

**CONSULTANCY SERVICE FOR ERP SYSTEM DESIGN AND IMPLEMENTATION
UNDER DHAKA AND WESTERN ZONE TRANSMISSION GRID EXPANSION
PROJECT**

TERMS OF REFERENCE (TOR)

ERP AND IT SPECIALIST

A. OBJECTIVES OF THE ASSIGNMENT

1. The objective of this assignment is to engage a consultant firm that will work with the Power Grid Company of Bangladesh (PGCB), right from conceptualization until its technical and financial closure, for PGCB's proposed Enterprise Resource Planning (ERP) based Information Technology (IT) solution. All back-end office processes such as Financial Management, Accounting, Asset Management, Accounts Receivables Management, Human Resource Management, Inventory Management, Equipment and Material Procurement, Project Monitoring and functionalities of SD module, PM module, Basic module, Security module, AR module, ABAP module, Budget module, FICO module etc. would be integrated through the ERP system. It shall be noted that there is an existing ERP system of PGCB comprising Financial management, HR management (without payroll), Fixed asset management, procurement management module and another two modules (Inventory and project management) are being implemented by power division. The consultant is required to study the feasibility of the ERP solution, workout infrastructure requirement, prepare budgetary estimates, Functional Requirement Specifications (FRS), Request for Proposals (RFP), avoid duplication of any module and provide assistance in selection and evaluation of an implementation partner for the ERP project and assist during implementation, technical and financial closure of the project, etc.

B. SCOPE OF WORKS and TASKS

1. The broad scope of work shall cover the following activities, phased into the following three distinct components and the detailed scope, but not limited thereto, under each phase is given below.
 - (i) Pre-implementation – preparation of System Blue-map, Implementation Road-map and RFP;
 - (ii) Implementation – change management, implementation monitoring and support; and
 - (iii) Post implementation – post implementation audit, financial and technical closure.

2. Phase-1: Pre-implementation-preparation of blue-map and RFP and selection of ERP partner

2.1 Activity A: As-is Assessment

The As-is assessment phase will consist of the following key activities.

A.1 Assessment of Processes

- (i) Study organizational hierarchy, department, roles and responsibilities of personnel/officials within PGCB.
- (ii) Study the existing capacities in terms of available manpower, skills and competencies in PGCB to identify and address the gaps keeping in view the future requirements.

- (iii) Study the existing procedures/processes within the organizational functions such as Human Resources, Payroll, Finance, Asset Management, Maintenance Management, Materials Management and Procurement, Energy Chain Management, Project Management and any other business processes.
- (iv) Study the procedures in place to manage the available data of the above-mentioned functions, whether manual-entry, automated, combination of manual and automated, involvement of outsourcing, whether in hard-copy/ soft-copy etc.
- (v) Understand the challenges being faced currently in various business functions listed above.
- (vi) Study the key entities that play a role in the business processes of the above-mentioned functions.

A.2 Assessment of existing IT infrastructure

- (i) Study the available IT infrastructure being used and to be created by PGCB along with their user departments and functionalities.
- (ii) Study the usage of various existing and software applications to be used and identify the challenges faced at various levels.
- (iii) Study various aspects of existing and applications to be used such as licensing, possibility of integration, application maintenance procedures, operating system, databases, architecture, any enhancement plans that are being undertaken, etc.
- (iv) Study the functionalities/processes that are supported by the existing and applications to be used.
- (v) Study the hardware available at headquarters and other offices and assess possibilities to leverage the existing capacities more effectively in future.

2.2 Activity B: To-Be Design

Based on the detailed assessment conducted in the As-is Assessment phase, the consultant should develop the IT architecture for the proposed ERP functionality based on the following objectives:

- (i) Meeting PGCB's requirement for a state-of-the-art data centre facility at the HQ by integrating all of the PGCB's cost centre activities.
- (ii) Meeting PGCB's requirement to establish a state-of-the art processes as part of ERP.
- (iii) Meeting PGCB's -business specific requirements in transmission, bulk power purchase/delivery, and system operations.
- (iv) Implementing the technology design based on leading industry standards while addressing the need for scalability and flexibility without undermining the data integrity and transparency required for enabling the processes.
- (v) Leveraging various existing and planned components of IT solutions.
- (vi) Ensuring integration as necessary with various existing and planned IT solutions.
- (vii) Consultant shall assist and train the cross functional team of PGCB on ERP design tools & techniques.

