SECTION C

SCHEDULE A: PROJECT BRIEF

PART 1: SCOPE OF SERVICES

TABLE OF CONTENTS

1. ABBREVIATIONS AND DEFINITIONS

Terms and abbreviations used throughout the RFP

Table 1: Abbreviations

Acronym	Definition
PWA	Public Work Authority, interchangeable for Ashghal
EBD	Engineering Business Department
ISD	Information Services Department
PMC	Project Management Consultant
GEC	General Engineering Consultant
MSMS	Material Supply Management System
SCM&L	Supply Chain Management and Logistics
BI	Business Intelligence
B2B	Business to Business Integration
ANMS	Ashghal Non-conformity Management System
AD	Microsoft Active Directory
O&PMS	Operational and Project Management System
RFP	Request For Proposal
WYSIWYG	What You See Is What You Get

Table 2: Definitions

Abbreviation	Definition
Vendor(s)	Refers to vendors invited to submit their proposals to provide Ashghal with Material Supply Management System (MSMS).
Consultant / IT Consultant	Is used interchangeably, where appropriate.
MSMS	Material Supply Management System.

2. RFP OVERVIEW

2.1 Public Works Authority

Public **W**orks **A**uthority, "**PWA**" (here and after shall refer to **Ashghal**) is an autonomous government organization, established with a mandate of providing world-class infrastructure and buildings facilities in Qatar, specifically highways, local roads, drainage and government facilities which are considered to be the core business of the Ashghal.

Ashghal responsibility covers a wide range of projects from constructing new assets to operations and maintenance of road networks, sewer/drainage systems and on public facilities such as hospitals, schools etc. All these projects are considered to be essential to the development and modernization of the state of Qatar and to the fulfilment of Qatar National Vision 2030.

2.2 Current Business State

Currently, Ashghal doesn't have an information sharing platform which can be used across multiple internal and external stakeholders (Program Management Consultants (PMCs), General Engineering Consultants (GECs), Suppliers, Contractors, Subcontractor). To bridge that gap Ashghal is seeking a comprehensive electronic solution that supports the successful collaboration between itself and its aforementioned stakeholders over the next phase of administration of the framework agreements, the associated projects, governance and quality processes where appropriate.

Material Supply Management System (MSMS) should be the core solution that provides such an information sharing and collaboration platform across the organization and its stakeholders.

2.3 Material Supply Management Background

In light of significant infrastructure programs that Ashghal is responsible for delivering during the next few years, Ashghal will have to ensure the availability of significant amounts of key construction materials (Bitumen, Gabbro, Limestone, etc.) for the successful delivery of these programs. To this aim, Ashghal is in the process of establishing a Supply Chain Management and Logistics (SCM&L) Business Unit which will be responsible for the management of certain bulk construction material supplies through Framework Agreements, or outside of the Framework Agreements, with various suppliers and vendors.

2.4 Material Supply Management and Framework Agreements

The Framework Agreements will provide a key part of the strategy to secure those key materials in the Supply Chain. Ashghal is initially prioritizing the bitumen and aggregate supplies and is implementing Framework Agreements to support this. However, other material such as washed sand, steel, cement, and concrete production will also be under review in the future.

A central point of real-time, meaningful and relevant management information was required in order to serve the suite of processes that facilitate the administration of Ashghal Framework Agreements. Hence the need for an automated and integrated **M**aterial **S**upply **M**anagement **S**ystem (**MSMS**) solution has arisen.

Ashghal has signed Framework Agreements with various Suppliers/Vendors that set terms and conditions for making specific purchases of construction materials (Call-offs) during the lifetime of the agreements. Framework Agreements would help in securing materials supplies and reduce the risk of pricing inflation in the market.

2.5 Ashghal ICT Strategy

Ashghal ISD strategy is depending on 5 main pillars:

1. Business Enablement.
2. Collaboration.
3. Service Delivery.
4. Streamlining IT and Business.
5. Optimizing IT environment.

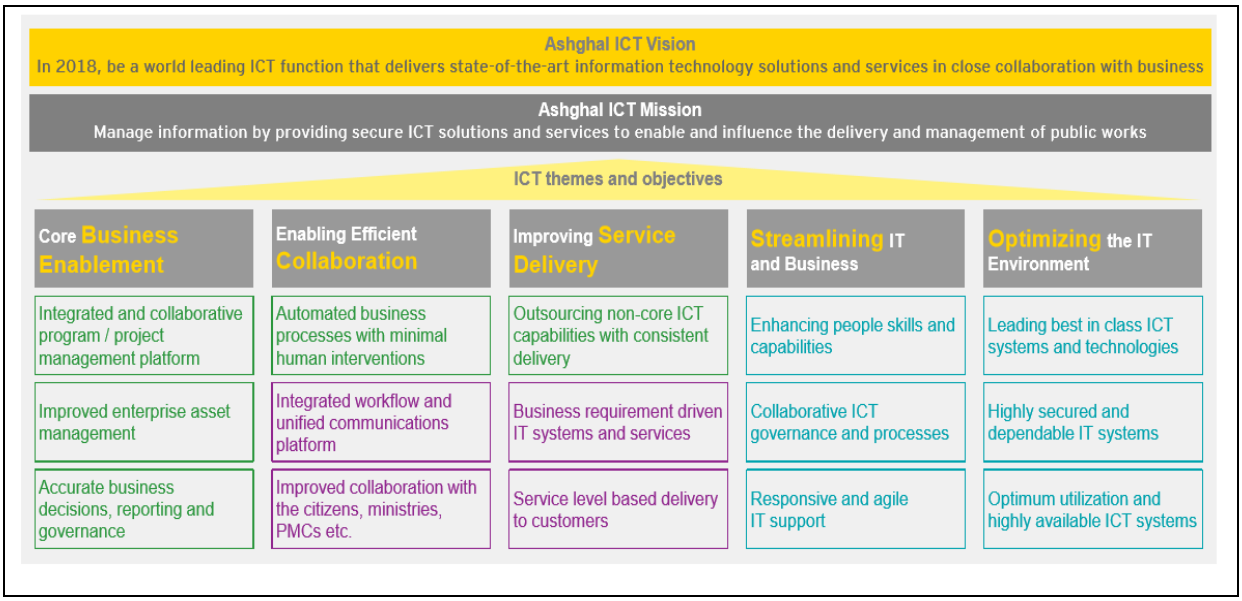

Figure 1: Ashghal ICT Vision, Themes, and Objectives

Ashghal ISD strategy to optimize IT environment while maximizing business benefits. Therefore, re-use of existing platforms shall be highlighted in the bidder's proposal. Below is a high-level technology landscape within Ashghal:

