

**Detailed Project Report
for ERP Implementation
at Uttar Power Power
Corporation Limited
(UPPCL)**

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Submitted to:

Uttar Pradesh Power Corporation Limited

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Table of Contents

1	Background	4
1.1	Introduction	4
1.2	About UPPCL	5
1.3	Mission of UPPCL	7
1.4	Objective	7
1.5	Scope of ERP Implementation at UPPCL.....	9
1.6	Benefits of ERP System	9
1.7	Costing.....	10
1.8	Duration	10

List of Tables

Table 1 : Details of Consumers and Districts	6
Table 2 - Details of RAPDRP PART-A and Non-RAPDRP Offices	6

List of Figures

Figure 3: Objectives of ERP at UPPCL.....	8
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1 Background

1.1 Introduction

Uttar Pradesh being the one of the largest State in India is also one of the most populous state of the country with its administrative capital Lucknow. With the levels of literacy rate of around at 70 % the state has abundant availability of quality human resource. It has the abundance of potential as destination for investments in manufacturing, tourism and Infrastructure services.

Power sector is the critical infrastructure element required for the smooth functioning of the economy. Efficient, reliant and sustainable power is essential to stimulate growth and prosperity in the state. The availability of the reliable, quality and affordable power can ensure growth of all sectors of the economy being it agricultural, industrial and others. Towns of Kanpur, Varanasi, Allahabad, Gorakhpur, Meerut, Aligarh, Moradabad, Muzaffarnagar, Saharanpur and Jhansi are known for their industrial importance in the state as well as at the national level.

Uttar Pradesh was one of the first state to embark upon economic and structural reforms in power sector. GoUP had taken key structural reforms and created entities , Uttar Pradesh Power Corporation Limited (2000) , Kanpur Electricity supply Company , KESCO (2000) , Purvanchal Vidyut Vitran Nigam Limited , PuVVNL - Varanasi (2003) , Madhyanchal Vidyut Vitran Nigam Limited , MVVNL- Lucknow (2003) , Paschimanchal Vidyut Vitran Nigam Limited , PaVVNL - Meerut (2003) and Dakshinanchal Vidyut Vitran Nigam Limited , DVVNL- Agra (2003).

UPPCL has the following major online systems in place-

- **Urban Online Billing:** To bring efficiency and transparency in operations, an online system for billing and collection consisting 17 modules is deployed in 168 towns across UP for a consumer base of 7.5 Million. The web applications have been hosted at on-premise Data Centre (DC) with replicated data in the Disaster Recovery Centre (DRC), and are accessed by various divisions, circle, sub-division and other offices situated at different locations in 168 towns across the state over WAN environment.
- **Mobile Applications:** Various mobile applications (e-Nivaran, e-Sanyojan, FAME) for urban and rural consumers have been developed for improving efficiency, revenue and easy functioning. These apps are integrated with urban and rural online billing systems and various payment service providers.
- **Customer Care Centre for urban Consumers:** Customer Care Centres for consumers are established in 4 Discoms to take care of the grievances and faster redressal. Consumer complaints are registered/tracked/resolved through 1912 (Toll Free Number). This system is integrated with urban online system and rural online billing system.
- **Web Self Service:** To facilitate its consumers UPPCL provides online payment, trust billing and load enhancement features to its users.
- **Prepaid Meter Online Recharge-** Integration is in place to do online recharge prepaid meter installed.

- **GIS and Network Analysis Solution** - GIS system is in place which includes asset mapping and consumer indexing. UPPCL also keeps updating the GIS database through incremental surveys of consumers and assets to accurately carry out energy accounting. To complement the GIS, GIS based network analysis system is implemented to be able to accurately carry out network studies and optimise deployment of network elements.
- **Integrations with Other Government Portals/Apps** - Billing system has been integrated with Centre for E-Governance and (Customer service centers)CSCs for bill payment, Udyog Bandhu, CM Dashboard, Energy Audit Module etc
- **Other Integrations with UPPCL** - Official website of www.uppcl.org has various integrations such as Energy Accounting Directory, Commercial Statements, Personal Information System, Jansunwai, Disciplinary Proceedings, Feeder wise Supply Hours, Daily Supply Hours, Court Case Monitoring etc.

