Request For Proposal (RFP)

For

Onboarding of Managed Service Provider (MSP) for Design, Development, Implementation, and Maintenance of an Integrated Financial Management Information System for DDA

Volume - II

Issued by:

Delhi Development Authority (DDA)
Ministry of Housing and Urban Affairs
Government of India
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Document Version History

Revision Number	Revision Date	Nature of Revision	Submission Date
1		RFP Vol II	13-12-2024

LIST OF ABBREVIATIONS

Abbreviation	Details
AR	Authorize Representative
AAR	Associate Authorize Representative
API	Application Programming Interface
ATS	Applicant Tracking Software
BI	Business Intelligence
BG	Bank Guarantee
CBT's	Computer Based Training's
CCN	Change Control Notice
CCRL	CDSL Commodity Repository Ltd
CMMI	Capability Maturity Model Integration
CMS	Content Management Service
DMS	Document Management System
DSD	Dynamic Security Deposit
EAI	Enterprise Application Integration
ECN	Engineering Change Note
EMI	Equated Monthly Installment
EODB	Ease of Doing Business
FD	Fixed Deposit
FRS	Functional Requirement Specification
FSD	Fixed Security Deposit
GIS	Geographic Information System
GPS	Global Positioning System
GUI	Graphical User Interface
HDFS	Hadoop File System
HOTO	Handover and Takeover
IA	Inspection Agency
IO	Inspection Officer
IB	Indemnity Bond
IPR	Intellectual Property Rights
ISO	International Organization for Standardization
JSON	JavaScript Object Notation
KEDB	Known Error Database
KPI	Key Performance Indicators
LAN	Local Area Network
LD's	Liquidated Damages
LDAP	Lightweight Directory Access Protocol
LMS	Learning Management System
LOA	Letter of Acceptance
MeitY	Ministry of Electronics and Information Technology, Government of India

Abbreviation	Details
MIS	Management Information System
MoU	Memorandum of Understanding
MSA	Master Service Agreement
SI	Managed Service Provider
NERL	National E-Repository Limited
NIC	National Informatic Centre
NLP	Natural language processing
NTP	Network Time Protocol
NWR	Negotiable Warehouse Receipt
O&M	Operations & Maintenance
OEM	Original Equipment Manufacturer
OLAP	Online Analytical Processing
OS	Operating System
PBG	Performance Bank Guarantee
PMR	Problem Management Record
RCA	Root Cause Analysis
RBAC	Role-based access control
REST	Representational State Transfer
RFP	Request For Proposal
RMS	Rights Management Services
SLA	Service Level Agreement
SMTP	Simple Mail Transfer Protocol
SMS	Short Message Service
SOAP	Simple Object Access Protocol
SPOC	Single Point of Contact
SPOF	Single Point of Failure
SSL	Secure Socket Layer
SRS	System Requirement Specification
TNA	Training Needs Analysis
UAT	User Acceptance Testing
UCN	Unique Complaint Number
WAN	Wide Area Network
DDA	Delhi Development Authority
WSRP	Web Services for Remote Portlets

Purpose and Structure of this document

Purpose of this RFP

The Purchaser intends to select a Managed Service Provider (MSP) for **Design, Development, Implementation, and Maintenance of an Integrated Financial Management Information System for the Delhi Development Authority** (herein referred to as the 'Purchaser'). In this RFP, the term 'Bidder' refers to an entity submitting a proposal to the Purchaser as a response to this RFP. The term 'Managed Service Provider' maybe interchangeably read as 'Bidder' who would be contracted to Design, Develop, Implement, and Maintain an Integrated Financial Management Information System for the Delhi Development Authority (also referred to as 'the Project'), as per the terms and conditions specified in this RFP.

The content of this RFP has been detailed over a set of three volumes as explained below:

Volume I: Instructions to Bidders of this RFP includes

1. Instruction to Bidders
2. Proposal Timelines (Key Dates and Information)
3. Details on Pre- qualification Evaluation Criteria (with related forms, formats, guidelines, and detailed annexure(s))
4. Technical Evaluation Criteria (with related forms, formats, guidelines, and detailed annexure(s))
5. Commercial Evaluation Criteria (with related forms, formats, guidelines, and detailed annexure(s))

Volume II: Scope of Work Functional, Non-Functional and Technical Requirements includes

1. Scope of work (including functional, and technical requirements of the intended solution)
2. Application Development and Implementation
3. Training & Capacity Building
4. Support and Maintenance
5. Manpower Requirements
6. Deliverables, Timelines and Payment Schedule
7. Functional Requirement Specification (FRS)
8. Service Level Agreements (SLAs)
9. Compliance Matrix

Volume III: Legal Terms and Master Service Agreements includes

The Draft Master Service Agreement and Legal terms as per the Purchaser. The signed copy of the Master Service Agreement shall be submitted by the successful Bidder at the time of onboarding.

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1 Induction 1: Overview

1.1 About DDA

The Delhi Development Authority (DDA) is a statutory body established in 1957 under the provisions of the Delhi Development Act to promote and secure the development of Delhi. The primary mission of DDA is to ensure the planned and sustainable growth of Delhi, addressing the housing, infrastructure, and urban planning needs of the city's rapidly expanding population. Over the decades, DDA has been instrumental in the development of residential, commercial, and recreational projects, as well as the preservation of green spaces, aiming to create a balanced and well-structured urban environment.