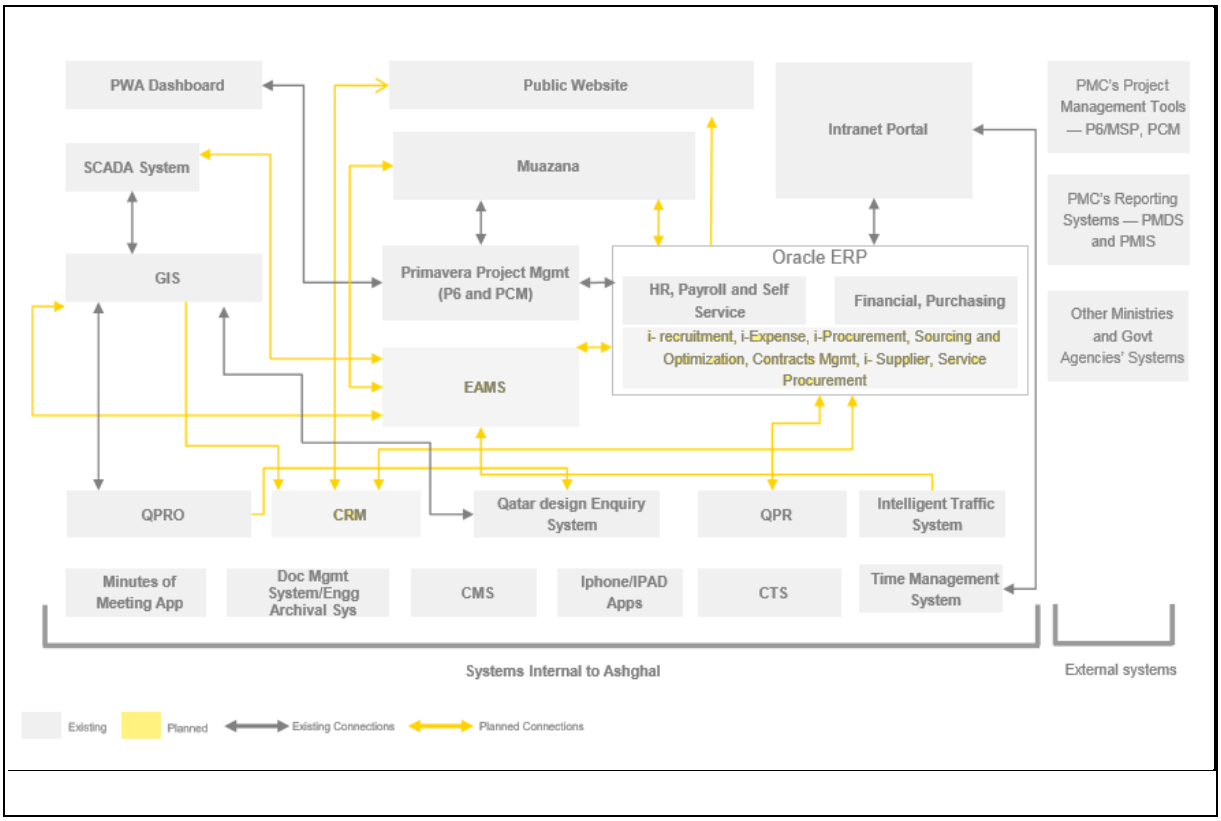

Figure 2: Ashghal Current ICT Application Landscape

Below table summarizes current technology stack:

Application	Technology
EAMS	IBM-Maximo
CRM	Microsoft Dynamics
Intranet Portal	MS SharePoint
ERP	Oracle
Project Management	Oracle Primavera P6
ECM	OpenText
Business Intelligence	TBD
Mobility Platform	KONY Mobile Platform
Manage Engine	Service Desk and End Users Support Platform
Enterprise Data Base	Oracle
Enterprise Service Bus	IBM

ISD is planning to enhance solution architecture, and shift to flexible integration through Enterprise Service Bus (ESB) implementation. Below diagram illustrates target state for ISD solution architecture:

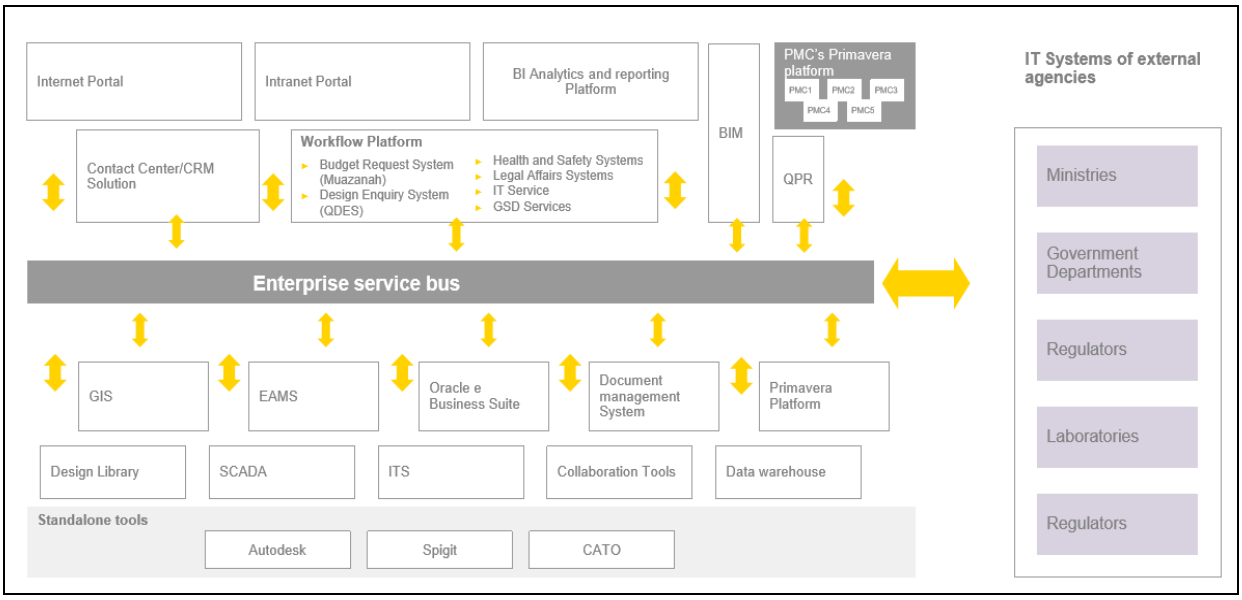

Figure 3: Ashghal Target solution architecture

2.6 Business Objectives

Ashghal is seeking to identify the capacity that exists within Qatar supply chain for bulk construction materials, and hence would like to secure these materials to mitigate the risk of shortages that are expected to rise due to the vast amount of construction works that have been assumed by the State of Qatar for the delivery of its 2030 vision in conjunction with the delivery of 2022 World Cup. By keeping the supply of material flowing, Ashghal envisions that they would get more projects delivered faster with due diligence.

To secure supplies and reduce the risk of pricing inflation in the market. In order to be able to prioritize and understand the demand requirements, Ashghal requires timely and accurate information for all its projects via an electronic collaborative platform that involves Ashghal's stakeholders.

