

## **Guidelines for Project formulation for IT Applications in non-RAPDRP towns and Enterprise Resource Planning (ERP) under IPDS**

### **1.0 Background:**

As per IPDS guidelines (Chapter-II, Para-2: Scope of works), schemes for Enterprise Resource Planning (ERP) and IT enablement of distribution sector is envisaged to be covered as per requirement of utility. Scope of IT enablement has been extended to the statutory towns having population up to 5000 as per Census 2011. In 1st phase towns having population up to 15000 may be taken up and the population threshold may be gradually reduced to 5000. For special category states the population threshold may be 5000.

The present IT system under RAPDRP has adequate provision in the design of Data center (DC) / Disaster recovery center (DR) for meeting the ultimate requirement of entire state power utilities. To extend the coverage to additional towns, only incremental expenditure shall be required in DC / DR and benefit of IT based system for energy accounting and auditing can be derived in such towns also.

At present, the IT system is being established in 1405 towns across the country, which were selected on the basis of population criteria of 2001 Census (10000 for special Cat states and 30000 for other states) and sanctioned in year 2009-10. Now, as per Census 2011, there are more than 2600 smaller towns in the urban area of the country, where IT system is to be implemented in the distribution sector. IT enablement in these towns will enable improvement in Consumer satisfaction and power supply reliability and ultimately reduction of AT&C losses with the help of accurate measurement and proper Energy Accounting and Auditing. This is also required in view of the proposed monitoring of all 11 KV Feeders in the country through National Power portal (NPP). Hence, it is prudent to implement IT based system in small towns also across the entire state to derive maximum benefits with incremental investment.

In spite of provision under IPDS, very few states have shown their willingness to implement ERP and IT system in smaller towns and most of the states prioritized the scheme with Distribution strengthening works only. However, Utilities may implement ERP and IT system in smaller towns in case additional funds are provided to them.

### **2.0 Guidelines for Project formulation : IT Applications -**

The work shall cover mainly the following-

- a) Supply and installation of additional hardware in the towns (such as router, switches, PC, printer etc.), GPS based GIS survey of assets, data migration and project management, preparation of Feeder and Town wise consumer database / bill book and linking in GIS, so that Feeder wise AT&C loss and Town wise AT&C loss can be calculated. List of Feeder wise consumers to be provided by Utilities. (GIS based Consumer Indexing is not covered for funding under IPDS)
- b) Quantity of various IT infrastructure may be covered in the DPR as suggested below:
  - Layer-II switch, Router and 2 KVA UPS- 1 no. each per office location

- Modem (if not covered in main DPR) - 1 no. for each Feeder, DT, Ring fence meter, HT consumer (Utility may also use DCU at Sub-station, in case they require in line with R-APDRP)
  - Hand Held Spot Billing Equip with Printer, if required by Utility - 1 No. for 3000 consumers plus 10% spare
  - Workstation PC - 3 No. per Sub Division and 1 No. each for other offices
  - Network LaserJet (B/W) Printer- 1 no. per Sub Division
  - Dot Matrix Printers- 1 no. each for collection center counter (max. 3 No. per Collection center)
  - Bar Code Reader- 1 no. each for collection center counter (max. 3 No. per Collection center)
  - Utilization of IP phone in smaller towns may not be practicable. However it can be considered on the basis of requirement and justification by Utility, subject to maximum 2 Nos. per Sub-division in line with R-APDRP.
- c) Modems and meters on Boundary, DTRs and feeders are already covered in main IPDS DPRs under Distribution strengthening work; however utility may cover Modems in this DPR if not covered earlier. However, Utilities are required to ensure Meter and Modem of each Feeder and Boundary points so that Feeder wise & Townwise input energy can be captured to calculate AT&C loss.
- d) The existing application developed for MDAS may not be able to capture the data in case a different modem supplier is selected. Therefore different modem vendor may provide separate MDAS solution and integrate with existing MDAS/MDM (Meter data management) developed under RAPDRP.
- e) For GPS based survey, satellite maps of resolution 2.5 m, mono data type available with NRSC may be used.
- f) As per RAPDRP, Part-A IT technical specification (SRS), the servers installed in the Data Center & Disaster recovery Center are for managing enterprise level solution for the entire state and hence are scalable to meet the ultimate capacity. Hence, only incremental up-gradation in Hardware/Server OS at Data center and DR center to cater additional towns is envisaged. Utility while proposing any incremental requirement / up-gradation in the Hardware at Data center / DR center to cater to additional towns, should provide detailed justification of items proposed along with Server sizing calculation for any incremental requirement of Servers/RAM/CPU etc. in the DPR for consideration.
- g) Application Software license is not envisaged due to procurement of Enterprise licenses under R-APDRP. However, Application software license may be considered to the extent required subject to certification by Utility in the DPR that they have not procured Enterprise wide License for the same under RAPDRP along with suitable justification for the same.

- h) No revenue expenditure (such as Facility Management Services, Bandwidth charges, Annual Technical Support, Annual Maintenance charges etc.) shall be considered in the DPR and need to be borne by Utility.
- i) This additional scope of work shall be executed through inviting fresh NIT and awarding separate contracts. No fresh empanelment of ITIA is envisaged, but Utilities can appoint ITIA through competitive bidding process. Utility may use the existing Model documents of Part-A of RAPDRP by suitably customizing as per scope of work sanctioned under IPDS and their requirements.