The Delhi Development Authority (DDA) is committed to strengthening its financial management through the implementation of an Integrated Financial Management System (IFMIS). This "RFP" report outlines the envisioned future state of four primary modules: Budget, Receipts, Payments, and Accounting. In the Budget module, the focus is on streamlining budget preparation, approval, and monitoring to ensure optimal resource allocation. The Receipts module aims to enhance revenue collection mechanisms, making them more robust and user-friendly. The Payments module is designed to expedite payment processing while maintaining stringent controls. Lastly, the accounting module will integrate advanced financial management practices to provide real-time financial insights and compliance.

This RFP serves as a blueprint for the DDA's future operations, aligning with its mission to deliver superior public services. The proposed changes within the IFMIS framework are expected to not only improve internal processes but also significantly enhance stakeholder satisfaction. As part of its ongoing commitment to excellence, DDA invites proposals from qualified and experienced entities to collaborate in the Design, Development, Implementation, Operation & Maintenance of DDA IFMIS Portal. The selected partner will contribute significantly to the realization of DDA's vision of a robust, technologically advanced, and transparent financial management system.

1.2 Objective for IFMIS for DDA

The Objective behind creating an integrated financial management information system is to improve the financial health of DDA by creating a decision support system to ensure effective utilization of funds and to minimize revenue leakages. Additionally, IFMIS will also assist in meeting various statutory compliances. It involves looking beyond immediate financial transactions and understanding how financial decisions impact the DDA's overall success.

- **Enhanced Citizen Services:** Currently DDA officials are not able to provide very efficient services to citizens, since the various tasks related to citizens are handled by different departments, which work in silos. Coordinating with the various departments is a time-consuming task resulting in delays in service delivery. IFMIS will ensure real time visibility of financial transactions, which will help expedite the service delivery.

- **Single Source of Truth:** In a disaggregated system, decision makers receive data from multiple sources, which may not be in sync with each other which may result in wrong decision making. In IFMIS, all financial data of DDA will be aggregated and stored at one place. This will allow leaders to obtain a comprehensive view of the DDA's performance and make informed decisions based on a single point of reference.
- **Transparency & Accessibility:** Financial transparency is a key driver of accountability within organizations. When financial information is openly shared, it promotes a culture of honesty and trust. Employees, stakeholders, and leaders are better equipped to understand the organization's financial health and performance, leading to more informed decision making. Regularly published financial reports (quarterly or annually) will keep stakeholders informed about the DDA's financial health. IFMIS will help DDA in presenting financial information in a user-friendly format, using graphs and charts to enhance clarity.
- **Tracking Liquidity and Cash Flow:** An integrated system will allow DDA to operate smoothly with minimum idle funds. Ensuring the company has sufficient funds to meet its current obligations is of prime importance. IFMIS will not only provide real time aggregated status of cash and cash equivalents but will also help in accurately estimating the expected cash inflow and outflows.
- **Ensuring Compliance**: Ensuring compliance within a financial system is crucial for maintaining transparency, adhering to regulations, and safeguarding the integrity of financial data. DDA is required to comply with many statutory requirements, such as publishing the statement of accounts on time, depositing the taxes collected on time, filing various returns. IFMIS, with robust data governance practices, will ensure that financial data is accurate, consistent, and up to date across systems and is validated and reconciled at regular intervals to prevent discrepancies.
- **Integrated & Efficient:** An integrated accounting system brings together various financial activities into a single, automated system that uses a unified database. Instead of managing transactions in separate ledgers, integrated accounting combines functions like payroll, purchasing, inventory accounting, asset management, accounts payable (AP), and accounts receivable (AR) into one consolidated view. This approach provides real-time data updates, accurate forecasts, and comprehensive reports, ultimately enhancing strategic decision-making.

1.3 DDA Functional Architecture and Modules Overview

The Functional Architecture of the Integrated Financial Management Information System (IFMIS) for the Delhi Development Authority (DDA) is designed to enhance financial efficiency, transparency, and accountability. It integrates core and supplementary modules that streamline financial processes, automate workflows, and ensure real-time data sharing across departments. This architecture aims to centralize financial management, minimize errors, and provide decision-makers with accurate, timely information.

The IFMIS primary modules handle critical functions like budgeting, revenue collection, payments, and accounting. Secondary modules extend these functionalities to cover areas like tax management, payroll, investments, and fixed assets. Together, these modules create a cohesive ecosystem that supports DDA's financial operations, reduces leakages, and ensures regulatory compliance.