The MSMS project will result in a target solution that clearly guides an integrated, multi-stakeholder environment to provide full visibility across the supply chain - from Suppliers through to Contractors.

2.6.1 System/Solution Objectives

The following objectives need to be achieved as a deliverable of this engagement:

a. The systems requirement is currently focused on the administration of the framework agreements for Tier I materials:
   - Supply of Bitumen materials.
   - Supply of Aggregate materials.

b. The suppliers that are responsible for providing the aforementioned materials will be using the system from the onset. Addition of more Suppliers for Tier II materials is

envisaged in the future and will also be planned for the next phase of development of the Framework Agreements.

c. To provide a single gateway for PWA to:

- Produce a schedule of long-term demand forecast information to be updatable at differing frequencies (weekly, monthly, and quarterly), and then transmit it to Supplier(s).
- Support and monitor the placement of weekly/daily call off schedules by the Contractor(s).
- Get updated reports of the volumes of product supplied by Supplier(s) and delivery schedules.
- Allow accessibility to multiple Contractors and Suppliers in separate organizations and locations.
- Generate prompts for outstanding information updates and issue reminder instructions to Contractors and Suppliers.
- Utilize a reconciliation process of reported supply data from Suppliers in comparison to demand forecasts and weekly/daily call off schedules.

d. Ashghal to keep an audit trail with a record of which Contractor/Supplier executed what type of transaction, which is essential for diligent administration and data analysis purposes.

2.7 Statement of Requirements

In order to execute the project and achieve its objectives, Ashghal intends to employ a local or a GCC residing vendor firm with experience and expertise in providing IT solutions in the area, in addition to a history of implementing similar solutions in Qatari government organizations or local companies in the state of Qatar or their counterparts in the GCC region.

The vendor shall be responsible for providing an out of the box **Material Supply Management System (MSMS)** solution to be used by Ashghal and its respected Suppliers and Contractors for the purpose of facilitating the administration of Ashghal's Framework Agreements by providing a collaboration platform of real-time meaningful and relevant information.

The systems requirement is currently focused on the administration of the framework agreements for Tier I materials:

i. Supply of Bitumen materials.
ii. Supply of Aggregate materials.

The suppliers that are responsible for providing the aforementioned materials will be using the system from the onset. The addition of Suppliers for Tier II materials is envisaged in the future and will also be planned for the next phase of development of the Framework Agreements.

- The **MSMS** should seamlessly integrate with Ashghal's current **Operational & Project Management System (O&PMS)**, specifically with **Oracle's Primavera P6®** software (here and after shall refer to Primavera P6) to transfer schedules and projects' materials forecast processed by the latter software.

- The **MSMS** should seamlessly integrate with Suppliers' warehousing systems to retrieve all martial supply relevant information.

2.8 Scope of Tender

PWA invites IT tenderers (will be referred to as vendors) to submit a quality proposal of a comprehensive solution for Ashghal's **M**aterial **S**upply **M**anagement **S**ystem (**MSMS**); the solution should be based on SAP technology, namely the **S**upply **N**etwork **C**ollaboration (**SNC**), which is envisioned to include state-of-the-art Software and Hardware solutions needed for that purpose. The tenderer shall as well include the provision of training/knowledge transfer in addition to the post-implementation support service.

2.9 Target State of Materials Supply Management System (MSMS)

MSMS should be out of the box one solution Ashghal requires to use as a central point of real-time, meaningful and relevant management information for the purpose of serving the suite of processes that facilitate the administration of Ashghal Framework Agreements.

The To-Be high-level process overview for Ashghal's Materials Supply Management System is illustrated in Figure 4 below.

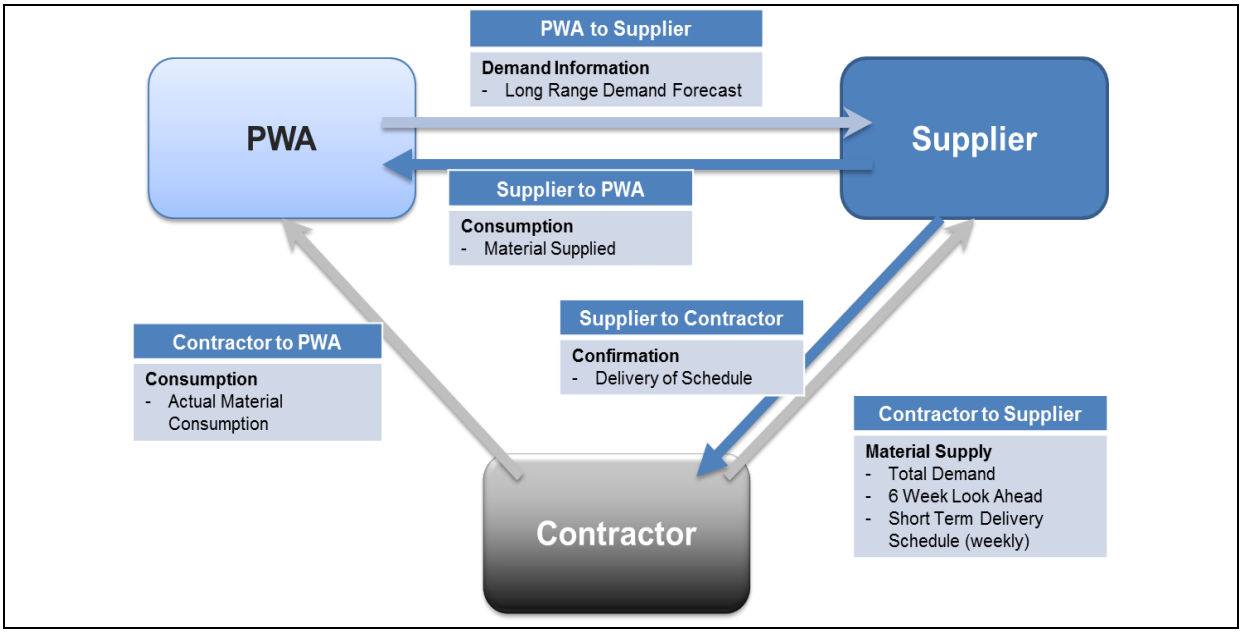

Figure 4: Scope Overview

Ashghal is seeking the proposals from vendors for the following:

1. Services for implementation of the proposed system.
2. Out-of-the-box system/solution providing the functional coverage outlined in this document.
3. Advising the system hardware required to operate the functional modules.
4. The installation and implementation of the software and hardware proposed.
5. End-to-end testing of the proposed system.
6. The training of Ashghal technical and user staff in the operational and functional use of the system proposed.
7. Ongoing support services agreement.

3. TECHNICAL REQUIREMENTS AND SPECIFICATIONS

3.1 Key Requirements

The following list outlines some key requirements that will be considered for during tender selection process. These requirements will be discussed in more details in the following sections.