1.2 About UPPCL

Uttar Pradesh Power Corporation Limited (UPPCL), is a company registered under the provisions of Companies Act 1956 / 2013 and is a fully owned entity of Government of Uttar Pradesh.

Besides being the holding company for Power Generation and Transmission entities, UPPCL is also the holding company for five DISCOMS namely Paschimanchal Vidyut Vitaran Nigam Limited (PVVNL), Purvanchal Vidyut Vitaran Nigam Limited (PuVVNL), Madhyanchal Vidyut Vitaran Nigam Limited (MVVNL), Dakshinanchal Vidyut Vitaran Limited (DVVNL) and Kanpur Electricity Supply Company (KESCO). These DISCOMS are responsible for supplying of electricity to the consumers and to maintain the 33/11, 11/0.433 KV, substations, 33/11 kV/LT network of the area, receiving electricity supply from higher voltage system, distribute it to its consumers, record their consumption, issue electricity bills according to applicable tariff and realize the revenue. Various divisions of the DISCOMS are also responsible to release new connections and from time to time extend and improve its distribution network and control the line losses of electricity, technical as well as commercial and various other related activities.

The Company is engaged primarily in the business of distribution of Electricity. It has been vested with the distribution assets, interest in property, rights and liabilities of the erstwhile UPSEB necessary for the business of distribution in its area of distribution comprising of all districts of Uttar Pradesh.

The above 5 Companies have been given the status of a Distribution licensee as per Section 14 of the Electricity Act 2003. In order to fulfil the obligations of the Distribution licensee as mandated under the provision of Uttar Pradesh State Electricity Reforms Transfer Scheme 2012 and Electricity Act 2003, the main objects to be pursued by the company are:

- To undertake the activities of distribution to all consumers irrespective of the voltage, provision, supply, wheeling, purchase, sale, import, export and trading of electricity,

introduce open access in distribution as per the Electricity Act 2003 and/or the directions of the regulator.

- To plan, develop, acquire, establish, construct, erect, lay, hire, lease, buy, sell, operate, run, manage, maintain, enlarge, alter, renovate, modernize, work and use a power distribution system network in all its aspects including amongst others various voltage lines and associated sub-stations, including distribution centers, cables, wires, accumulators, plants, motors, meters, apparatus, computers and materials connected with sub-transmission, distribution, supply of electrical energy, ancillary services, telecommunication and telemetering equipment.
- To tender, finalize and execute Power Purchase Agreements and other agreements for sale or purchase of electricity with generating companies, trading companies, other distribution companies, Central and State generating authorities, departments or companies, societies, other States, utilities, Independent Power Producers and other Persons.
- To undertake Rural Electrification schemes in the licensed area.
- Any other work incidental to the objectives & functions of the company.

The details of 5 DISCOMS are as follows;

DISCOMS	RAPDRP PART A		Non-RAPDRP	
	No. of Consumer Served *	District Served	No. of Consumer Served*	District Served
Dakshinanchal Vidyut Vitran Nigam Ltd (DVVNL)	1093589	19	3286962	21
Madhyanchal Vidyut Vitran Nigam Ltd (MVVNL)	1815243	17	4126303	19
Purvanchal Vidyut Vitran Nigam Ltd (PuVVNL)	1229043	19	5573860	20
Paschimanchal Vidyut Vitran Nigam Ltd (PVVNL)	2421582	13	3321032	12
Kanpur Electric Supply Company (KESCO)	601819	1	Not in scope	
Total	7161276	69	16308157	72

Table 1 : Details of Consumers and Districts

*As per 2018 data

Discoms	Zone	Circle	Distribution Division	SDO	Test Division
Dakshinanchal Vidyut Vitran Nigam Ltd (DVVNL)	6	28	77	190	23
Madhyanchal Vidyut Vitran Nigam Ltd (MVVNL)	6	29	105	205	27
Purvanchal Vidyut Vitran Nigam Ltd (PuVVNL)	6	30	96	194	22
Paschimanchal Vidyut Vitran Nigam Ltd (PVVNL)	6	29	96	195	28
Total	24	116	374	784	100

Table 2 - Details of RAPDRP PART-A and Non-RAPDRP Offices

1.3 Mission of UPPCL

Uttar Pradesh Power Corporation Ltd. (UPPCL), with a vision to provide, uninterrupted power supply to every consumer of the state is now looking forward to increasing the consumer base as well as increasing the revenue by incorporating new technology, process and procedure. The mission of Uttar Pradesh Power Corporation Limited (UPPCL) is to ensure reliable quality of power to its customers at competitive prices. The UPPCL is committed to achieving this mission through:

- Provide cost efficient good quality electricity to all categories of consumers for economic development/social uplift of the State.
- Make the energy sector commercially viable so that it ceases to be burden on the state budget; and
- Protect the investment of the consumers.