The following are the activities envisaged as part of this phase.

B.1 Solution Design for ERP

Based on the assessment of processes undertaken as part of the As-is assessment phase, the consultant in discussion with PGCB shall identify and propose the ERP modules to be

adopted based on consideration of various aspects such as the strategy for procurement of the modules, options for phased implementation, and merits of each module.

- (i) Consultant will take into consideration PGCB's need to manage and administer specific business requirements as a part of the ERP solution.
- (ii) Consultant will take into consideration the legacy applications which are required to be continued as per PGCB's needs and design the solution keeping in mind the integration with the legacy applications.
- (iii) Consultant will discuss with PGCB to design and finalize the likely ERP modules to be adopted, such as Financial Management, HR Management, Asset Management, Accounts Receivable Management, Maintenance Management, Materials Management and Procurement Management, Energy Chain Management, Project Management and SD module, PM module, Basic module, Security module, AR module, ABAP module, Budget module, FICO module etc. Consultant has to ensure that there is no duplication of any work with any other projects and initiatives undertaken by PGCB.
- (iv) ERP integration with other ERP system from other projects.
- (v) Consultant shall deploy suitable Business Intelligence (BI) tools in the ERP structure to ensure that both BI and ERP can be integrated for decision making.
- (vi) Consultant will discuss with PGCB on the other critical requirements of the ERP solution (ex. training, change management), and formulate a strategy for addressing these requirements.
- (vii) Consultant will develop the technical architecture and the solution architecture for implementing the ERP solution.
- (viii) Consultant will develop the licensing requirements of the ERP solution based on usage requirements of PGCB.
- (ix) Consultant will discuss and finalize the scope of the implementation, and the approach for phased implementation.
- (x) Consultant shall evaluate standard features & capabilities of the relevant ERP Commercial off-the-shelf software solutions available and widely adopted.
- (xi) Consultant shall draft the detailed Functional Requirement Specifications (FRS) for each module. This can be included as specifications in the Terms or Reference for the selection of the Implementation Partner.
- (xii) Consultant shall discuss the draft requirements with PGCB prior to finalizing the same.
- (xiii) Consultant shall also identify and incorporate the unique/custom requirements of the Process Owners of the concerned business functions of PGCB.
- (xiv) Consultant shall conduct presentations and workshops for building common vision and understanding of BI and the ERP system, and in developing best business practices.
- (xv) Consultant shall prepare best suited IT roadmap and ERP implementation project plan including the strategy, before buying and installing ERP system as per approved budgetary plan.
- (xvi) Consultant shall prepare a detailed Feasibility Report covering the scope of work, budgetary estimate, information system architecture, documentation, work flow, etc.
- (xvii) Consultant shall assist in re-engineering and identifying obsolete functions in the organization - oriented management practices and to recommend for ERP-based process or change/customize ERP and use BI for customization.
- (xviii) Identify future areas of improvement in the proposed ERP solutions.
- (xix) Propose a maintenance and trouble-shooting mechanism

B.2 Designing IT Infrastructure

- (i) The existing IT infrastructure as well as the infrastructure planned under any

- other scheme for PGCB Headquarters as well as other offices shall be assessed before defining additional requirements of IT infrastructure.
- (ii) Consultant shall take into consideration the existing telecommunication infrastructure and suggest the requirements for the proposed ERP system.
 - (iii) Consultant shall estimate and develop the specifications for all the IT infrastructure components required for deploying the information systems across the headquarters and other offices of PGCB, including:
 - a. Desktops, hardware, network requirements and peripherals
 - b. Servers
 - c. Storage devices
 - d. Network devices
 - e. Network connectivity
 - f. Security devices
 - g. Software
 - h. Asses the office space and furniture requirements for the Data Centre and other relevant places.
 - (iv) Consultant shall suggest ways and means to leverage the existing investments in IT before detailing out the additional capital (CAPEX) and operational (OPEX) expenditure based on the estimate developed.
 - (v) Consultant shall adopt latest technology standards and practices for developing the specifications for the required IT infrastructure.
 - (vi) Consultant shall draft detailed requirements that can be included as specifications in the Terms of Reference for the selection of the Implementation Partner with the consent of PGCB.