1. MSMS should be able to perform the following key tasks:
    a. Produce a schedule of long-term demand forecast information to be updatable at differing frequencies (weekly, monthly, and quarterly), and then transmit it to Supplier(s).
    b. Support and monitor the placement of weekly/daily call off schedules by the Contractor(s).
    c. Generate reports of the volumes of product supplied by Supplier(s) and delivery schedules.
    d. Create and add multiple Contractors and Suppliers in separate organizations and locations.
    e. Generate prompts for outstanding information updates and issue reminder instructions to Contractors and Suppliers.
    f. Utilize a reconciliation process of reported supply data from Suppliers in comparison to demand forecasts and weekly/daily call off schedules.
    g. Produce a Summary Dashboard of key performance indicators that will be derived from the data and reports, and will be accessible to ASHGHL only, while giving Ashghal the privilege to furnish this Dashboard to its stakeholders should the need arises.
2. MSMS should integrate seamlessly with Ashghal current Operational & Project Management System (O&PMS), specifically Primavera P6® software to be able to satisfy Key Requirement #1.a.
3. MSMS ability to integrate easily with existing/future systems is fundamental to the whole project.
4. The system must utilize the industry's best practices and standards.
5. The system must be configurable and customizable to accommodate future changes requiring no or minimal code or customization work.
6. Project Plan should be specified in the proposal and approved by Ashghal. Any future modification or updates also should be approved by Ashghal together with justified reasons and clarifications.
7. Provide the BOQ of all hardware and software licenses needed to run the solution; the proposed hardware must comply and should integrate with Ashghal's network and information systems infrastructure.
8. Compliance with ISO 9001:2008 international standard in project management discipline, this is the minimum requirements of the ISD's PMO.
9. Vendor shall provide all required support and information upon request to integrate with ISD existing applications to achieve the ICT strategy and vision. Vendor is expected to avoid potential conflicts for successful implementation of other potential integration projects.

3.2 Functional Requirements

3.2.1 Mandatory Requirements

Materials **S**upply **M**anagement **System** (MSMS) solution shall be an off-the-shelf solution that shall adhere to the following requirement, vendor must indicate which of these requirements are out of the box and which one requires developments and customization:

A	Core Functionality and Collaboration Requirement
Core Function	Implement a central supply chain platform for real-time collaboration with internal and external business partners.
	Configurable visibility concept as to which partner or user has access to another partner's data with Ashghal having complete visibility down the supply chain.
	The system should provide means to create Workflows governed by approvals chain.
Collaboration	The system should allow users (internal & External) to collaborate on structured and unstructured data.
	Document Sharing: System should allow File transfer between business stakeholders.
Integration Points **(*Note: Technical information to be provided during design stage*)**	Unidirectional integration with Oracle Primavera P6® to produce a schedule of material demand forecast information by Program, Contract, Product and Specification/Grade and this schedule must be updatable at differing frequencies (weekly, monthly, quarterly).
	Ashghal SMS gateway for sending out notifications to concerned parties.
	Bi-directional integration with PWA Quality Control Systems: - LASTRADA: To generate material reports detailing the quality notifications raised over time, classified by type. - ANMS (Ashghal Non-Conformity Management System): To generate material reports detailing Material non-conformity notifications raised over time.
	Business-to-Business (B2B) integration with Suppliers'/Contractors' systems (up to 6 suppliers) to retrieve supplier's capability in terms of materials inventory, current materials stocks, future delivery shipment, etc. and submit them as separate cost items by their own in the bill of service. Suppliers' systems are SAP and Oracle.
	- Authenticate internal users against Ashghal Active Directory (AD). - The Vendor shall provide a smart means for external users of the system i.e. suppliers/contractors to gain access to the application via Authenticated Federated Accounts or else.
	Integrate with **ArcGIS ® – ESRI** maps application to display projects' zones and coordinates [longitude, latitude].
	Bi-directional integration with IMDAD Dashboard For Material Supply – Cabinet of Qatar, Council of Ministers to move data across platforms detailing Ashghal material forecast demand, actual consumption, etc.
	Bi-directional integration with Oracle E-Business Suite® to track the invoice processing status (awaiting approval, rejected, awaiting payment, etc.).
	(N.B) For all of the mentioned integration points in this document, the vendor is expected to utilize Ashghal ESB where applicable.
Cross-Functionality	The system should allow the ability to include multiple units of measure.

	The system must allow printing and downloads capabilities.
	The system must provide data validation mechanism before committing a transaction.
B	**Demand Forecasting Information Flow**
Demand Forecast Data Set	Ashghal creates and maintains a data set of demand forecast information, by Program, Contract, Product and Specification/Grade.
	Integrate with Primavera P6 to produce a schedule of demand information for the data set 2.1 and this must be updatable at different frequencies (weekly, monthly, and quarterly).
Transmit Demand Forecast Data Set	Transmit demand forecast information from the contractor to PWA through a workflow with approvals chain. Transmit aggregated demand forecast information from PWA to Suppliers.
Rolling Forecast	The system must be able to update and hold Demand Forecast information on a rolling basis.
Data History	Retain historic records of the demand forecast data set.
Supplier Inventory	The supplier should be able to manage the inventory process by using an appropriate logic to create optimal replenishment plan. The Supplier must be able to provide an Advance Shipment Notice (ASN) through the system whenever required.
C	**Material Look Ahead/Contractor Purchase Oder Process**
Daily / Weekly Schedules	Support the placement of weekly/daily call off schedules.
	The contractor can update or cancel a purchase order (PO) within an agreed upon timeframe.
Contractor Access	The system must be accessible to multiple contractors in separate organizations and locations.
Schedule Visibility	The weekly/daily call off schedules must be visible to PMC/PWA and suppliers.
Data Updates	Provide alerts of data uploads.
Data History	Retain historic records of material call off data.
D	**Volume Reconciliation**
Supply Data	Support the reporting of the volumes of product supplied by Suppliers and this information be accessible for PWA/PMCs.
	Allow for aggregation of data across multiple plants or sites belonging to different partners.
Supply Data Comparison	Retain values for minimum order quantities set by product by Supplier.
	Support the reconciliation of reported supply data from Suppliers in comparison to demand forecasts and weekly/daily call off schedules.
E	**Quality Control**
Quality Control Alerts	Send quality control alerts from Contractors to the Supplier, PMCs/PWA.
F	**Slate Management**
Work Order Close	Reconcile the confirmed figures for materials supplied to the minimum order quantities per supplier for slate reconciliation.
	Reconcile the confirmed price differences of materials due to fluctuations of International market prices for slate reconciliation.

