



GOVERNMENT OF INDIA
MINISTRY OF POWER



CONNECT Workshop Series

Leveraging IT in Power Distribution

29th November 2016



Presentation Outline

- Background
- Status: RAPDRP
- Scope of IT enablement under IPDS
- Guidelines on IT and ERP applications under IPDS: Scope, Exclusions
- Activity matrix: RAPDRP vs IPDS
- Benefits of IT enablement across entire urban area
- Progress so far: IT enablement under IPDS
- Methodology for Implementation
- Brief timelines
- Project Formulation (DPR)
- Project Implementation Strategy



IT in Power Distribution Sector: Background

- IT enablement taken up in 1405 towns under R-APDRP, 1245 towns declared Go-Live
- Scope of IT enablement exists further in about 2600 towns to cover all Urban area in the country
- IPDS guideline envisages IT enablement in non-RAPDRP towns and ERP Applications.
- IT enablement of these towns will lead to-
 - Improvement in Consumer satisfaction,
 - Improvement in Power supply reliability by measuring SAIDI/SAIFI,
 - Monitoring of all 11 KV Feeders through National Power portal,
 - Proper Energy Accounting and Auditing, which will ultimately help in taking measures for reduction of AT&C losses and
 - Improvement in financial viability of the DISCOMs
- IT system under R-APDRP has provided enabling provision in design of DC and DR to meet requirement of entire state Utilities with incremental up-gradation
- To extend coverage to additional towns, only incremental expenditure shall be required and benefit of IT system can be derived.



IT Enablement Status: R-APDRP

No. of towns: 1405

No. of Data Centre: 21

No. of CCC:46

Scheme coverage:

Population >30000

(10000 for sp. cat. states)