B.3 Preparation of the IT Budget (Capital & Operational Expenditure)

- (i) Based on the specifications prepared for various IT products and services identified, the Consultant shall prepare a Detailed Project Report including Detailed IT Budget with CAPEX and OPEX outlay required for undertaking the proposed initiatives
- (ii) This budget should clearly state CAPEX and OPEX investments as well as year-on-year annual budget requirements
- (iii) Consultant shall assist PGCB in seeking approval of the IT budget from the concerned authorities

2.3 Activity C: Selection of Implementing Partner

Based on the finalization of the IT goods and services, the Consultant shall assist PGCB in the preparation of a Request for Proposal for the procurement, implementation and management of the ERP solution and for the selection of a qualified and capable implementing partner.

C.1 Preparation of tender documents for the ERP solution

- (i) Based on the type of data centre facility, list of IT goods and services identified, and the corresponding specifications defined, the consultant shall prepare a Request for Proposal (RFP) for selection of the implementation partner.
- (ii) The RFP should acknowledge the procurement strategy established as part of the previous activities.
- (iii) To prepare tender document i.e. RFP/ Notice Inviting Tender document for selection of an Implementation Partner to deliver the ERP software product, required hardware and data center facility to be established along with requisite hands on training. This should cover the scope of work, technical & functional requirements of the ERP system as well as the commercial, contractual terms

- & conditions, etc. The RFP will also include the draft contract for the project implementation partner.
- (iv) All relevant sections/volumes of an RFP that include but not limited to the following shall be prepared:
 - a. Pre-qualification criteria
 - b. Evaluation criteria
 - c. Scope of work
 - d. Timelines, milestones and deliverables
 - e. Instructions to bidders
 - f. General conditions of contract
 - g. Special conditions of contract
 - h. Service level parameters, etc.

C.2 Assistance in Management of Bidding

- (i) Consultant shall assist PGCB in preparing advertisement inviting tender and correspondence with the bidders.
- (ii) Consultant shall assist PGCB in co-coordinating pre-bid meetings, clarifying and responding to queries from bidders, etc.
- (iii) Consultant shall assist in preparing corrigendum, if required, to be released as part of the RFP and in communicating the same to bidders.
- (iv) Consultant shall assist PGCB in evaluating the technical proposals received from the bidders as per the evaluation criteria finalized and laid out in the RFP.
- (v) Consultant will assist PGCB in evaluating the presentations by the bidders.
- (vi) Consultant will assist PGCB in evaluating the Financial Proposals and in working out the total cost of ownership.
- (vii) Consultant shall prepare a Vendor Evaluation Report as an outcome of the evaluation and assist PGCB in finalization of the successful bidder.
- (viii) Consultant will assist in technical evaluation for selection of ERP product and Implementation Partner. The consultant will provide all necessary assistance during the technical evaluation of tenders in selecting the technically qualified vendor. This would include assisting PGCB in short-listing of qualified bidders, evaluation of technical proposals, evaluation of financial proposals, and determination of final ranking of proposals.
- (ix) Facilitate submission of the draft documents and evaluation of results to ADB for review and approval.
- (x) Assist in finalizing award and signing of Contract Agreement.
- (xi) Conduct financial management and accountability study to improve accounting and auditing systems.
- (xii) Carry out other relevant tasks as may be requested for achieving the objectives.

C.3 Assistance in Contract Finalization with the Implementing Partner

- (i) Consultant shall assist in negotiations with successful bidder and in finalizing the contract with the selected bidder/Implementing Partner.

2.4 Assistance to PGCB's Cross Functional Team

- (i) Consultant shall assist PGCB's Cross functional Team consisting of program lead and process owners of different business functions, in addressing issues/problems that arise during project implementation
- (ii) Provide support to PGCB's Cross Functional Team to view summary data and go for selective data mining, hyperlink to additional data and use analytical tools as and when required.
- (iii) Consultant shall assist PGCB's Cross Functional Team to effectively

- coordinate with the project implementation team during the project phases.
- (iv) Provide formal business intelligence (BI) and necessary training.
- (v) Consultant shall assist/provide all necessary support to the Cross Functional Team & PMU leading to successful implementation of ERP in PGCB.
- (vi) Consultant shall arrange local training programme on SAP/ERP conducted by SAP recognized/ certified trainers, for PGCB's Cross Functional Team to gain required knowledge for understanding the ERP implementation in PGCB.