G	Change Management
Outstanding Actions	Generate prompts for outstanding information updates and issue chaser call instructions to Contractors and Suppliers.
Demand Change	Issue Significant Changes to Demand notices from PWA/PMCs to Supplier.
H	**Reports and Key Performance Indicators**
Report Engine	Configurable dashboard with BI capability.
	Configurable KPIs sets.
Completion Status Reporting	Generate reports detailing the adherence to information submission requirements by Contractor.
Invoice Processing Status Reporting	Generate reports detailing the status of invoices (awaiting approval, rejected, awaiting payment) This will be tracking only – not actual invoice raising.
Forecasting Accuracy	Generate reports detailing the accuracy of Contractor forecasting (6-week forecast vs weekly actual)
Order Fulfilment	Generate reports detailing the supplier's order fulfilment record (on time, in full deliveries)
Quality	Generate reports detailing quality notifications raised over time, classified by type
I	**Mobility**
Mobile Application	After system stabilization stage, Ashghal would like to launch mobility functionalities (Kony platform is preferred). Mobility solution is required with responsive design that would provide Ashghal end-users equipped with mobile devices the ability to: - View reports and dashboards. - Receive notifications and respond to them. The mobile solution should support multiple mobile device platforms e.g. Apple iOS, Google Android, Windows Mobile. The solution shall take into consideration the offline usage, external access, Active Directory authentication, and any security management changes that might be needed.

3.3 Non-Functional Requirements

Bidders is required to comply with MOTC Service Level Agreement (Appendix 1).

3.3.1 System Availability

The computers within Ashghal network may vary in capacity, speed and performance characteristics. However, when implemented, the solution is expected to be available for desired end-users and provide all necessary and informative user interface components to ensure comprehensive usability, that in addition to the following:

a. The vendor must ensure high availability of the design level of 99.95% uptime/availability which entails the following periods of potential downtime/unavailability:
   i. Daily: 43.2s
   ii. Weekly: 5m 2.4s
   iii. Monthly: 21m 54.9s
   iv. Yearly: 4h 22m 58.5s

b. System/solution should not cause a significant slowdown in other applications due to huge data transfers. Any large data transfer request that may cause such a slowdown should be prevented by the system.

c. The system/solution shall allow users to access it 24 hours per day, seven days per week, but it should be known that the highest usage traffic will be between 07:00 am till 04:00 pm (GMT+3).

d. In case of making system backups, updates, or any kind of maintenance, it should be conducted out of the highest usage traffic period mentioned above.

e. System/Solution speed heavily depends on the network speed and network conditions. However, any operation taking longer than 2 seconds, the system shall display an indicator via a progress bar or similar means, that it is performing the operation.

f. External and internal End-user authentication should be completed within 5 seconds during peak periods.

g. Transactions executed by external End-users should be completed within 20 seconds, at max, during peak periods.

h. The system shall be available outside of Ashghal network.

3.3.2 System Security

The system solution shall require two types of end-user authentication protocols, these protocols are associated with end-users' group profiles (see section 3.4) and they are defined as:

a. Security Level 1: For Ashghal staff, the system requires only Ashghal Active directory to authenticate the end user's credentials and logs him/her in.

b. Security Level 2: For Ashghal Stakeholders and external end-users, the vendor should propose a state of the art authentication method/mechanism that does not hinder ASHGAHL IT infrastructure nor its security policy and regulations.

Security and safety of the stored data, as well as the internal parameters of the system, plays a very sensitive part for MSMS. Any attempt to access or control this information should be prevented by the system at all levels, that in addition to the following:

a. The system/solution shall provide appropriate administrative screens to manipulate end users, their roles and corresponding security levels and attributes.
b. The system shall ensure that the proprietary data is not accessible by non-authorized people or programs.
c. The system/solution should comply with Ashghal Security Checklist (Section D: Appendix O).

3.3.3 System Scalability

The system should support 180 concurrent users, but it should be scalable for scaling up for more users; the vendor should quote for an enterprise license scheme.

3.3.4 System Hosting

The system/solution shall be hosted in Ooredoo-QDC on virtual dedicated servers, so the bidder is required to determine hosting requirements in the submitted proposal.

3.3.5 Exception Handling

The System should be designed to be able to handle exceptions in the following described manner:

a. System/Solution shall ensure that no error condition shall cause the system to exit prematurely, or in an unrecoverable state.
b. System/Solution shall generate a suitable error message that should be displayed to the user upon detection of an error condition.
c. The System/Solution shall perform data size checks so that any huge data transfer is limited. The boundaries and rules defining huge data shall be editable by the administrators within Ashghal.

3.3.6 System Administration Requirements

The system must provide the capability for Ashghal administrators to manage the system configurations end-to-end; the system should rely on configuration managed by system administrators rather than customization.

The system administration section should provide the following functionalities to be handy to administrators:

a. The system must provide the capability for EBD Material administrators to create system-wide dashboards, reporting, and customized views.
b. The system must provide the capability for EBD Material administrators to manage users and reports directly from the system.
c. The system must provide the capability to manage the user roles and privileges
d. The system must enable EBD Material administrators to configure and alter different Workflows without the need of extra development efforts.
e. The system administrator must be able to customize the email and SMS templates to be sent across the system as well as all notifications.
f. Update the entry forms through a WYSIWYG form designer without the need for

development.

g. The system must provide the capability to send an email and SMS notifications through Ashghal SMS gateway, directly to PMCs, Ashghal Concerned Managers, and GEC.
h. The system must be configurable and customizable to accommodate future changes requiring no or minimal code or customization work.
i. The system must be flexible to support adding new forms, fields or changing approval chains.

The system must enable export to excel for all information within the system, giving the leverage to create flexible datasets and forecast schedules.

3.3.7 Language Support

The system should support English language for User Interface, whereas providing a solution with a second option of Arabic for the User Interface is optional, but highly valuable to Ashghal.

3.3.8 Key Roles On-Site

The vendor must ensure the availability of the following on-site key roles during the implementation of the project:

1. Full-Time Project Manager
2. Part-time System/Business Analyst
3. Part-time Solution Architecture
4. Part-time Infrastructure Architecture
5. Full-time Support Engineers as stated in Phase 6 of Support and warranty.
6. Developers cost should be quoted optional based on 3 models (Onsite, Offshore, or Hybrid).

The tenderer must determine the resources availability plan in the proposal (duration for onsite and offshore) for each resource.

3.4 System End Users (Business Users)

The system/solution should be accessed by up to 180 concurrent users as per the following user's role:

Role	Description
System Administrator	The person responsible for maintaining the system including security, backup, system maintenance, troubleshooting, etc.
Ashghal Executive	Executive users in Ashghal (President, Directors) with read-only access to MSMS. They can view all Projects' Material Reports (e.g. Long-Term Forecasts, Short Term Forecast, Call offs, etc.)
Ashghal Manager	Ashghal Managers with full access to their projects' material demand Approval Workflow and read-only access to MSMS; they can also They can view their Department's Projects Material Reports (e.g. Long-Term Forecasts, Short Term Forecast, Call offs, etc.)
EBD Material Team Member	The Team member responsible for operating and managing the system with full visibility down the supply chain (e.g. verifying material forecasts, uploading long-term material forecast, generating reports, etc.)
EBD Material Administrator	The person responsible for overviewing functional operations including assigning End-users roles, security profiles, administration of reports generation, etc.