1.4 Objective

UPPCL has a pressing need to streamline its business processes and operations across various departments for optimal utilization of human and technical resources.

Some of the key challenges faced by UPPCL and its departments are mentioned as below:

- UPPCL is currently maintaining records & processing payroll for more than 40,000 (appx.) employee, also, its resources are on deputation at different ESCOMs which requires management & maintenance of large employee records. Furthermore, there is need for consolidation of other employees which come from other government department on deputations, external consultants etc.
- Supply chain management of material, logistics, and inventory control for implementation and erection of transmission towers which requires timely procurement, tracking and dispatch of raw material and parts at field locations.
- Requirement for tracking and monitoring of Inter Organization goods and their transfer between Divisions/Sub-station etc.
- Limited mechanism for tracking and maintaining adequate & optimized inventory levels in the stores.
- Limited mechanism for project monitoring, tracking of timelines, deliverables and payments with an assessment of delay incurred by the contractor.
- The storage and processing of data is manual which results in data entry redundancies and sub-optimal utilization of resources.
- Need for effective augmentation in existing power transmission network for effective evacuation & transmission of power to meet customer's demand in near future.
- Legacy systems for Accounting and Financial consolidation are not efficient, thus employees are spending ample amount of time for data entry and data reconciliation tasks.
- Disintegrated and standalone legacy systems which are technically obsolete in most of the cases with limited integration touchpoints amongst each other and generate duplicate reports for different durations making reconciliation different.

- Absence of Bird Eye View' to the management. Incomplete, often inaccurate picture of overall company performance for the senior management, so accurate reporting and automation of operations is the need of the hour.

Though the challenges faced by UPPCL are formidable, they can be surmounted by converting them into opportunities through automation of business processes and adoption of technological interventions like ERP System. Hence, UPPCL envisages to implement ERP System with the following objectives:

- Standardize business processes and adopt leading business practices.
- Achieve better financial management and faster financial reconciliation.
- Efficient Assets Management of the Transmission Network and Sub-Stations.
- Manage strengthening of Transmission Network through efficient Project Management.
- Manage the organization with optimum utilization of enterprise resources and productive deployment of human resource.
- Real time information availability across the organisation.
- Enterprise wide seamless Integration
- Single repository of master data with easy data retrieval and reporting and 'Bird Eye View'" to the Top Management.