2.5 Phase II: Implementation-change management, implementation monitoring, etc.:

2.5.1 Tasks

Consultant shall assist PGCB in program management of the ERP solution implementation throughout the whole project implementation for the duration of the pilot go-live as well as for the roll-out to all project locations. Consultant shall co-ordinate with various stakeholders (PGCB, ERP Implementing Partner etc.) and would assist PGCB in key decision-making and review of the work being undertaken during implementation and rollout. Described in the following sections are the key activities that will be executed by the Consultant during this phase.

- (i) Consultant shall apply the official implementation guideline of SAP.
- (ii) Prepare critical examination and review of project management plan submitted by ERP Implementation Partner and assist in project implementation management.
- (iii) Guide the organization in implementation tasks and facilitate the overall implementation process and help in setting up the expectations of the users at various levels.
- (iv) Assist in preparing Implementation Approach and Review of Progress.
- (v) Assist in identifying skills required, top management role, project team role, key project deliverable milestones and activities, working along with the Implementation Partner.
- (vi) Review the Blue Print document prepared by the Implementation Partner.
- (vii) Conduct a workshop on BI and ERP for Senior Management (two workshops of half-a-day each).
- (viii) Review the BI and ERP training needs proposed by the Implementation Partner for all levels of management.
- (ix) Assist in vetting of documents on specification of servers and data center related IT infrastructure prepared by the Implementation Partner for the project.
- (x) Participate in steering committee meetings in reviewing the progress, especially on technical issues.
- (xi) Vet the test script documents prepared by the Implementation Partner as well as the integration test for go-live preparedness.
- (xii) Review the change management plan and the BI architecture prepared by the Implementation Partner.
- (xiii) Review financial and management reporting, internal controls, auditing system and financial management assessment.
- (xiv) Review of go-live parameters.
- (xv) Consultant will help the Cross Functional team of PGCB to ensure the implementation of ERP.

2.5.2 Monitoring and Review

- (i) Consultant shall assist in reviewing the progress of the implementation of the ERP solution and the integration of the same with any legacy applications.

- (ii) Consultant shall review the conformity of the project plan in terms of schedule and milestones, and provide weekly periodic status review updates to PGCB.
- (iii) Consultant shall actively participate in project status review meetings with PGCB and the Implementing Partner at various levels (ex. Steering Committee level, Project Management level) and assist in resolution of pending issues.
- (iv) Consultant shall identify and report issues that require attention of PGCB.
- (v) Consultant shall assist PGCB and the Implementing Partner in easy resolution of issues, escalations and conflicts.
- (vi) Review of Deliverables:
 - a. Consultant shall track and review all deliverables of the Implementation Partner and provide feedback to PGCB and the Implementation Partner.
 - b. Consultant shall confirm the quality and adequacy of the deliverables as per the Terms of Reference/Contract with the Implementation Partner.

2.5.3 Adherence to Service Levels

- (i) Consultant shall assist PGCB to develop a Service Level Agreement (SLA), between PGCB and the Implementation Partner.
- (ii) Consultant shall conduct periodic review of Implementation Partner's adherence to the SLA and shall submit a periodic SLA Compliance Report to PGCB and follow-up on the previous non-compliances by the Implementation Partner, if any.
- (iii) Consultant shall assist PGCB in assessing penalties for non-compliance of SLA's if required.