R-APDRP

11 KV Feeder coverage:
32000

No of Go-Live towns: 1245



Scope of IT Enablement : IPDS

No of towns: 2600

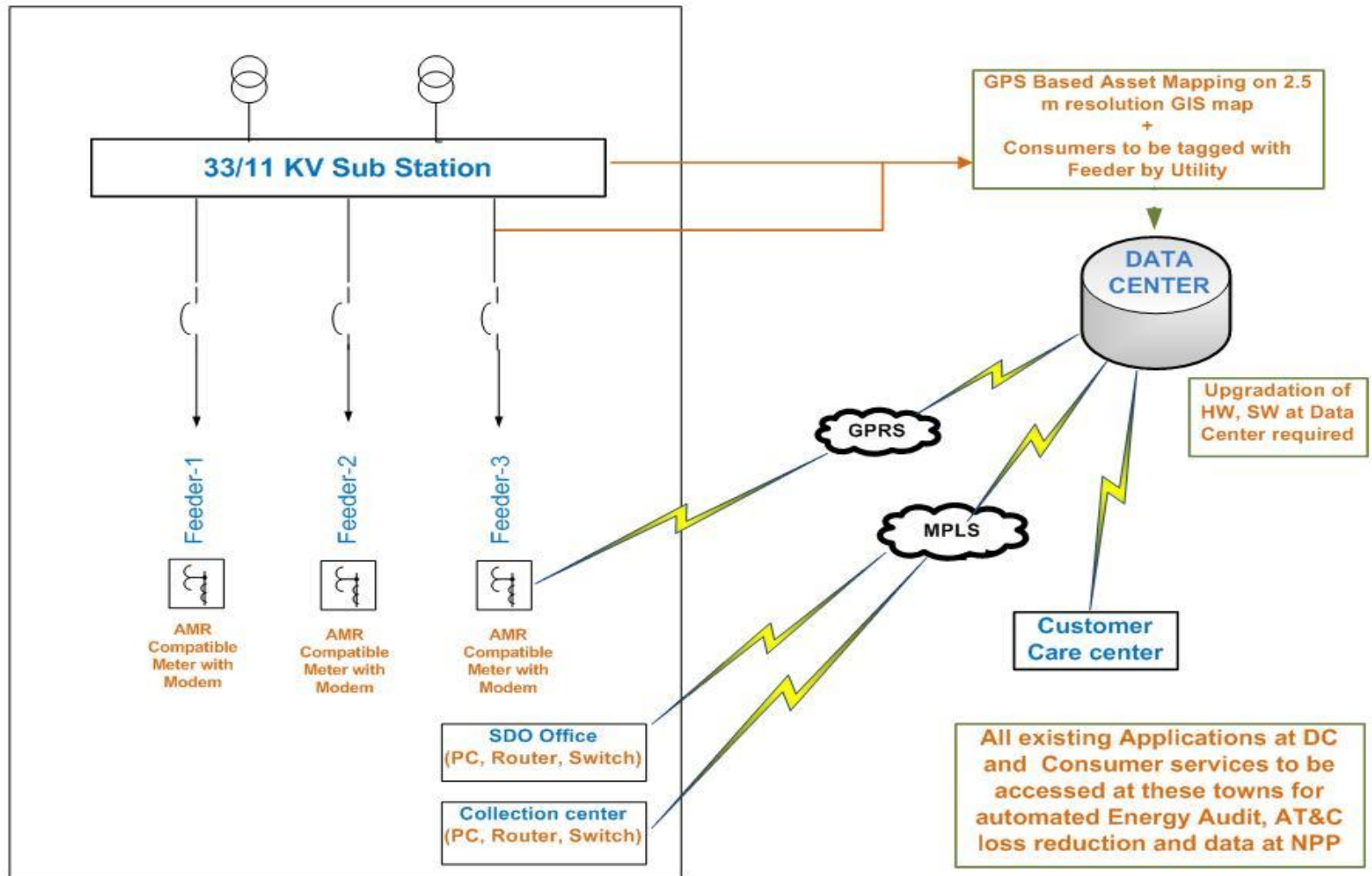
Coverage: All towns

IPDS

11 KV Feeder coverage:
12000

Incremental requirement at
existing DC/DR/CCC and
integration of towns with
DC/DR/CCC

Proposed IT Enablement in IPDS Towns



TYPICAL LINE DIAGRAM OF IT ENABLEMENT OF IPDS TOWN



Key highlights of Guidelines on IT and ERP applications: Coverage of works under IPDS



Scope of work: IT enablement under IPDS

Additional hardware in towns to access RAPDRP Applications

- Router, Switches, UPS
- PC, Printer

Calculation of Feeder wise and Town wise AT&C loss

- Ring fencing of towns
- Feeder and Town wise database of consumers
- Feeder and Ring fence meter mostly covered in strengthening DPR

Remote reading of meters

- Modems at Feeders and Boundary points



Scope of work: IT enablement under IPDS

GIS Survey of Electrical Assets

- GPS based survey in lieu of DGPS
- 2.5m resolution map in lieu of 1m

Incremental requirement at DC/DR/CCC (after utilizing existing infrastructure under RAPDRP)

- Hardware
- Software

Integration of town with DC/DR and Customer Care Centre

- Go-Live of towns



Scope of work: ERP implementation under IPDS

ERP Functionalities

- HR function including Emp. Self Service
- Finance and Accounts
- Materials (Purchase and Stores)

Minimal servers to host ERP applications after utilizing existing IT infrastructure under RAPDRP

- Hardware
- Software

IT infrastructure in stores (if not covered under RAPDRP)

- Router, Switches, UPS
- PC, Printer



Specific exclusions: IT and ERP under IPDS

- Revenue expenditure (such as Post implementation support, Annual Technical Support, Annual Maintenance Charges, Facility Management Services etc.)
- Bandwidth charges for running of Applications
- GIS based Consumer Indexing
- IT infrastructure in field for ERP implementation
- ERP for Power depts., as their business process involves approvals from various Govt. depts. (their finance is with state treasury)

(Note: Any up-gradation of existing ERP or any add on modules may be considered subsequently based upon fund availability)