### **3.0 Guidelines for Project formulation: ERP Applications -**

The work shall cover mainly the following-

- a) The entire IT infrastructure created at Data center/Disaster Recovery center under RAPDRP are required to be utilized for implementation of Enterprise ERP.
- b) Only minimal number of additional servers required to host ERP applications after utilizing the existing servers at Data center are envisaged to be covered in the DPR.
- c) The following ERP functions are envisaged to be covered in the scope of work, in case Utility do not have installed these ERP functions:
  - Human Resource Management including Self Service for Employees
  - Finance and Accounts
  - Materials (Purchase and Stores)
  - These Application (ERP) licenses may be procured with DR license in line with R-APDRP.
- d) Any upgradation of existing ERP applications or installation of any add ON modules in addition to above functionalities is not envisaged at present. The up-gradation proposals for existing ERP may be considered later, in case of availability of fund after sanction of all new ERP projects.
- e) The number of ERP licenses suggested to be covered in the DPR for R-APDRP and IPDS project area (including common requirement) are as below, however utility to provide detail justification for no of users covered in the DPR along with prioritization:
  - ERP Application users-
    - i) Corporate office level- 100 to 300 depending upon size of state/utilities
    - ii) Circle office level- 20
    - iii) Division office & store level- 10
    - iv) Subdivision office level- 3
  - Self Service users- envisaged under IPDS for executive category of officials (up to AE level) (In case utility desires to cover all employees under Self-service, they can arrange additional licenses at their own cost)

- Payroll users - envisaged for all employees in the organization
- f) As large no. of IT infrastructure has been sanctioned for IT enablement under RAPDRP, no separate IT infrastructure in field (PC, Printer, Router and switches, UPS etc.) to be covered in the DPR for ERP implementation. Any additional requirement on this account in other towns, if any to be arranged by Utility on their own. In such cases utility is suggested to opt for MLLN (managed leased line network) to reduce cost on account of networking equipment.
  - g) However, IT infrastructure (PC, Printer, Router and switches, UPS etc.) may be covered in the DPR for implementation of ERP in stores at Circle/division/town level, if not covered earlier under RAPDRP.
  - h) The roll out of ERP implementation needs to be done in order of priority covering RAPDRP towns in first phase.
  - i) Only ERP product with above functionalities and its project implementation are required to be covered apart from any additional servers required for hosting these functions.
  - j) No revenue expenditure (such as product support post implementation, onsite implementation support, annual maintenance contract, Facility Management Services. Bandwidth charges etc.) shall be considered in the DPR and need to be borne by Utility.
  - k) Implementation of ERP is not envisaged for Power departments, as their business process involves approvals from various Govt. departments and their finance is with state treasury. In order to reap benefits of ERP, it needs to be implemented across entire State Govt., which is beyond purview of IPDS.
  - l) In case of NE States, a common ERP solution may be hosted at common Data center created under RAPDRP and customized for various Utilities of NE states with separate licenses for users in different utilities.

#### **4.0 Miscellaneous common points-**

- a) Utilities who have given declaration at the time of submission of main DPR for IPDS that they will not implement ERP and IT applications in smaller towns, have not been considered for coverage under these guidelines, however they may be considered subsequently incase additional fund is made available by Government of India under IPDS.
- b) Utilities who have completed Part-A IT including verification by TPIEA-IT and provided data of Go-Live towns at National Power portal, will be considered for extension of IT in non-RAPDRP (IPDS) towns, to begin with.
- c) Single consolidated DPR for IT Applications in smaller towns as well as ERP component shall be prepared by respective Utility with town wise cost and quantity break up.
- d) IT Applications in smaller towns as well as ERP functionalities are required to be integrated with centralized Data center, DR center & Customer care center established or being established under Part-A (IT) of RAPDRP.

- e) One time project implementation cost is covered in the DPR. Any software modification / customization charges are required to be covered under the head of project implementation cost.
- f) Utility's trained officers handling RAPDRP project can train other officials on Train the Trainer basis, since same application and IT system shall be extended to these smaller towns.
- g) Regarding role of IT Consultant, it may be noted that IPDS has provision of PMA appointment and Utilities can make use of this provision in line with IPDS guideline for getting any support and handholding for IT and ERP related projects, in case required. But the PMA charges shall be limited to 0.5% of project cost towards IT and ERP implementation. Any additional burden shall be borne by Utilities.
- h) Adequate size of Bandwidth are required for running of IT Applications in smaller towns as well as ERP functionalities, which need to be procured by Utilities at their own cost.
- i) Utility has to create an IT Cell comprising of team of IT experts having relevant qualifications, experience and background in the field of system integration and IT implementation. This team shall be involved from concept to commissioning of the system and shall also be the Nodal Department/Group from the Utility for all issues related to implementation of the project. In addition, the team should be capable of delivering following responsibilities
  - Ensure availability of complete data, which shall require to be migrated to the existing IT System, to ITIA in soft and hard copies.
  - Cross-verify and authenticate the data migrated by ITIA.
- j) Utility has to ensure timely availability of any other infrastructure or facilities that are essential for implementation of project but are not in the scope of IT Implementing Agency's (ITIA) viz. system metering etc.
- k) Works in progress should not be included in the new schemes under R-APDRP.
- l) The cost estimates should not include any departmental overhead expenses. All such expenditures should be borne by the utility.
- m) Utility shall ensure AMR for all 11 KV Feeders and Boundary points for ring fencing of each IPDS town.
- n) Utility shall provide all possible support to MoP/Nodal Agency (PFC) and their representatives for successful implementation of the projects.
- o) The funding shall be governed as per existing IPDS guidelines and conditionality.

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