Functional Architecture-Integrated Financial Management information System
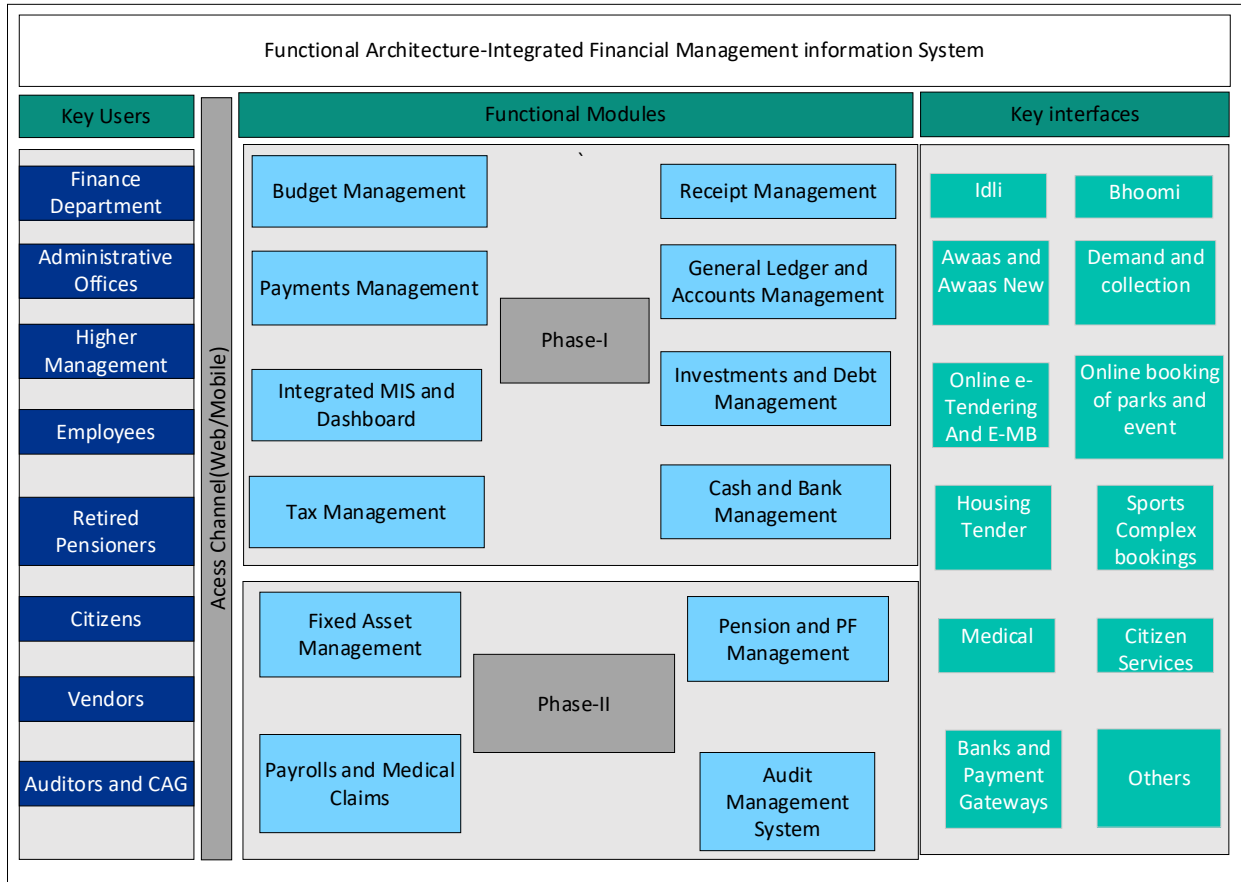
Brief on Requirements for the Core Components of Envisaged IFMIS Application		
#	**Component**	**Brief Description**
A.	Receipt Management Module	The **Receipt Management Module** tracks and manages all incoming revenue for DDA. This includes housing, Land costing, event bookings and other income streams. The module integrates with online payment systems and ensures all receipts are accurately recorded in the **General Ledger**.
B.	Payment Management System	The **Payment Management System** manages all types of payments made by DDA, including payments to contractors, employees, and vendors. It integrates with the **Cash and Bank Management Module** to ensure sufficient funds are available before processing any payment. This module also ensures compliance with payment

		schedules, tracks disbursements, and generates reports on payment status.
		For example, if a payment is due for a contractor working on a housing project, the **Payment Management System** will verify the availability of funds in the **Cash and Bank Management Module** before disbursing the payment, while also ensuring the payment adheres to the contract's terms and budget
C.	Budget Management	The **Budget Management** is responsible for preparing, monitoring, and controlling DDA's budget. It ensures that all financial activities are conducted within the allocated budget and helps in forecasting future financial needs. The module integrates with other modules like **Payment Management** and **Receipt Management** to ensure that any expenditure or revenue generation aligns with the approved budget. For instance, during infrastructure projects, the **Budget Management** ensures that fund allocations for construction and maintenance are in line with DDA's approved financial plans. It flags overspending risks and offers insights into reallocating resources for underfunded areas.
D.	General Ledger and Accounts Management Module	The **General Ledger and Accounts Management Module** is the backbone of DDA's financial reporting. It consolidates data from all financial modules to provide a complete picture of DDA's financial position. The General Ledger tracks all transactions, including receipts, payments, budget allocations, and adjustments, ensuring all financial activity is accounted for accurately. When receipts are recorded in the **Receipt Management Module** and payments are processed in the **Payment Management System**, these transactions are automatically posted to the **General Ledger**, ensuring that DDA's financial records are always up to date.
	Support Components	
A.	Tax Management Module	The **Tax Management Module** is responsible for managing DDA's tax-related activities. It ensures accurate calculation, collection, and remittance of taxes and GST. The module automates tax compliance, ensuring that DDA meets all its legal obligations. For instance, when DDA needs to pay taxes like GST or TDS, the **Tax Management Module** processes the payment, updates the record in the **General Ledger Module,** and generates reports for further compliance checks.