Activity Matrix: RAPDRP Vs IPDS

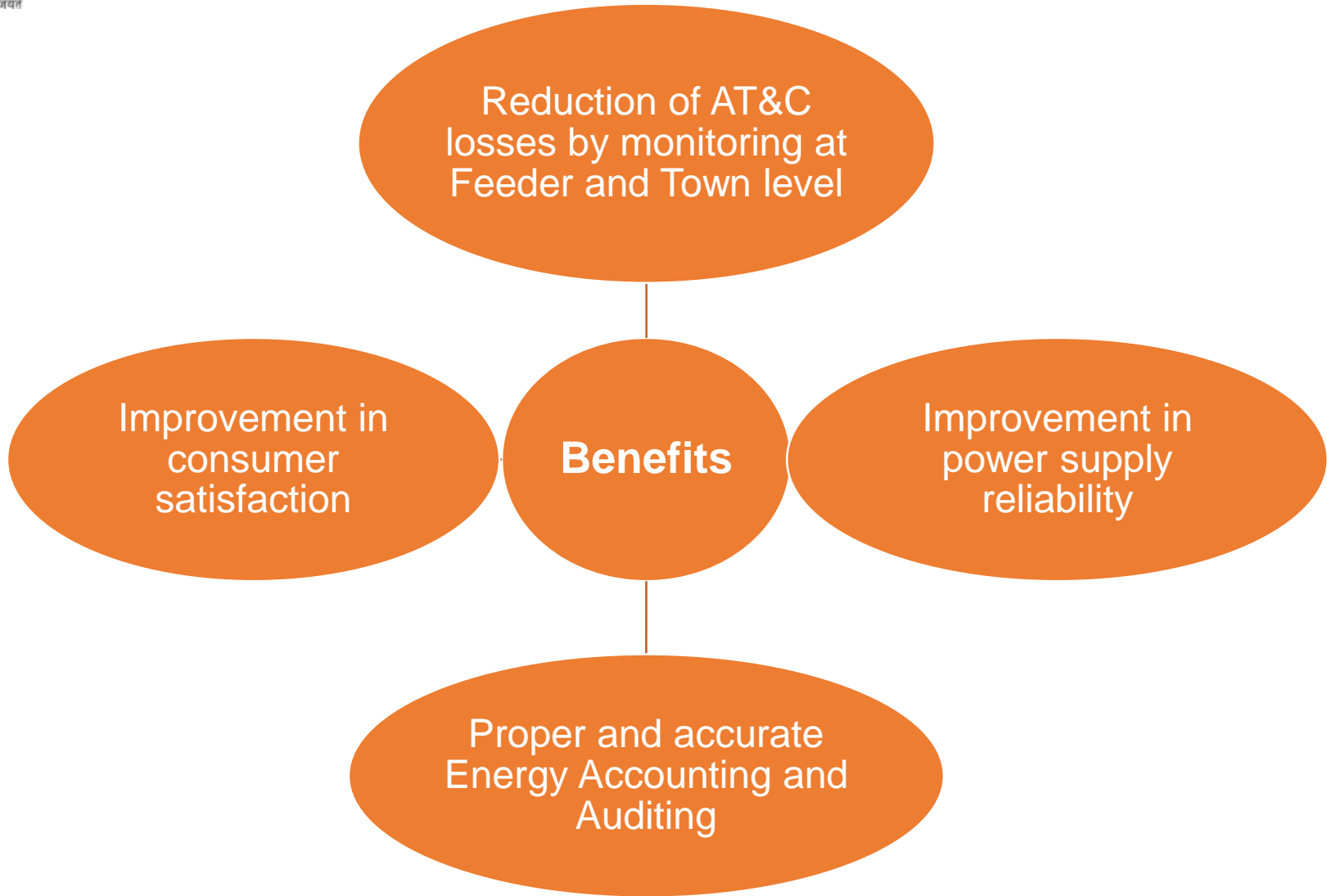
SI	DC/DR Activity for IT Enablement	RAPDRP	IPDS
1	Data/DR Centre/CCC Building	√	X
2	Hardware and network devices	√	\$
3	Software Development and Customization	√	\$
4	Integration of all applications	√	X
5	Data Migration	√	√
6	Functionality tests for applications	√	X
7	User Acceptance test / performance test	√	X
8	Project Management	√	√

