

# Choice Case Study

## Designing Technical and Commercial Proposal for R-APDRP-RAJASTHAN

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### Project Preface

Choice Solutions Ltd. was awarded the contract by an S.I., to design and present the proposal for Supply, Installation, Integration, Testing, Commissioning and Facility Management Service of S system Integration Project covering Software, Hardware, Field Survey and Networking. This was for the Jaipur Vidyut Vitan Nigam Limited (JVNL) under R-APDRP Project.

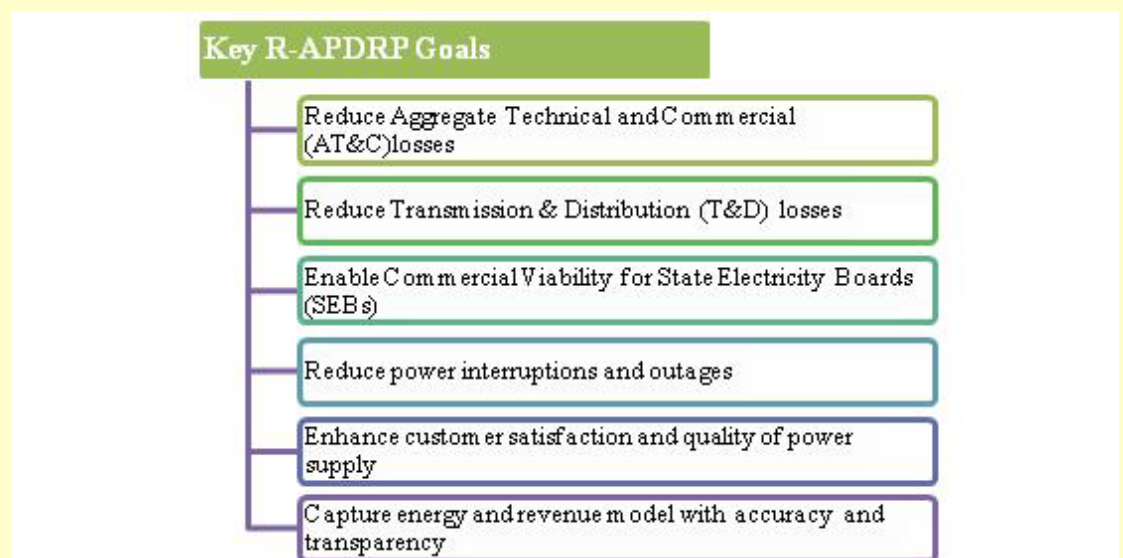
### R-APDRP-RAJ Project Background

The acronym R-APDRP stands for Restructured Accelerated Power Development and Reforms Programme (R-APDRP). It is an initiative of Ministry of Power, Govt. of India. The key goals are illustrated in the image provided down the page.

The Ministry of Power has launched the Restructured Accelerated Power Development and Reforms Programme (R-APDRP) in the XI Five-year Plan. Power Finance Corporation Limited (PFCL) is the Nodal Agency for the programme.

The programme spans from data acquisition at distribution level till monitoring of results of the steps taken to provide an IT backbone and strengthening of the Electricity Distribution system across the Country under the programme.

Figure 1: Key APDRP Objectives



## The program is divided into 2 parts

(1) **Part-A has been allocated Rs 10,000 Crores** for developing IT applications for the electricity distribution system.

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*Part-A has been allocated Rs 10,000 Crores*

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- a. It includes projects for establishment of baseline data and IT applications like Meter Data Acquisition, Meter Reading, Billing, Collections, GIS, MIS, Energy Audit, New Connection, Disconnection, Customer Care Services, Web self service, etc. to get verified baseline AT&C losses.
- b. The SRS ( System Requirement Specification) has been prepared by the Ministry of Power to describe hardware, software, networking, GIS, MDA and other aspects to help the state electricity boards improve their performance.

(2) **Part-B. has been allocated Rs 40,000 Crores and includes**

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*Part-B has been allocated Rs 40,000 Crores*

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- a. Systems strengthening, improvement and augmentation of distribution system capacity
- b. Renovation, modernization and strengthening of 11 kV level Substations, Transformers and Transformer Centers
- c. Re-conductoring of lines at 11kV level and below
- d. Load bifurcation
- e. Feeder segregation
- f. Load balancing
- g. Aerial bunched conductoring in thickly populated areas
- h. HVDS
- i. Installation of capacitor banks and
- j. Mobile service centers