B.	Payment Management System	This module handles payroll processing for DDA employees and manages medical claims. It integrates with the **Payment Management System** to ensure timely and accurate disbursement of salaries and benefits. It also supports the management of employee medical claims, ensuring that reimbursements are processed efficiently.
		The module provides real-time insights into payroll expenses and ensures compliance with employment contracts and labor laws. It also automates tax deductions and retirement fund contributions, ensuring payroll accuracy.
		During the monthly payroll cycle, the module calculates each employee's net salary, processes deductions (e.g., taxes and PF), and schedules payments through the **Payment Management System**.
C.	Investments and Debt Management	The Investments and Debt Management Module helps DDA manage its investments and liabilities. It tracks investment portfolios, interest accruals, and repayment schedules for any outstanding debts. The module ensures that DDA can optimize its returns on investments while managing debt obligations.
		If DDA invests in government bonds, this module tracks the interest earned, schedules repayment dates for any debt DDA have, and ensures that all investment transactions are recorded in the **General Ledger**.
D.	Fixed Asset Management System	The **Fixed Asset Management System** manages the lifecycle of DDA's physical assets, such as buildings, machinery, and land. It tracks the acquisition, maintenance, and depreciation of assets and ensures that asset data is up to date for financial reporting and auditing.
		For instance, when DDA purchases new machinery for a construction project, the **Fixed Asset Management System** records the acquisition, updates the asset register, and integrates with the **General Ledger** for depreciation calculations.
E.	Cash and Bank Management System	The Cash and Bank Management System is essential for effective oversight of DDA's cash flow and liquidity. This module manages all cash and bank transactions, ensuring that adequate funds are available for operational needs and investment opportunities. It integrates with the Payment Management System to verify available funds before processing any disbursements.
F.	Pension and PF Management Module	The **Pension and PF Management Module** manages the pension and provident fund contributions for DDA employees. It ensures accurate

		calculation, timely contributions, and proper disbursement of pensions and PF balances. The module integrates with payroll to automatically deduct PF contributions and manage pension payments post-retirement, ensuring compliance with employee benefit schemes.
G.	Audit Management System	The **Audit Management System** ensures that DDA's financial processes and records adhere to internal policies and external regulations. It tracks all financial transactions, supports compliance checks, and enables both internal and external audits. This module integrates with all other financial modules, offering a transparent audit trail for every transaction, ensuring accountability, and supporting the generation of audit reports for review by external auditors.

Note:

1. Functional Requirements for each module are specified in **Annexure 9**. The same are required to be detailed by the Successful/Selected Bidder at the time of Implementation.
2. The Successful/Selected Bidder is expected to provide a detailed functional architecture based on the business architecture and module list provided in this RFP
3. Any other module which is required to meet the requirements mentioned in the Functional requirement specifications and other clauses of this Terms of reference.
4. All relevant guidelines such as GoI, Guidelines for Indian Government websites (GIGW 3.0) and MeitY.
5. Successful/Selected Bidder shall also provide all other components of the solution landscape and project management tools in Implementation as well as in maintenance phase (Free of cost) as may be necessary for the successful implementation and functioning of IFMIS with respect to the required functionalities mentioned in the RFP specifically Functional Requirement Specification.
6. The key personal has to sit in the DDA office for the whole development and O&M phase.
7. The IFMIS platform shall have Integration with, SMS Gateway, e-Mail Messaging services, Payment Gateway services, PAN Verification, Repositories for transmission of data from DDA to Repositories and Repositories to DDA, Repository and other external systems / applications as required.
8. The modules, as mentioned above, are indicative. the Purchaser shall have the flexibility to include / exclude/amend/reorganize modules based on the requirements.

Table 1: Brief on Module of IFMIS

2 Section 2: Scope of Work

To build the envisaged solution, the Bidder's Scope of Work would include, and not limited to Design, Develop, Implement, Operate, and Maintain the IFMIS Portal for DDA. The total project is scheduled to span T0 + 6 Month +2 Years (O&M), starting from the project's commencement at T where T0 = Signing of MSA (Master Service Agreement). The overall system, application, and databases to be developed using

open-source technology and solutions. If the bidder is proposing any open-source COTS product, bidder will be under obligation to share the source codes with Purchases and transfer the ownership to Purchaser at the time of completion/as and when demanded by the Purchaser. The Successful/Selected Bidder is expected but not limited to carry out the following main tasks:

S. No.	Track	Description	Timelines
1	Track 1 – (Phase 1 & Phase 2) IFMIS Design, Development & Implementation	IFMIS Development & Implementation would be done in a phase wise manner i.e. different modules would be developed and would go live in a phase wise manner. ▪ Software Design, Development, Integration (with external systems), Testing and Security Audit ▪ Hosting of application in Public Cloud provisioned by DDA. ▪ Integration with Identified Applications/Portals of other internal portal & Government Departments through APIs. ▪ UAT and Go-Live of IFMIS ▪ Training & Capacity building **Note:** MSP would be responsible for analyzing, designing, solutioning and implementation of the minimum external integrations listed in the above section on Functional Architecture.	T0 + 6 Month
2	Track 2- IFMIS Operations & Maintenance	Operations and Maintenance (O&M will start component/module wise on successful Go-Live and will continue for the entire contract duration) ▪ Software Operations and Maintenance ▪ Hosting Infrastructure Operations & Maintenance ▪ Operations & Maintenance ▪ Exit Management (Last 1 year of the contract *(If the contract is extended, this would be the last 1 year of the extended period)*	T0 till end of contract (including the period of extension of contract, if any)

Table 2: Summary of Scope of Work

Key Points related to Scope of Work of MSP
1. MSP would have the entire responsibility of providing the solution and procuring the required software for implementing e-Sign, D-Sign, SMS, and e-Mail. The same can be charged quarterly on actual basis to Purchaser as per OEM invoices.
2. An indicative list of external systems with which DDA-IFMIS would need to be integrated are captured in the Functional Architecture section of this document. It may be noted that the list provided is only indicative and not exhaustive. DDA-IFMIS may need to integrate with other external systems as well. All integrations (including the ones currently not listed in the Functional Architecture document – the need for which may arise any time in future till Go-Live phase of the project) will be undertaken by MSP without any additional cost.

3. One of the key aspects to be highlighted in SRS (Software Requirements Specification) to be submitted by MSP would be external interfaces for each module. These interfaces would be categorized into two categories – a) Highly Critical to go-live of module; b) Not highly critical for go-live of module or any other category as may be decided by DDA at the time of preparation/finalization of SRS. Integrations categorized into these categories by MSP shall be reviewed by the DDA. The decision of the DDA w.r.t categorization of different integrations into these categories shall be final and MSP will need to adhere to the same. Go-Live of module shall be considered complete only if all the integrations which are categorized as 'a. Highly Critical to go-live of the module' have been completed.

4. Payments for go-live shall be made if all the modules for these phases have been made live along with all the integrations which were categorized as 'Highly Critical to go-live of module' at the stage of SRS finalization. However, a certain percentage (defined under payment terms) shall be with-held from Phase 1 and Phase 2 payments and shall be released only after completion of integrations categorized as 'Not highly critical for go-live of module' or any category defined by the DDA. DDA shall have the complete discretion to decide whether to make the payment against for such with-held amount only after completion of all the integrations or to release such payments in parts (in such a case amount to be released per integration shall be decided by Finance Department at its sole discretion).

5. The Successful/Selected Bidder shall be entirely responsible for proposing the Solution which satisfies all features, functions and performance as described in this RFP. The Successful/Selected Bidder shall be responsible for design, development, and implementation of the proposed solution, as well as providing comprehensive support to the Purchaser. The RFP contains indicative technical requirements for IFMIS, Bidders are expected to use their technical expertise to size the system adequately and reflect the same in the technical and commercial offer so that performance criteria of system are met. Successful/Selected Bidder will be fully responsible for deploying the system on the staging and production servers. However, only Infrastructure for both staging and production environment will be provided by the DDA. Additionally, Email Gateway, SMS Gateway, SSL, Domain Name, and Payment Gateway will be provided by the DDA.

3   Section 3: Application Development, Implementation

3.1   Development of Project Implementation Plan

3.1.1   Project Implementation Plan

Project Implementation Plan should be provided to the Purchaser in the form of a Gantt chart which should include and not limited to the following:

1. Weekly activities, components breakup including the key milestones and deliverables
2. Plan for effectively managing of the existing solution
3. Pilot Implementation plan
4. Pre-commissioning, Operational and User Acceptance Testing Plan
5. Delivery and Installation Plan - Task, Time, and Resource Schedules
6. Configuration Management Plan
7. Communication Plan
8. Training Plan
9. Risk Management Plan
10. Warranty Service Plan
11. Post-Warranty Service Plan
12. Technical Support Plan for application for 2 years
13. Quality Assurance and Control Process details which shall include (but not limited to) detailing Metrics, Reviews, Problem Reporting and Corrective action, System audit etc.
14. Provide a detailed list of all the dependencies on the purchaser within two weeks post signing of MSP to ensure there is no delay in the project on account of dependencies on the Purchaser.

3.2   Business Requirements (FRS and SRS), System Design & Application Development

The Successful/Selected Bidder shall perform the detailed assessment of the solution requirements of the IFMIS module, based on the Bidders assessment. Successful/Selected Bidder shall develop & finalize the Functional Requirements Specifications (FRS) and the System Requirement Specifications (SRS) in consultation with the Purchaser and all the stakeholders as prescribed by the Purchaser. The Bidder's resources would need to interact with the Purchaser's officials for assessing the requirements of the Purchaser. While doing the detailed assessment of solution requirement, Successful/Selected Bidder is expected to do following:

- Bring in domain experts during the study
- Translate all the requirements mentioned in the document into System Requirements
- Follow standardized template for requirements capturing
- List Non-functional requirements for digital platform
- Have plan to cater to change in policy/Government directive, during project tenure
- Maintain traceability matrix with respect to FRS for the entire implementation

The Successful/Selected Bidder shall design the solution architecture and specifications for meeting the requirements mentioned as part of this RFP. The Successful/Selected Bidder shall be entirely responsible for the design and architecture of the system implemented. The system designed by the Successful/Selected Bidder should satisfy all requirements as described in this RFP including sizing of the required hardware.