Ashghal Internal Stakeholder	PMCs and MCs representatives that verify and approve projects' material forecast submitted by contractors. Also, verify and approve reports on actual material consumption on site.
Ashghal External Stakeholder -1	Suppliers / Vendors, they can only access their own part of the supply chain (e.g. keeping material inventory, tracking material shipment, tracking material delivery, etc.) *External to Ashghal, but still be working inside the state of Qatar.
Ashghal External Stakeholder -2	Contractor / Subcontractor, they can only access their own part of the supply chain (e.g. preparing short-term material demands, call-offs, confirmation of material delivery, etc.) *External to Ashghal, but still be working inside the state of Qatar.

3.5 Project Scope and Approach

3.5.1 In Scope

The successful tenderer will be responsible for the following:

1. Project implementation plan. This plan will be finalized in discussions between Ashghal and the selected vendor. The outline implementation plan must include the following but not limited to:
    - Vendor and Ashghal responsibilities.
    - Implementation schedule and key stage.
    - Deliverables.
    - Communication matrix.
2. Weekly status report.
3. Hardware and software sizing and provisioning.
4. Solution and Infrastructure design, including integration with systems identified in the RFP.
5. Implementation of solution design approved by PWA (Engineering Business Department (EBD) and Information System Department (ISD).
6. Performance testing of the hardware and developed solution.
7. Provisioning and deployment of the solution on three environments (Development, Testing, and Production).
8. The solution developed/customized source code –if any- and documentation should be provided and handed over to Ashghal ISD.
9. Compliance with ISD security policy.
10. Plan and delivery of training targeting Ashghal staff (technical team and end users) as well as Ashghal's stakeholders.
11. Plan and delivery of Knowledge transfer to operation and support team.
12. Provision of training manuals/media.
13. Full up-to-date documentation:
    - Planning documents.
    - Solution design.
    - Infrastructure design.
    - Deployment and configuration.
    - Hosting requirements (Business impact analysis, and Disaster recovery plans).

- Plan and implement of system backup.

14. Operation and support requirements.
15. Ongoing software maintenance, including implementation of software enhancements, updates to documentation and follow-up training.
16. Project implementation team CV's should be submitted and approved by Ashghal. Any changes or replacements of project team staff - with justified reasons and clarifications - should also be communicated and then approved by Ashghal.
17. (1) year warranty period over the developed solution.
18. (5) years support and maintenance service starting after the developed solution.
19. Plan and establish support service in cooperation with PWA application support structure. After 3 years from Warranty period ends, PWA must be fully able to support the system internally.

3.5.2 Phase 1: Project Planning and Requirements Gathering

3.5.2.1 Requirements

The vendor is required to develop a detailed project plan with respect to the phases described in this chapter. To enable smooth progress tracking, a clear outline of timeline and key stages is required, as well as the number of resources to be deployed throughout the course of the project. As such, the vendor will have to determine diverse dimensions accordingly. This leads to the tasks outlined below:

1. Ensure clear understanding of the various phases.
2. Ensure clear understanding of the business user's requirements; this may include meeting with various types of end-users.
3. Requirements document detailing all the technical requirements.
4. Develop a project plan and schedule, including the following activities:
   - Define the required project tasks: a comprehensive list of tasks to complete the required project objectives.
   - Define an unambiguous project roadmap: the order of tasks, dates, defined outcomes, key stages, and deliverables.
   - Evaluate the project's dependencies: the critical path of tasks must be defined with any other identified assumptions that delivery will depend on.
5. Define a detailed resource plan: a list of team resources, roles, the level of effort and allocation to perform tasks.
6. Evaluate detailed project requirements: documentation of all the necessary project inputs and assumed requirements to successfully deliver project objectives.
7. Project assumptions and risks: identified assumptions for the project to meet the planned schedule of deliverables, identified risks with mitigation actions to reduce the likelihood of risks becoming issues. This also includes assumptions about the roles and responsibilities of the vendor and PWA.
8. Define a clear list of in-scope and out-of-scope elements.

3.5.2.2 Deliverables

For this phase, the vendor is responsible for the following deliverables, as described in the above Requirements section:

a. Detailed project plan.

b. Project deployment plan (resource plan).

c. List of project assumptions and risks, with mitigation actions.

d. System Requirements Specification (SRS) document.

3.5.3 Phase 2: Solution Infrastructure Design

For this phase, the vendor is responsible for the following deliverables:

a. Solution Infrastructure Design document detailing the conceptual, logical and physical design. The document will have hardware specification of the solution design.

b. Hardware specifications for the IT infrastructure required to fully implement the solution within Ashghal network.

c. Functional specifications document update: The vendor will update the functional specifications document with the new servers' farm topology design and the new solution modules additions/update/subtraction.

3.5.4 Phase 3: Solution Design and System Implementation

For this phase, the vendor is responsible for the following deliverables:

a. System/Solution Design documents detailing the conceptual, logical and physical design of every component delivered – Subject to Ashghal's Approval.

b. Design and development of a minimum of 11 dashboards/reports, the details to be provided by Ashghal.

c. Test plans for every component including various test cases and results.

d. Software packaged components with associated documentation.

e. An up and running system/solution – Subject to Ashghal's Approval.

3.5.5 Phase 4: System Transition and Handover to Operations

For this phase, the vendor is responsible for the following deliverables, as described in the above Requirements section:

a. Transition roadmap and Transition plan to be submitted which is subject to PWA approval.

b. Separate Project Charter to be prepared submitted to run Support as A project. This should be agreed with PWA during Transition. Project Charter should include Support Methodology, Support Governance, Support Path, Escalation Matrix, SLA with in line with ISD Defined SLA, Clear Definition of In-Scope and Out-scope.

c. Defined support model, between Post Implementation (Hyper-care), support 2-3 months, with SLA definition. The transition plan should include PWA agreed Hyper-care support model including PWA Resources and their roles during Hyper Care.

d. Penetration testing and vulnerability assessment testing.

e. System availability deliverables.
f. Deployment document/checklist.
g. A document or checklist used during the deployment activities of the application, which would be used as a baseline during the release management.
h. As-built documentation.
i. A document with all the configuration details of the application/services as in the baseline production environment including any interfaces components and dependencies.
j. Service/Application Assets.
k. List of deployment media, licenses, manual, training materials etc.
l. Operational Activates documentation.
m. Standard Operating Procedure (SOP) for start-up and shutdown, Backup Window and Schedules.
n. Non-Production Environment documentation.
o. The readiness of non-production environment for development, SIT, UAT, and Training.
p. System Servers' Administration and Installation Guide.
q. Post Implementation Exit criteria aligned with ATO Template of AMSUM (Section D: Appendix P).