2.5.4 Training and Change Management

- (i) Consultant shall provide assistance in effectively strategizing and conducting the training plan and the change management plan by way of discussions with the PGCB and the Implementation Partner.
- (ii) ***Planning for Knowledge Transfer and User Training***
 - a. Consultant shall assist PGCB in reviewing and improving the knowledge transfer and training plan developed by the Implementation Partner.
 - b. Consultant shall review and provide inputs for improving to the training content prepared by the Implementation Partner.
- (iii) ***Monitoring of training delivery***
 - a. Consultant shall monitor the delivery of training as per plan and provide feedback to PGCB on the adequacy and effectiveness of the training.
 - b. Consultant shall monitor training across the locations identified.
 - c. Consultant shall collect feedback from training participants and assess the satisfaction levels.
 - d. Consultant shall review all materials used to conduct the training and shall provide feedback on the same to PGCB.
- (iv) Consultant shall monitor the change management workshops which shall be conducted for the Business Process Owners and shall provide feedback on the same to PGCB
- (v) Consultant will assist PGCB with the mapping of the new roles (resulting from the ERP implementation) with the roles/designations currently in place

2.6 Phase III: Post Implementation – Post Implementation Audit, Financial and Technical Closure etc.

- a. Prepare Blue-map for post implementation management of ERP solutions.
- b. Assist in financial and technical closure, and
- c. Audit of ERP implementation.
- d. Trouble shooting & maintenance issues.

2.7 Deliverables

The consultant shall produce the following according to the demand of PGCB.

Deliverables	Submission Date*	Type
1. ERP Needs Assessment, ERP solution and IT Infrastructure Design, Budget for implementing ERP system blue printing/Mapping	6 months	Report
2. Detailed Project Report	6 months	Report
3. Prepare Draft RFP for Selection of Implementing Partner	7 months	Draft RFP/other documents
4. Assistance in management of the bidding process including bid evaluation	9 months	Bid Evaluation Report
5. Selection of Implementing Partner	10 months	Recommendation
6. Supervision of: (i) ERP implementation, (ii) training and change management, (iii) data migration, (iv) testing and (v) successful implementation of the ERP system	24 months	Final Report

*All timelines are from the date of Notice to Proceed to be issued by PGCB

C. Support from PGCB

1. PGCB will provide the Consultant with:
 - (i) Information about their existing operational processes and procedures that is required for understanding these processes/practices.
 - (ii) Information about the existing IT and related infrastructure.
 - (iii) Adequate time with the relevant personnel for meetings and discussion, subject to due notice.
 - (iv) Identification of trainees for each function;
 - (v) Reasonable space in PGCB's offices while working on this assignment.
 - (vi) Training facilities; and
 - (vii) Any other data, service, facilities, etc. as mutually agreed.

D. Consultant's Qualifications:

Experience/Qualifications

1. ERP System Design Expert (International)/Team Leader (7 person-months): The consultant will have more than 15 years of proven experience as an ERP consultant including implementation experience in public sector, utility organization also have experience to implement ERP in renown multinational organization/company with an advanced degree in Information Technology, SAP/Oracle certified professional and excellent writing and communication skills in English.

2. ERP System Design Expert (National)/Deputy Team Leader (5 person-months): The consultant will have more than 5 years of proven experience as an ERP consultant

together with a degree in Information Technology and relevant professional qualifications.

Subject-specific Consultants: Subject-specific consultants will include:

- a. Accounting/Finance Expert: International (5 person-months)
- b. Procurement Expert: International (3 person- months)
- c. Fixed Asset and Inventory Management Expert: International (5 person-months)
- d. Human Resources Expert: International (3 person- months)
- e. Monitoring System Expert: International (3 person- months)
- f. SD module, PM module, Basic module, Security module, AR module, ABAP module, Budget module, FICO module expert: International (3 person- months)

3. All subject-specific Consultants will have more than 10 years of proven experience in ERP consultancies in the respective subject areas. They will be qualified with a international recognized ERP certification in Information Technology, Science or Management OR equivalent Professional Qualifications. Furthermore, all subject-specific Consultants are required to have excellent writing and communication skills in English.

Distribution of person- months between stages:

Expert	Pre-implementation Stage	Implementation and Post-implementation Stage	Total
ERP System Design Expert International/Team Leader	4	3	7
ERP System Design Expert National/Deputy Team Leader	3	2	5
Accounting/Finance Expert International	3	2	5
Procurement Expert International	2	1	3
Fixed Asset and Inventory Management Expert International	3	2	5
HR Expert International	2	1	3
Monitoring System Expert International	2	1	3
Total	19	12	31