The system architecture for the Integrated Solution shall be designed, developed & delivered as per following:

A.   General Guidelines
1. The system architecture should be based on open industry standards and protocols
2. The system will be centrally deployed and globally accessed
3. The system will be designed to be scalable and easily extensible
4. The system should be flexible to cater to changing business, industry, and compliance requirements (including reporting requirements in proper customizable formats)
5. India centric version (locale, language, etc.) as required by any of the modules shall be implemented

B.   Applications
1. The overall system, application, and databases to be developed using open-source technology and solutions.
2. The overall solution design should be multi-tier based.
3. The Solution design should focus on developing workflow and business transaction, rules management, configuration management.
4. All applications shall consider appropriate security, performance, efficiency, and maintainability issues.

5. Any product license (if required) to be purchased shall be in the name of the purchaser. IPR of the application shall also belong to the Purchaser

6. Products shall be supported in terms of upgrades (upgrading of open-source packages within 15 days of release), bug fixes, functionality enhancements and patches to cater to changes to statutory requirements by their respective developer organization for a period of not less than three (2) years from the date of Go-live of IFMIS.

7. The bidder shall upgrade to new releases without any cost to purchaser.

C. Integration

1. The integrated solution design should include integration framework (API Based) for integration of both internal and external applications and services.

2. The Integration Framework should be robust enough for data collection and data dissemination in a seamless manner.

D. Data

1. Data will be owned, shared, controlled, and protected as an asset of the Purchaser

2. Data should only be accessed through application / interfaces for creating, updating, and deleting. There should not be any direct access to the data layer for users

3. Successful/Selected Bidder shall provide the details of data synchronization strategy both in batch mode and in real time

E. Data Security

1. Successful/Selected Bidder shall provide and implementation strategy to maintain data security at the application and database level

2. Successful/Selected Bidder shall provide and implement security strategies when the applications are accessed from outside the network or accessing resources outside the network

3. Successful/Selected Bidder shall provide and implement strategies of Militarized / De-Militarized Zones, encryption, and security for external transaction with partner network and systems.

4. Successful/Selected Bidder shall adhere to the latest available data/information security policies of the government of India.

3.2.1 Application Development

The Successful/Selected Bidder shall carefully consider the scope of work and provide a solution that best meets the Purchasers' requirements. Successful/Selected Bidder is expected to deliver all the core modules, support components and common functionalities mentioned above.

A. Products (Configuration & Customization)

1. The Successful/Selected Bidder will be responsible for supplying the application, licenses, database (DBMS) and related software, integration tools, along with the application source code and installing the same to meet Purchaser's requirements mentioned in various sections of this RFP

2. The Successful/Selected Bidder shall perform periodic audits to measure license compliance against the number of valid software licenses consistent with the terms and conditions of license agreements, volume purchase agreements, and other mutually agreed upon licensed software terms and conditions. The Successful/Selected Bidder shall report any exceptions to license terms and conditions at the right time to the Purchaser. However, the responsibility of license compliance solely lies with

the Bidder. Any financial penalty imposed on the Purchaser during the contract period due to license non-compliance shall be borne by Bidder

3. It is recommended that no-code/low-code platform should be used to make the application flexible for changes as well capable of agile deployment

4. Successful/Selected Bidder shall also supply any other tools & accessories required to make the Solution complete as per requirements. The Successful/Selected Bidder shall supply:
   i. Software & licenses
   ii. Supply tools, accessories, documentation and provide a list of the same. Tools and accessories shall be part of the solution.
   iii. Supply latest supported version of Database Software to support the Integrated Solution and any other software, tools and bolt-on/add-on application.
   iv. Product Documentation: Two sets of Product Documentation in hard copy and one soft copy to be supplied along with licenses and the document shall include the following:
   v. Technical manuals
   vi. Installation guides
   vii. User manuals for all stakeholders
   viii. System administrator manuals

B. Bespoke (Custom Developments)

1. The successful Successful/Selected Bidder shall identify, design, and develop functionalities for any component that are covered under IFMIS

2. The Successful/Selected Bidder shall supply the following documents along with the developed components:
   i. Business process guides
   ii. Data model descriptions
   iii. Sample reports
   iv. Frequently asked question (FAQ) guides
   v. Any other documentation required for usage of implemented solution

C. Enterprise Management System

Successful/Selected Bidder shall implement a system for monitoring the SLAs. The Successful/Selected Bidder shall ensure that the system addresses all the SLA measurement requirements and calculation of applicable penalties as indicated in Annexure D in Volume II of this RFP. Successful/Selected Bidder should perform DBA activities periodically.

3.2.2 Application Hosting, Collaboration and Networking

The DDA shall be providing the infra to the MSP.