\$ - Only incremental requirement envisaged



Activity Matrix: RAPDRP Vs IPDS

SI	Town Activity for IT Enablement	RAPDRP	IPDS
1	HW to access RAPDRP Applications	√	√
2	DGPS based GIS Survey of Assets with sub-meter resolution map	√	X
3	GPS based GIS Survey of Assets with 2.5 m resolution map	X	√
4	GIS based Consumer Indexing	√	X
5	Preparation of Feeder wise consumer database and linking in GIS (List by Utility)	X	√
6	AMR of System meters	√	√
7	Connectivity with DC and access of applications by town users as per utility defined access right	√	√
8	Declaration of Go-Live of towns	√	√



MONITORING OF FEEDERS THROUGH NPP



Progress so far

Guidelines

approved in 7th MCM, circulated to Utilities on May 2016

DPR format

uploaded on IPDS portal on 8th Aug

Brief methodology
for
implementation

approved in 8th MCM on 26th July

DPRs

DPR's from 7 States received, appraisal in progress:
(AP, Telangana, Chhattisgarh, Gujarat, Kerala,
Maharashtra and Uttarakhand)



Approved Methodology for implementation

- Initiate implementation with progressive Utilities (declared all towns Go-Live, provided data at NPP)
- Utilities to complete As-Is-Study, get approval of Head of Utility.
- PMA to assist Utility in As-Is-Study, program implementation
- TPCEA to carry out field inspection



Timelines

SI	Activity	Timeline
1	NIT, Bid evaluation and Award by Utility	3 months from date of sanction
2	Project Implementation of priority items related to availability of energy flow information	9 months from date of award
3	Implementation of other items, project completion and verification by Third party	24 months from date of award



Project Formulation (DPR) for IT and ERP applications under IPDS



DPR for IT and ERP under IPDS

- Model DPR template provided (web portal: www.ipds.co.in)
- Single consolidated Utility wise DPR for IT and ERP
- Utility has to create a dedicated IT Cell
- Utility to complete As Is Study of project area and collect data on Assets, Consumers, Metering status, IT infrastructure required etc. for collating in the DPR
- Utility to provide complete IT landscape existing under RAPDRP or developed on their own
- Funding shall be governed as per existing IPDS guidelines and conditionality



Expectations for DPR preparation

- Ensure Meter and Modem of each Feeder and Boundary points for calculation of Feeder wise & Town wise AT&C loss
- While proposing any incremental requirement in the Hardware at DC/DR center, provide detailed justification of items (Servers/RAM/CPU etc.)
- Due to Enterprise licenses procured under R-APDRP, Application Software license may be considered only to the extent required subject to certification by Utility for not procuring Enterprise license for the same under RAPDRP



Project Implementation Strategy



Project Implementation Strategy

- DC/DR already established under R-APDRP.
- Scope under IPDS contains only IT implementation in smaller towns, along with incremental requirement at DC/DR/CCC.
- No work related to design of DC/DR is in scope of new ITIA.
- Go-Live of towns after availability of Feeder level data on NPP, Energy Audit and AT&C loss calculation and automated SAIDI/SAIFI calculation shall be the final outcome.
- Scope of work to be modified suitably in line with sanctioned DPRs and IT implementation guidelines under IPDS.



Project Implementation Strategy

- Empanelment undertaken under RAPDRP for the roles of SI, NSP, GSP and MDSP will no longer remain valid for IPDS.
- Utility has to select ITIA through competitive bidding process.
- Model PQR, Payment terms and other conditionality shall be provided centrally, to be followed by Utilities while inviting Bids.
- Model PQR shall be based on annual turnover of the implementation agency, linked with the estimated cost of the project.
- E-tendering to be adopted as per IPDS guidelines.



**Any suggestion for improvement
in the implementation of Phase-II
IT Enablement in non-RAPDRP
towns may please be sent on
following email Id within next
one week :**

ipds@pfcindia.com



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