIC completed (58 Towns, 371 Feeders). Demonstration done on 04.11.2015
Information Coverage

• AT& C Loss
  • Feeder Level
  • Town Level

• Feeder Severity Index
  • Feeder Level

• Reliability Parameters (SAIDI, SAIFI)
  • Feeder Level
  • Town Level

• Customer Care Information
  • New Connection/Disconnection
  • Grievance Redressal
**Objective**

Development of a **Feeder Monitoring System** – in NPP to monitor Feeder wise AT&C Losses and Reliability Indices

**Process**

1. **Physical Infrastructure of Discom**
   - AMR at Feeder level
   - MDAS & MDM + IT enabled MBC at DC
   - Push Data to NPP

2. **National Power Portal in NIC**
   - Central Repository
   - Data Convergence and Analytics.
Activity Flow

- Create Feeder Master, Feeder Manager Master for All feeders of the Discom.
  - Excel File (One-time) send through e-mail as per format sent to Discom
- Create Feeder Transactions for all Feeders of all Go-Live Towns
  - JSON File (send first time through e-mail) as per format sent to you
- Send Two Public IP for white listing in NIC server along with Utility Readiness Form
  - Get User-ID/Password for Automatic Data Transfer
- Push Feeder Transaction in JSON every month for all Go-Live Towns’ Feeders
  - 12 Months Rolling Feeder Data

Feeder Master, Feeder Manager Master & Circle Master (Excel)

Feeder Transaction (JSON)

Customer Care Transaction (JSON)
Integration of WB, Maharashtra, AP, Gujarat, J&K, Uttarakhand, Telangana, Chhattisgarh, Tripura, Bihar, Sikkim and Assam covering 12 States/18 Discoms/612 towns/7691 Feeders data received [Total 10982 Feeders, 70% Received].

Master Data from WB, Gujarat (4 Discoms), Maharashtra, AP (2 Discoms), HP, Jharkhand, Uttarakhand, Chhattisgarh, Telangana (2 Discoms), MP (3 Discoms), J&K, Bihar (2 Discoms), Tripura, Sikkim, Assam, Karnataka (3 Discom), Tamilnadu, Kerala and Punjab received

Transaction Data from Maharashtra, Gujarat (4 Discoms), AP (2 Discoms), WB, Telangana (2 Discom), Sikkim, Chhattisgarh, Bihar (2 Discoms), Tripura, J&K, Uttarakhand and Assam received and being validated/corrected/integrated
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Issues and Challenges

• Data Error in Master & Transactions (Data Sanitization)
  • Non Availability of Town/District Codes
  • Wrong Town-District Mapping (Mismatch with census Data)
  • JSON Format Syntax Error (Header/Footer, Delimiters, Notations, etc)
  • Conflicting Data Values
  • Blank/Zero/Negative Field Values
  • Data Period (Rolling Data for One Year)
  • File Naming Convention (msedcl_uf_0814_0715, msedcl_ufcc_112015)
Issues and Challenges

• Irregular updates in NPP
  • All Feeder Data should be of same time batch
  • Non Availability of Recent Feeder data
  • Data to be Updated (through FTP) by end of every Month.
  • Mismatch of Total Feeder & Feeder Master Count

• Discom Side Public-IP/ Readiness-Form submission
  • West Bengal, Maharashtra, Gujarat, Andhra Pradesh, Uttarakhand, Bihar IP submitted & User-Id/Password Issued
  • Telangana, Chhattisgarh, Sikkim, Tripura, J&K, Jharkhand IP Submitted - User-Id/Password to be issued
  • UP, MP, HP, Haryana, Karnataka, Kerala, Rajasthan, Tamilnadu, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Puducherry IP not submitted
Road Ahead

- All Go-Live Towns’ Feeder Data should be in NPP by March’2017
  - 1405 Towns (500 Towns at present)
  - 31000 Feeders (7691 Feeders at Present)

- Town will be declared Go-Live only if Towns’ Feeder Data in NPP (Ref MCM 28.04.2016)

- If Feeder Data is not received from the Discom, the Funds may not be released to the concerned Discom (Ref. QPRM, 31.03.2016)

- Discoms will be eligible for extension of IT Enablement in Non-RAPDRP Towns, only if the Discom has completed Part-A IT & provided Data of Go-Live Towns in NPP (Ref MCM 28.04.2016)
Features of R-APDRP Part-A IT System

- **New Connection**
  - Enhance convenience of the customer
  - Transparent & Efficient way of releasing New Connection

- **Disconnection & Dismantling**
  - Improving recovery through a disciplined disconnection
  - Dismantling mechanism that would serve as a deterrent for defaulters.
  - This shall also provide updated information to CRM

- **GIS based customer Indexing and asset mapping**
  - Capturing, storing, checking, integrating, analyzing and displaying geo data related to positions of assets on Earth's surface
  - Data related to attributes of entities/Customers in utility area.
  - Tagging of consumers with assets.
Features of R-APDRP Part-A IT System

• GIS based integrated network analysis module
  • The system shall be able to create "what-if" studies
  • Performing simulations to evaluate the impact of modifications to existing network.

• Centralised Customer Care Services
  • To improve the customer service by processing and resolving customer requests/queries/complaints in minimum possible time by taking up it at appropriate place and level.
  • Sending SMS to consumers on all service related issues like scheduled / unscheduled outages, grivance redressal, fault restoration etc.

• Management Information System (MIS)
  • Generation of various management information reports required for top management, middle management and respective unit offices
Features of R-APDRP Part-A IT System

• Meter data acquisition system
  • To acquire meter data from System automatically
  • Avoiding human intervention
  • Monitor important parameters like SAIDI, SAIFI

• Energy Audit
  • Capture hierarchical view of energy accounting, network assets
  • Intelligent analysis tools for identifying energy/revenue leakage
  • Calculate/Identify technical and commercial losses at all nodes

• Web Self Service:
  • Provide user friendly portal
  • Source of information to customers regarding policies and procedures
  • Improve customer satisfaction and reduce work load on the employees
• Metering, Billing Collection
  • Effective & accurate metering for all customers, tapping revenue loss through the identification and exceptions.
  • Ensure timely and accurate billing. Support complaints handling for billing related customer queries
  • Provide different payment channels to customers and own staff to improve customer convenience for payments and enable collections for the energy billed, and a shorter MBC cycle
Benefits of R-APDRP Part-A IT System

• Better administrative control through accurate MIS
• Accurate energy accounting & establishment of Verifiable loss level at each voltage level
• Identification of loss pockets for theft control
• Better consumer service for consumer satisfaction
• Well documented & established business process
• Better network management & inventory control
• Better resource planning for cost optimisation
Thank you