3.3 Supply, Installation, Configuration & Development of IFMIS

3.3.1.1 Access Layer
It is envisaged that the IFMIS be hosted centrally, and will be accessed by all the stakeholders, authorized users as well as citizens through various means and mechanisms to request services through various access channels. Some of the key access channels envisaged for the IFMIS are described below:

3.3.1.2 Web Browser
Access over the Internet / through Web Browsers will be one of the key access mechanisms for the IFMIS. All the ecosystem partners will connect to the System via the Internet. The Purchaser's officials will have access via internet and a special gateway provided by the cloud service provider, in consultation with the Purchaser. The access rights for the contents and modules of the IFMIS will be managed through the 'role-based access control' (RBAC) mapped to individual / group login credentials. The IFMIS should have both static and dynamic information / content that should be available and accessible through a web browser via the Internet. The kind of information / content to be displayed on the web portal will be managed and controlled through the 'Application Admin' module and 'Content Management' module of the Portal with an intention of making most of the information available for Stakeholder's consumption through the web portal. The Successful/Selected Bidder is required to develop a comprehensive browser-based information control and display feature through these modules.

3.3.1.3 Email/SMS
The IFMIS is envisaged to send alerts / intimations / automated messages to register email and mobile number of individual users/ user group. An authenticated SMTP mail service (also known as a SMTP relay or smart host) is envisaged to be integrated under the NIC/MeitY/other service provider for sending emails from IFMIS and delivered to intended inbox or mobile device. The IFMIS is envisaged to send text messages and notifications to users, Successful/Selected Bidder will make the necessary arrangement to integrate with SMS Gateway.

3.3.2 Enterprise Portal Application Service
To meet its objective, the IFMIS has been envisaged as an Enterprise Portal Application. The IFMIS should have the following or similar features but not limited to:

1. The proposed portal will be a single integrated user interface for all stakeholders. Backend bespoke applications will be exposed through IFMIS using single sign on.
2. Portal should enable personalization and configuration at user level as well as Purchaser's level. The portal should be capable of directing relevant content and information to individual users/ roles and provide end user customization
3. Portal should enable content publishing within portal framework. It should support or should be capable of integrating with an advanced content management solution. Intention is that the Portal should enable content publishing within portal framework
4. The portal should support workflows.

5. The portal should not allow concurrent sessions for the same user. The system should automatically log out a customer in case of session breakdowns

6. The portal should implement security features, such as password complexity, automatic blocking (temporary/permanent) of user logins after given number of unsuccessful login attempts (should be parameterized), controlled access to content stored on the portal and logging of security incidents. It should by its own or through an integrated Identity Management solution be capable of managing security rights and privileges by individual, group, and role, and should support Single Sign On

7. Portal should support HTTPS protocol on Secure Socket Layer (SSL)

8. The portal should support the leading browsers.

9. The portal should be able to expose / publish functional applications seamlessly.

10. The portal should provide search engines with advanced full-text search capabilities. The search engine should be able to search for requests within the portal.

11. Should provide support for comprehensive audit trail features such as:

   i.   Daily activities log should be merged into the history log files

   ii. Date, time, and user-stamped transaction checklist should be on-line generated for different transactions

   iii. All transaction screens should display system information

   iv. Daily activity reports should be provided to highlight all the transactions being processed during the day

   v.   Unsuccessful attempts to log-in to the system should be recorded

12. Portal should be compatible and responsive to mobile browser

13. Portal should be capable of supporting Multilingual content capabilities.

14. In addition, the portal should provide the following capabilities.

   i.   Should have multilingual capabilities with regional, localization and Unicode support.

   ii.   Should support web services APIs, custom code solutions, RESTful.

   iii.   Should support Virtualization

   iv.   Should support a broad range of standards, preferably open standards.

   v.   Should have capability to integrate with email servers

   vi.   Should integrate with instant messaging services

   vii.   Should support APIs based integration

   viii. Should support Role Based Access

   ix.   Should support multiple roles with associated access controls.

   x.   Should support upload, store, organize and share documents

   xi.   Should have content authoring capabilities

   xii.   Should have workflow capabilities about the content approval/publishing process

   xiii. Should support Publishing content in web viewable formats

   xiv.   Should support editions (versions/rollback) of the web site managed

   xv.   Users should be able to upload documents in multiple formats

   xvi.   Users should be able to upload multiple files at the same time

   xvii. Should support approval workflow

   xviii. Should support document linking capabilities (static, dynamic, and/or other)

xix. Should supports the import of content into the repository

xx. Should support document and text indexing capabilities

xxi. Should be able to support to store and manage documents in the same repository

xxii. Should support content archiving capabilities

xxiii. Should Support Digital Asset Management

xxiv. Should be able to add Site Feeds within a portal

xxv. Should support federated search

xxvi. Should be able to customize search

xxvii. Should provide support (out-of-box) drag and drop of documents directly from File Manager/ Windows Explorer to Browser for upload of documents in a document library.

It is proposed that the entire application should have a flexible and scalable architecture with defined 'Business Logic layer' and a 'Data Access Layer' to support efficient data handling between the 'Application Layer' and the 'Database Layer'. It is also envisaged that the portal will be supported by an 'Enterprise Service Bus', or similar feature which will enable effective data exchange between various applications.

