USAID ENERGY POLICY PROGRAM

CONCEPT PAPER

ERP IMPLEMENTATION FOR NTDC

November 2013

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Concept Paper
ERP IMPLEMENTATION FOR NTDC

November 18, 2013

Organization Background & Project Need

NTDC is responsible for several critical functions relating to the current electricity market in the country, these include:

- Central Power Purchasing Agency
- System Operator
- Transmission Network Operator
- Contract Registrar and Power Exchange Administrator

Successfully carrying out the above activities requires timely access to business information to facilitate informed decision making. Organizational reforms are not possible unless an organization utilizes modern and state of the art ICT. This area remained the most unattended part of NTDC as there are only few business functions which are being supported by IT applications built by internal IT teams. However, these applications lack integration and incorporation of industrial best practices that eventually produce confined, unmatched and dispersed information that eventually creates silos of information even within the departments of an organization.

Project Brief

ERP Systems are implemented to get a consolidated, real time view of all core business processes, based on standard industrial business best practices and processes. They are used to track business resources i.e. human resource, finance, raw materials, production capacity etc. This also helps in getting the live status of business commitments. The applications that make up the ERP system share data across various departments (procurement, sales, accounting, etc.) and facilitate a unified information flow between all business functions. The current project will implement an ERP system and its required infrastructure at NTDC based on the selected implementation, operations and support options recommended by the NTDC Board and Managing Director.

ERP Project Components

ERP Project has three following important higher level components, these are necessary for a successful deployment of an ERP solution in any organization.

1) ERP [Data Center] Facility

A Data Center is a very critical ICT facility. It is one of the main factors contributing to business continuity when companies rely on ERP systems to run their business operations. If any system becomes unavailable either company operations are impaired or stopped completely, thus it is very important to provide a reliable Data Center facility to assure the up and running of important business functions through ERP systems. Major components of a state of the art data center include, aisle containment, in row precision cooling solution, redundant power UPS, state of the art VESDA fire detection & suppression and security & surveillance systems. Above all the facility should possess an ideal PUE (Power Usage Efficiency) level.

2) ERP Implementation

ERP implementation generally consists of following high level tasks for any ERP module to be implemented

- Business process gap analysis

- Business Process Re-engineering
- System Configuration mapping business processes
- Implementation Team Training
- User Acceptance Testing & Signoffs
- Go Live
- End-user Trainings

3) Post Implementation Operations & Support [O&S]

Post implementation Operations and Support is really important service to be acquired after go live of ERP environment. During this time activities like change management, application problem resolution through support tickets, alter workflows, performance optimizations, monitoring of critical processes, manage upgrades and updates, recursive end user trainings etc.

ERP Complete Modules to be implemented

Following is the complete list of modules that are required to be implemented, in case if NTDC decides to go for Phased implementation option, briefed below, the implementation will be of selected 3-4 high priority modules.

- ☐ Financial Applications
- ☐ Procurement / Inventory Management / Warehouse Management
- ☐ Human Resources and Administration
- ☐ Meter Data Management
- ☐ T&D Asset Management
- ☐ Energy Purchase, Sale and Distribution
- ☐ T&D Projects Management

ERP Implementation Options

Option 1 [Big Bang Implementation Strategy]

Implementation of all ERP Modules as per PC1 [re approval from USAID, approx. 10 million USD]

Pros:
- Supporting complete business functions in one go
- Marginally less deployment cost & time
- No one has to operate their business in two different computer systems

Cons:
- Complex implementation
- Require careful planning
- Require complete organizational support

Option 2 [Phased Implementation Strategy]

Implementation of high priority ERP modules & infrastructure and remaining modules in the next project

Pros:
- Involves Less risk
- Not a sink or swim environment
- Skills and experience are gained with each step/phase which can help smooth the process as you get further along

Cons:
- Takes longer to be fully converted into an end to end integrated environment
- Can have missing information because each module relies on info from others, so in a transitional period there may be some gaps
- Temporary bridges need to be made from old to new

ERP [Post Implementation] Operations and Support Options

Option A [O&S 3 Year Support]

Standard operations and support period of 3 year after project closure

Pros:

- Existing Staff who are Subject Matter Experts to takeover ERP Operations and Support
- Post Go Live issues are fixed during the support period
- Industry wide accepted practice

Cons:

- High turnover of trained staff is usually faced
- Mostly require extension of O&S duration incase existing staff failed to takeover operations
- Involve budget for continuous training and retention of employees

Option B [O&S Outsourced Model]

Complete ERP Operations and Support to be handled by an outsourced partner

Pros:

- Business operations don't suffer with skilled staff turnover \ resistance to change
- Focus on core business functions delivering business KPIs effectively
- Cost and efficiency savings

Cons:

- Loss of expertise
- High dependence on outsourced partner
- Confidentiality issues

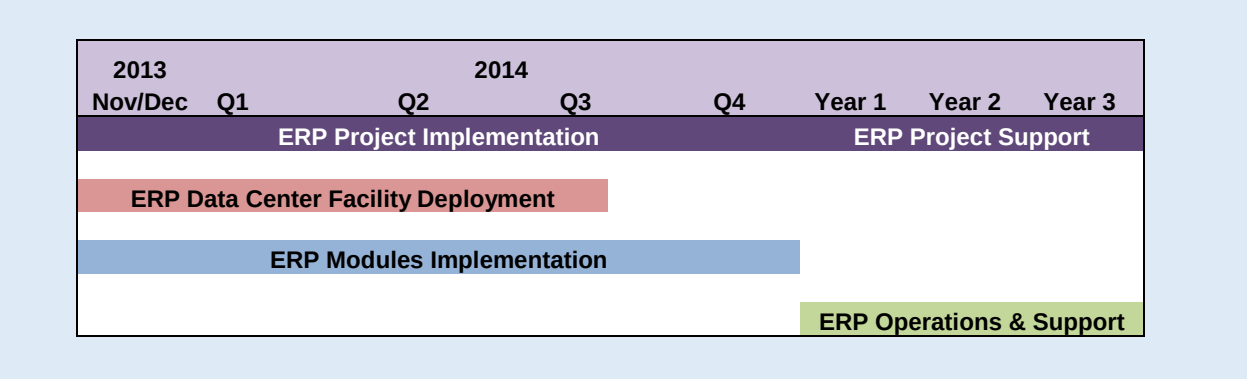
Critical Success Factors

- Periodic ERP Steering Committee Status Review Meeting chaired by MD, NTDC
- Overcoming resistance to change
- Active BSMEs (Business Subject Matter Experts) Involvement
- Regular & Intense trainings programs for Business & IT Staff
- Aggressive Business user involvement

Recommendations

We would recommend that NTDC should go for Option 2 [Phased Implementation Strategy] for ERP Implementation and Option A [O&S 3 Year Support] for ERP Post Implementation Operations & Support.

High-Level Timeline/Schedule as per recommendations



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