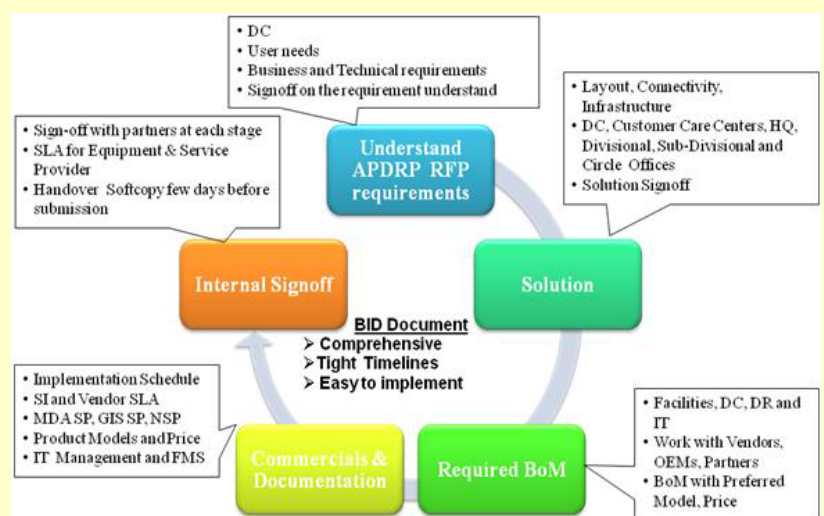
Both parts entail planning of measures to be taken under the programme, implementation of such measures to be taken and monitoring/evaluation of results/impact of the programme as a whole and of its various components across the country. The Programme is proposed to be implemented for all towns and cities in India with a population of more than 30,000 (10,000 in case of Special Category States).

## Choice Solutions Role

Choice Solutions Ltd. helped in the development, documentation and submission of the technical and financial proposals for R-APDRP, Rajasthan. It involved the following phases,

- i. Understanding the RFP and SRS requirements for Rajasthan
- ii. Developing a technical solution with architecture for all facilities-related equipment such as PACs, UPS, DC layouts, rack locations, electrical and passive network cabling etc. It also includes the architecture for servers, storage and active networking to meet the user and application requirements
- iii. Developing the required BoM (Build of Materials) for the IT and non-IT parts of the deployment
- iv. Working with vendors to get the solutions and prices. Moreover, documenting the commercials as well as the technical solution
- v. Working with the customer to get their approval for the solution and cost of implementation

*Figure 2: Phases of bid proposal development and signoff*



## Key Service Providers

The key service providers were:

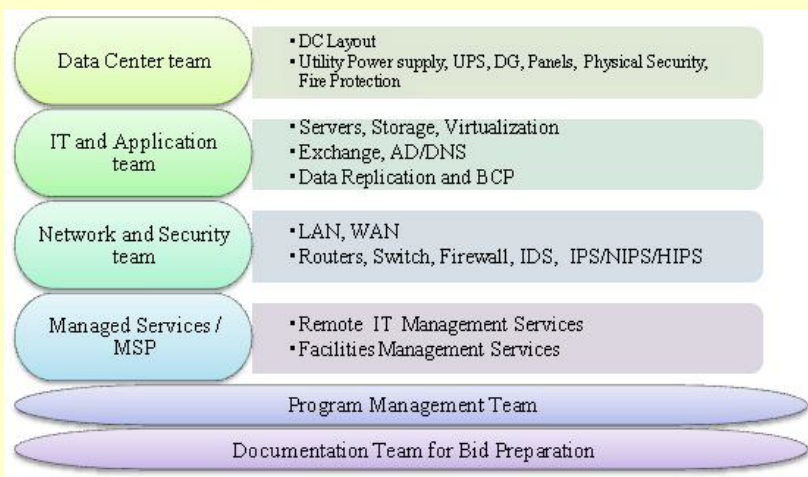
- i. **Network Service Provider** → Connecting the primary and DR data centers and other offices such as divisional office, sub-divisional offices, regional offices, and customer care centers, etc.
- ii. **GIS Service Provider** → To develop a base-line data system for the project area covering Consumer Indexing, GIS Mapping, Data Logging for all Distribution Transformers and Feeders
- iii. **MDA (Meter Data Acquisitions) Service Provider** → For installing and configuring Automatic Metering Reading (AMR) and data logging on Distribution Transformers and Feeders and SCADA/DMS systems

## Solution

The management at Choice Solutions Ltd. deployed skills from all the technical verticals for preparing the bid proposal. As shown in the figure on the left, it involved members from

- i. Datacenter Physical Infrastructure team
- ii. Application sizing team
- iii. Vender management team
- iv. Network team
- v. IT and data security team
- vi. Electrical team
- vii. Project management team
- viii. Documentation team

*Figure 3: Choice Solutions Teams required for the bid proposal development*



*Figure 4: Location of DISCOM offices and data centers within Rajasthan*



## Location Map

The figure on the right shows the locations of the two datacenters (Jaipur and Jodhpur) and of the divisional and sub-divisional offices.