3.5.6 Phase 5: Training and Knowledge Transfer

The vendor should submit an on-site training and knowledge transfer proposal, including but not limited to:

a. Plan and delivery of training and knowledge transfer to PWA technical staff.

b. The training/workshops shall be provided to the following end users:

   i. Ashghal staff.
   ii. Ashghal's Material Team.
   iii. IT/EBD System Administrators.
   iv. Ashghal ISD Technical Team.
   v. Ashghal Stakeholders (PMCs, GECs, Suppliers, Contractors).
   vi. Ashghal's designated Trainers for the proposed MSMS system.

c. The vendor shall provide the appropriate training/workshop material and documentation; certificates shall be awarded afterward to all participant trainees.

d. All training/workshops shall be conducted in English, however, in some cases, the training sessions shall be conducted in both Arabic/English languages.

e. "Train the trainer" sessions are to be provided by the vendor to nominated Ashghal staff as part of the knowledge transfer proposal.

f. Ashghal reserves the rights to accept parts or the entire training course proposal, the vendor shall make all the necessary amendments to the training wherever warrants.

g. Ashghal reserves the rights to accept or reject the training instructors based on their CVs credentials. Instructors' CVs shall be provided by the vendor 2-weeks before the commencement of the training/workshop.

3.5.6.1 Deliverables

a. End users training and knowledge transfer plan:
   i. Course/workshop definition.
   ii. Purpose and Scope.
   iii. Course/Workshop duration.
   iv. Targeted end-users.
b. Technical training and knowledge transfer plan
c. Manuals and workshop materials (documents and media)
   i. System User Guide
   ii. System administration guide
   iii. System deployment guide
   iv. Operational manuals
d. Training evaluation report
e. System User Guide that includes a detailed flowchart for each business operation that the system executes.
f. System Administration and Operational Manuals.
g. System Processes Flowchart Documentation.

3.5.7 Phase 6: Project Closure

3.5.7.1 Description

The project execution shouldn't exceed **24 weeks** after the kick-off meeting with Ashghal as per the agreed project timeframe. After that period, warranty service will start and then proper project closure should start in order to move the system from project state to operation stage.

3.5.7.2 Requirements

In this phase the vendor is responsible for the following:

a. Closure of the open issues / support incidents / logs.
b. Source code of custom development modules.
c. Lessons learned - this should include documentation as well as practical walk-throughs.

3.5.7.3 Deliverables

For this phase, the vendor is responsible for the following deliverables, as described in the above Requirements section:

a. Project closure report.
b. Project review document highlighting the findings, lessons learned, and recommendations for future improvements.
c. Project closure meeting.

3.5.8 Phase 7: Warranty and Support Service

3.5.8.1 Description

The vendor should have the capability and resources of providing maintenance and support locally within the State of Qatar. The vendor shall provide **Twelve (12) calendar months of warranty**. Support and maintenance for their services start along with the warranty.

a. **Corrective Maintenance Service:** This service is intended to perform reactive maintenance for system/application failures initiated by support calls, and to ensure the system/application is back to the normal operation mode within agreed service level and time.

b. **Preventive Maintenance Service:** This service is intended to prevent failure of System/application by advanced detecting and correcting of underlying errors (e.g. optimizing application performance, adaptive maintenance, and enhancements, etc.).

The vendor should note that the scope of warranty and support services includes maintenance support service.

Project charter for support should include detailed service catalogue both for Corrective and Preventive Maintenance Services, Service Owner, Service Path, Escalation Path, SLA with Response and Resolution time.

The vendor has to align with the definition of Incident and Enhancement as per the guideline of PWA.

3.5.8.2 Requirements

a. The vendor shall propose a (5) years maintenance support services for the system after the completion of the implementation phase.

b. During the last year of the support period, the vendor needs to consider co-sourcing model between their resources and PWA-ISD application support team. This model should be agreed in the support project charter, during Transition Phase.

c. The vendor shall ensure that in-house support period should be covered by on-site support resource only. The resource should be an IT engineer with more than 5-years of experience and shall be one of the key implementation team members.

d. The vendor shall provide a scope of service offered during the warranty period in their proposal on the delivered solution design and sizing.

e. All the communication should be through PWA support personnel and through application support levels demonstrated below.

f. In case Ashghal finds it suitable, Ashghal should have right to absorb support resource, after the completion of the contract

3.5.8.3 Deliverables

a. The vendor shall provide a Monthly Status Report, detailing support information, operational malfunctions, actions taken, etc. against which his performance will be measured.

b. The vendor shall provide detailed documentation of the proposed maintenance service, maintenance level and price quotation for the services.

4. COMPLIANCE REQUIREMENTS

One of the factors for a successful project is to ensure compliance to established best practices and standards. MOTC has developed the National Information Assurance Policy, based upon internationally recognized best practices:

http://www.motc.gov.qa/en/documents/document/national-information-assurance-policy

To the extent applicable, all bidders bidding for this project shall ensure compliance with the above policies and standards. Further they will also ensure compliance with the relevant Qatari laws that may be in force at the time of submitting their bids.

Copies of the detailed policies and standards are available on Ashghal website and shall also be made available on request.

Bidders are hereby notified that compliance to these policies, standards and laws shall be part of the evaluation criterion during the bid evaluation phase and evaluated under the quality and completeness of the proposal. Furthermore, the Bidder will be required to submit a compliance certificate as part of the final acceptance evaluation during project closure.

Ashghal shall have the right to assess and verify the compliance status internally or through a third party auditor within a period of one (1) year starting from the date of project acceptance.

The cost of such an assessment shall be borne by Ashghal. However, any non-conformance highlighted in the assessment will have to be fixed by the Bidder at no extra cost to Ashghal.

5. PROJECT ISSUES & RISK MANAGEMENT PLAN:

Bidder shall describe their approach of managing project issues and risks. The processes and procedures used for managing issues & risks should align with Ashghal PMO Methodology where appropriate. The logging and tracking of issues and risks will be done using Ashghal IS Risk Management Framework, Enterprise Project Management or other equivalent mechanisms implemented in Ashghal.

6. PROJECT QUALITY MANAGEMENT:

The Bidder shall establish a complete Quality Control program referencing best practices to assure the requirements of the SOW are provided as specified. A copy of the Bidders Quality control program shall be provided to Ashghal as part of the Bid where an updated/customized copy must be provided on project start date (project initiation session with client) and as changes arise throughout the project life cycle. The program will include, but not be limited to the following:

- An evaluation system covering all the services stated in the SOW. It must specify areas to be examined on either a scheduled or unscheduled basis, and it must clarify also the individuals who will do the examination.
- A method of identifying deficiencies in the quality of services performed before the level of performance is unacceptable.
- A folder of all examinations conducted by the Bidder and the corrective action taken. [These records shall be made available to Ashghal during a predetermined interval during project lifecycle].

The program shall include a cost analysis for the life of the proposed operations; expenditure itemization pertinent to detailed test plan that includes procedures and test reports.

The Bidder shall insure that individuals appointed to measure quality (conformance to SOW) report directly to the Project Manager according to the Project Management Governance scheme, have an independent status and at least equal in numbers to other executing groups on the project team.