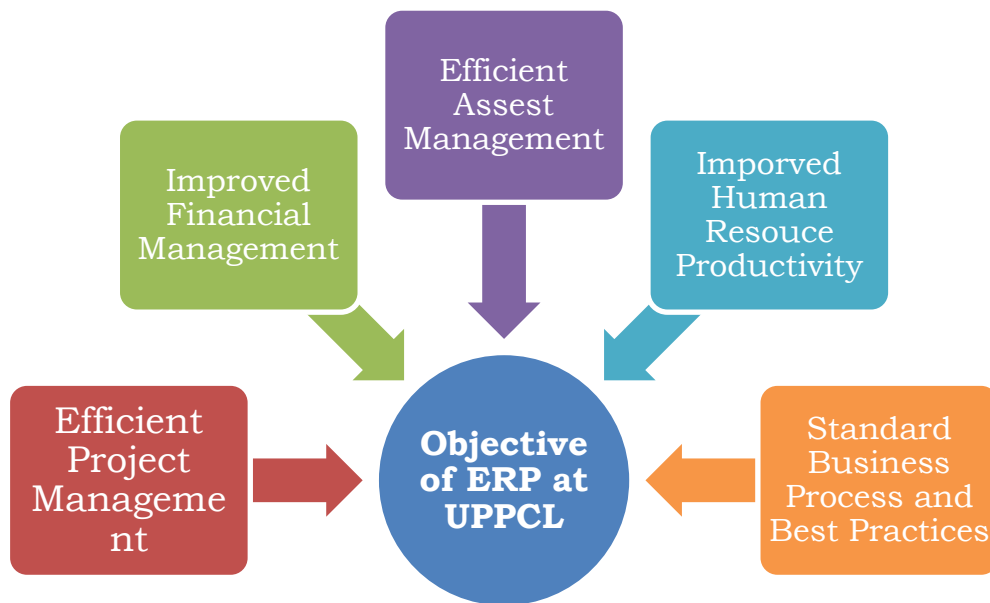


Figure 1: Objectives of ERP at UPPCL

1.5 Scope of ERP Implementation at UPPCL

The proposed scheme envisages Implementation of Enterprise Resource Planning System in UPPCL covering all the critical functions at all the locations of the organization.

The scope of work of System Integrator (SI) shall include the following:

- Supply and installation of ERP licenses including ATS
- ERP system implementation, Project Management, Training, Handholding & Support, Basic Help-Desk etc.
- ATS of the ERP implementation for two years after the Full Go-Live (all modules and all locations). Optional extension up to additional two more years.
- Supply, installation, commissioning and maintenance of requisite hardware & network equipment.
- Commissioning of required Hardware, Software networking items etc. at UPPCL's existing Data Centre (Lucknow) and Disaster Recovery Centre (Noida).
- AMC and Maintenance of Hardware for 5 years

1.6 Benefits of ERP System

ERP is an asset for enabling the organization to run business smoother by unifying and protecting the information, automating processes and producing easy-to-understand trends. Below mentioned are some of the key benefits of ERP System:

- **Efficiency:** An ERP System eliminates repetitive processes and greatly reduces the need to manually enter information. ERP system also streamline business processes and make it easier and more efficient.
- **Forecasting:** Since the information within ERP is as accurate as possible, businesses can make realistic estimates and more effective forecasts. This will improve decision making through use of information and business analytics
- **Collaboration:** ERP software touches on almost every aspect of a business, thus naturally encouraging collaborative amongst different departments and employees.
- **Scalability & Integrated Information:** To meet additional business requirements over a period ERP system allows addition of new users and functions to grow from the initially implemented solution. Also, it brings an integrated platform with data consistency, accuracy, an ease of access for information in one place by stable, secure and integrated system for functions like Financials, Budgeting, HR & Payroll.
- **Streamlined Processes & Cost Savings:** ERP increases efficiency and productivity by helping users to navigate through the complex processes, preventing data re-entry, and improving functions such as production, order completion and delivery. Also, it helps in achieving the better financial management and faster financial reconciliation for organization.
- **Mobility:** An advantage of ERP System is having access to a centralized database from anywhere you work like Home, office etc.
- **Reporting:** ERP software helps make reporting easier and more customizable with improved reporting capabilities. Post ERP System any organization can respond to

complex data requests more easily by data retrieval by real time information sharing across the organisation.

- **Enhanced Productivity:** Through streamlining of redundant processes by automation, optimum utilization of resources can be achieved thereby facilitating productive deployment of human resources allowing them to work on other projects and tasks.
- **Regulatory Compliance:** Powerful ERP Systems will keep track of regulations within the industry and monitor changes, which helps the organization to address governance and compliance requirements and reporting requirements.
- **Enterprise Integration:** ERP enables integration of different functional & geographically dispersed regional offices/sub-stations through cross-functional, process-oriented and virtually integrated enterprise.
- **Establishing Standard Business Processes and Practices:** ERP system plays a major role in establishing standard processes and practices within an organization. ERP System implementation and use will be an opportunity to improve business processes and adopt best business practices to derive maximum benefits out of it.
- **Monitoring of Assets & Projects:** Efficient asset management of transmission network by effective monitoring, managing and maintenance of deployed assets. It also supports the organization through effective and integrated management for on-going projects.

1.7 Costing

Total costing of the project with details	
Name of the Project & Project No.	GIS System Augmentation (For Rural-SW/HW)
Date of Start of Project	2019
Scheduled Date of Completion	2021
Estimated Cost (Rs. Crs) at start of project	₹ 104.73
Cost Escalation / variation with reasons, if any	NA
Proposed Funding (Equity, Loan, Grant details)	NA
Scheduled Date of Completion	Equity
Delay & reasons, if any	NA

1.8 Duration

The overall project duration is for **24 Months**.