The technical solution provided by Choice Solutions Ltd. is shown in Figure 5 along with the customer and user interfaces such as kiosks, web portals and customer care centers.

Figure 5: User Interaction with deployed applications

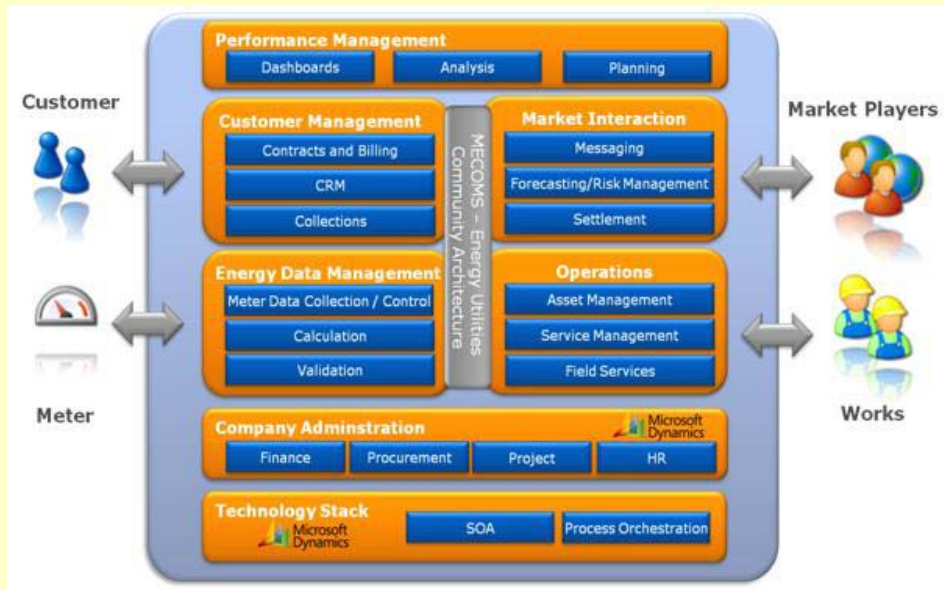
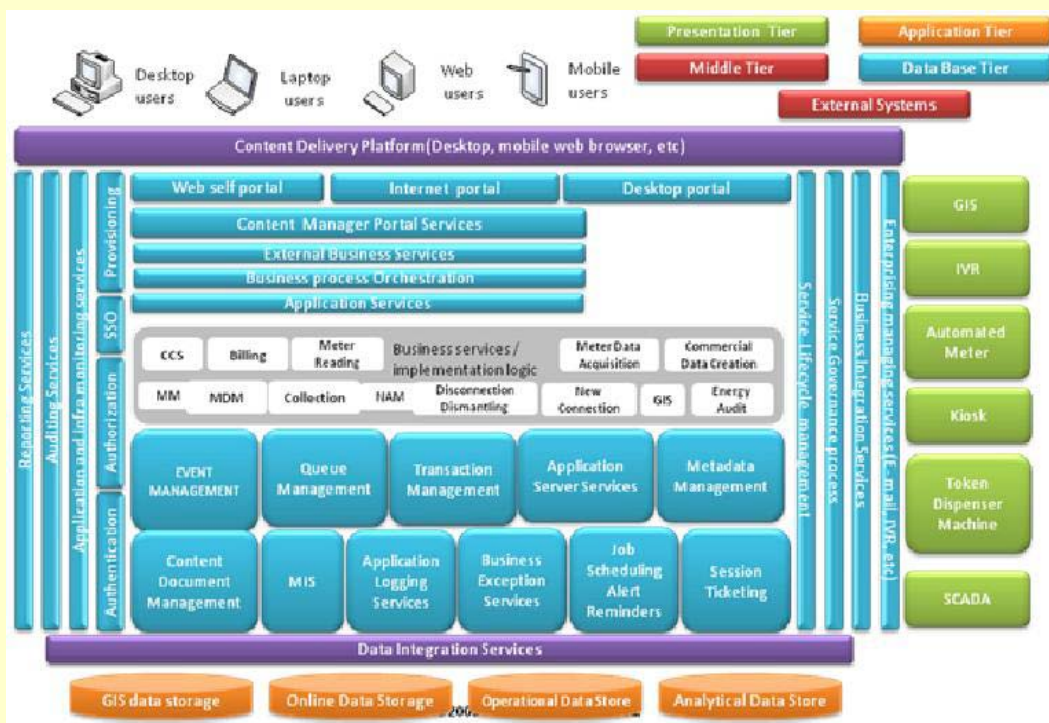


Figure 6 shows the solution architecture. The proposed solution is an integrated-framework with various business stacks for the DISCOM. The front-end portal provides authorization and authentication via single sign-on process. It permits access to applications that the user is allowed to view/or use. It includes key end-user and security features such as mobile access, search, aggregation and personalization.