7. FORMAT OF PROPOSALS

7.1 Guidelines

To ease review and evaluation, it is essential that proposals are presented with the following information in the following sequence and in the English language.

7.2 Project Definition and Scope of Work

Tenderer must provide a statement of understanding of the overall scope of the project and an overall description of the tenderer's role and responsibilities concisely stating the extent and nature and schedule of the Services to be provided and including a listing of all deliverables and key stages (the "Scope of Work"). The tenderer shall take note that the Scope of Work, once agreed with PWA, shall form part of the Agreement as Schedule 1.

Under this section, the tenderer must clarify the product development life cycle methodology and approach including the entire parts of the product development or service required.

7.3 Project Plan and Methodology

Tenderer must provide a detailed project plan, including the phases, and planned staffing levels per project phase (e.g., as a percentage of available capacity). The proposed solution shall include any functional rationale and the technical approach/methodology adopted. An organization chart shall depict the suggested project structure; for more details please refer to section (7.4.1).

7.4 Project Management Requirements

The vendor shall provide a detailed project plan, including the phases indicated in section 3, and planned staffing levels per project phase (e.g., as a percentage of available capacity). The proposed solution shall include any functional rationale and the technical approach/methodology adopted to track and manage the proposed delivery of service. Methods for managing the planned tasks to ensure quality and on-time delivery should be included in the Proposal.

The vendor shall identify any required involvement of PWA's personnel in the specification, development, training, and acceptance of the work performed in their proposal. The selected vendor must provide full cooperation and assistance with all PWA assigned staff in successfully completing this project.

The tenderer should be compliant with Project Management Institute (PMI) standards.

7.4.1 Project Plan

1. For the purposes of responding to this RFP, the tenderer must provide a high-level project plan. The plan must be comprehensive enough in scope and detail to convey the tenderer's ability to manage this project as specified in this RFP.
2. The tenderer must stress work quality and how quality is assured in all aspects of the project. The tenderer must indicate in his plan how the status and visibility of project progress will be monitored. Tenderers must describe their approach to project management during the implementation and operational phases as well as managing and coordinating different phases and activities of the project.
3. As part of the overall project the tenderer shall establish a project control office that shall perform at least the following:
    a. Maintain a summarized program schedule of key high-level activities in a suitable graphical form.
    b. Update the master schedule to reflect activity completion and schedule changes.
    c. Maintain detailed schedules for major activities such as site preparation, hardware installation, testing, and training.

7.4.2 Project Approach Plan

The tenderer must describe their approach for delivering the project.

7.4.3 Project Change Management Plan

The tenderer shall adhere to the change control procedures of PWA. The tenderer must clearly notify PWA officially of any change to the approved project plan in general and its impact with respect to scope, time, cost, and resource.

7.4.4 Project Scheduling Plan

The tenderer shall submit a master schedule, based on a work breakdown structure for defining and controlling the project.

The latest revision of the master schedule shall be used as the source of schedule data for developing all lower level subsidiary or supporting schedules and shall be used as the basis for all resource estimating and forecasting activities. The master schedule will also be used by the bidder to monitor project milestones contained in the proposal.

PWA reserves the right to approve or request changes to the tenderer's schedules.

7.4.5 Project Organization Plan and Stakeholders Analysis

The tenderer shall provide an organization and staffing plan that includes the organization for the management and execution of the project. Functions and responsibilities of each department or group shall be detailed. Interfaces between departments, sections or groups, and between the bidder and PWA shall be portrayed and explained, as well as the practices and procedures that will govern the control and execution of the work by these departments, sections or groups.

The tenderer shall submit staffing or manpower allocation details in accordance with the project organization plan. Phase-in of the staff at various stages of the project shall be clearly shown, in addition to the amount of office space required during each stage. The tenderer shall include in the proposal, the job description of each staff position. Resumes / CVs of staff intended to participate in the project are to be submitted within thirty (30) days of contract signature by the successful tenderer. PWA reserves the right to accept or reject any of the tenderer's staff.

Tenderers shall develop a stakeholder analysis document that shows all the stakeholders and their requirements, interests, and expectations.

7.4.6 Project Issues & Risk Management Plan

The tenderer shall describe their approach to managing risk and issues on the project. The processes and procedures used for managing issues & risks should align with PWA PMO where appropriate. The logging and tracking of issues and risks will be done using the Microsoft EPM system implemented in PWA.

7.4.7 Project Communications Management Plan

Tenderer must describe how project communications will be managed making reference to project status reporting and other communications events.

7.4.8 Project Quality Management

The tenderer shall provide a quality assurance plan to ensure that ALL delivered systems meet the stated requirements of this RFP. The plan shall include a cost analysis for the life of the proposed project, this shall include the cost of system acquisition, operation, and support. In addition, the plan shall ensure that all systems are delivered, installed, and placed in operation correctly the first time on or before schedule.

The tenderer shall ensure that individuals appointed to measure quality (conformance to requirements) report directly to the manager of the project team and have status at least equal to other groups on the project team.

To achieve quality assurance objectives, the bidder shall include in his quality assurance plan a detailed evaluation plan that includes procedures and evaluation reports.

7.5 Reporting Plan

The tenderer's proposal shall include a reporting plan. The day-to-day project reporting will be done using the Microsoft EPM system. The reporting plan shall outline the types of reports that will be used by the bidder to report project status; these include but are not limited to:

a. Executive summary reports.
b. Monthly reports.
c. End of each implementation phase reports.
d. Productivity reports.
e. Trouble reports.
f. Change and variance reports.

The reporting plan should also indicate the frequency and content of each report.

7.6 Project Personnel

PWA requires that a full-time Project Manager is assigned to oversee the operation of the entire project. The Project Manager should have a minimum of seven (7) years' experience managing projects involving the IT area subject of this RFP for accounts similar in scope and complexity to this project and must have demonstrated effective oral and written communications skills in English.

8. PROJECT TIMELINE/DURATION:

KS#	Description	Start Date	Period for Completion in Calendar Days	Completion Period from Commencement Date (CD) in Calendar Days
1	**Phase 1** (Project Planning, Requirements Gathering) and **Phase 2** (Solution Infrastructure Design)	CD	42	CD + 42
2	**Phase 3** (Solution Design, System Implementation,Testing and Rollout)	CD + 42	84	CD + 126
3	**Phase 4** (System Transition and handingover to Operations) and **Phase 6** (Project Closure)	CD + 126	42	CD + 168
4	**Phase 5** (Training and Knowledge Transfer) (Start 2 weeks after KS#3)	CD + 140	28	CD + 168
5	**Phase 7 (Warranty and Support Sevices**			
5.1	One (1) Year Warranty Period (Concurrent with KS# 5.2)	CD + 168	365	CD + 533
5.2	Five (5) Years Maintenance and Support Sevices	CD + 168	1825	CD + 1993

Note: KS – Key Stage