The architecture is designed in a way to segregate the application and database of the 3 DISCOMs, should that be required at any time.

Figure 6: Application Architecture for APDRP



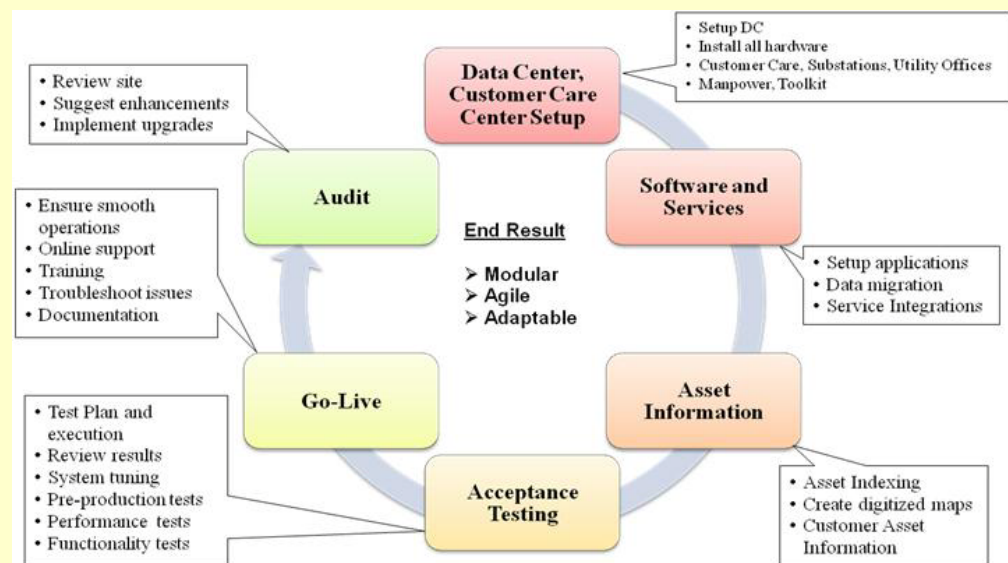




## Customer Benefits

Upon award of bid by DISCOM, Choice Solutions Ltd. can help the winning SI (Systems Integrator) oversee and implement the project. The proposed implementation phases are:

- i. Setup of primary Datacenter , DR datacenter along with configuration of customer care centers, regional offices, divisional offices, sub-divisional offices and other offices
- ii. Software configuration
- iii. Asset information collection
- iv. Acceptance testing for all applications and services at all sites
- v. Go-live for the applications
- vi. Audit and fine-tuning of the environment



## Conclusion

APDRP project is important for all the State Electricity Boards (SEBs). Choice Solutions Ltd. can help in developing a bid proposal or for overseeing an APDRP implementation for an SI who has been awarded the contract from any state or union territory.

The scope includes UPS sizing, datacenter and customer care center layout, IT sizing for applications, deployment of passive and active network components, server and storage installation, setting up of data replication to DR datacenter, GIS data collection, configuration and go-live for all required metering and utility applications and fine-tuning when rolling out for production use. It requires partnering with several application and infrastructure vendors and service providers. Implementation for APDRP will undoubtedly be one of the larger projects undertaken by any SI.

## About Choice Solutions

Established in 1991 Choice Solutions Ltd. is a leading IT and Facilities solutions provider. Choice Solutions Ltd. business comprises of Six different practices, namely

### IMS

- Desktop, Server, Network, Storage, Support, OS, Assets, Apps, Non IT
- Hardware - A-Add, M-Modify, I-Install, C-Change, R-Repair
- Assets, Security, Software Distribution, Upgrades

### Networking

- Packaged Services Monitoring & Management
- Products, Security, Design, Deploy, Maintain
- Auditing & Compliance, SOC

### Datacenter

- DC Audit, Monitor & Manage, Training
- Assess, Design, Built, Deploy, Disaster Recovery

### Consulting

- Business Consulting, CIO & Technology Services, Physical Security, Power Devices, IT Consulting
- DC Consulting, ERP, CRM & Custom Apps

### Cloud Computing

- Cold Site – Backup, Disaster Recovery
- Hot Site – HaaS, Software, Manage
- Public Cloud, Private Cloud, Hybrid Cloud
- CaaS, License Software, IaaS
- Disaster Recovery

### Power

- Power Audit, Equipment Management
- Physical Security, Power Devices
- Power Saving Devices
- Design & Audit
- Renewable Energy Products