The Purchaser's solution should have functional modules, along with automation and user-friendly features. It is a necessary requirement that the application should have complete integration between different modules and an efficient data sharing mechanism so that each module can showcase complete automated workflow functionality for a seamless backend processing. The Purchaser is envisaged to cater to the information and services needs of a variety of stakeholders on both the demand and supply side as well as other ecosystem partners.

The IFMIS platform shall have integration with SMS Gateway, e-Mail Messaging services, Payment Gateway services as well as with external systems and applications, as required by DDA.

Also, the Department seeks the Bidder's support on necessary customization/revamping of existing electronic functions of the Purchaser for their integration with other exchange partners. Successful/Selected Bidder is also expected to extend necessary support and undertake the developmental work for strengthening functions in the line ministries, data supplier other Government by providing support on core modules/functionality for their use to improve their information system and integrate it with IFMIS. Successful/Selected Bidder is also encouraged to create a developmental environment (setting up of minimum infrastructure and software's along with leveraging available software's and hardware) for furtherance of adoption of new initiatives in technology in the Department.

3.3.2.1 Web Form
The IFMIS will be a web-based solution, it will be designed in such a way that most of the process i.e., user registration, user management, master data management, data collection, workflow management etc. will be done through the web-interface. This will primarily be the most accessed interface of IFMIS. The current processes of Purchaser will be studied/discussed in detail to design a unified web-based interface which allows the user to interact with the proposed system.

Designing the web-based data entry form of registration/return etc. execution will help the department to avoid the data losses happening during the transition of data from data collection point to reporting. It will also save a significant time and speed up the data validation, verification, and compilation process.

3.3.2.2   Application Program Interface (API)

The IFMIS platform should be open to accept data from existing applications running at the associate sites (i.e., Department) through the API integration. The proposed platform should allow the partner to consume the API to share the data without any significant effort of coding. API shall be integrating though push and pull

3.3.2.3   Data Files

The IFMIS platform should be robust enough to handle data files getting generated from standard databases including structured/unstructured/semi structured data. Files will be provided to Successful/Selected Bidder at some shared location, where Successful/Selected Bidder will pick up the file for data extraction and merge it with main database. Successful/Selected Bidder shall keep a record of all such files getting shared and maintain a data inward register.

3.3.2.4   Content Archival

The IFMIS shall have the Content Archival Facility.

3.3.3   Dashboard, Reporting and Analytics

As a part of data dissemination process, Purchaser is responsible for publishing many periodic and reports, the reporting requirement of department will be reviewed and analyzed in detail as a part of proposed system. Services will include the development of Dashboards/Web services/API for Web on various subjects. Based on the existing and upcoming reporting/KPI needs, department will segregate the accessed need into separate categories that are discussed in detail in this RFP.

3.3.3.1 Dashboard

The department understand role and responsibility of decision makers & officials, and to support their decision-making process with interactive reports and graphs the proposed solution will have provision of dashboards for internal/power users with drill-down reports, graphs, and maps. The dashboard feature is limited to selected users of the system who will be granted rights by the admin but can extended to public users with limited functionality. The capability should include the development of indicators using Dashboard.

The dashboard functionality should enable each of the key IFMIS User to view manage their tasks, organize their work etc. based on their roles and responsibilities in the IFMIS functions and assigned privileges. This should be strictly privileged by a restricted section based on Role Based Access Control (RBAC) mechanism defined through the 'Admin' module.

The following features are proposed for the personal Dashboard facility controlled through the 'Admin' module for all the key users, but not limited to:

1. Quick Links – Links within the application as well as external links to access any application module or website other than IFMIS
2. Pending Activities/Tasks – A list of tasks assigned / to be performed by the concerned User, arranged sequentially, along with number and type of tasks. Audit trail should capture any such change in the system. An additional facility to view other Users tasks, if sufficient rights are provided (especially to senior officials) should also be provided, but strictly controlled through 'Admin' module of application.
3. Countdown display and reminders: countdown display should be included in the dashboard of all stakeholders to enable tracking of applications submitted to allow efficient time management and boosting of productivity
4. Tracking: all processes within the Portal should be tracked to increase transparency and ensure accountability
5. Dynamic note sheet: IFMIS should support a digital note-sheet with a dynamic comment and update system, along with a file sharing feature, which allows for an efficient e-movement of the process file, and convenient role-based access to process related updates for the enforcement agencies
6. Workload and performance efficiency of any junior staff in handling a particular set of tasks. They may also want to reassign a certain task to themselves or to other staff members, due to administrative reasons, and get the task completed. All such functionalities and Features shall be developed by the Bidder, while designing the automated processes within the IFMIS application.
7. History of Completed Activities / Tasks – All the completed activities should be displayed to the concerned User; in case they want to refer it in future. User friendly features like pagination or drill down to see further details of the completed tasks may be provided, as required.

3.3.3.2 Reports

A. MIS Report

Administrative and monitoring reports which need to be published on a defined periodic interval are categorized as MIS reports. The periodicity and format of these reports are fixed in nature and any change in the layout reports will be approved, processed, and published on portal only after the approval of project team of Purchaser's officials. It would also generate various reports like monthly, quarterly, and yearly revenue generated.

These reports are readily available for the portal users and refreshed only after a fixed time. The periodicity to refresh the reports may vary as per departments' priority or utilization and they are available for the public users.

B. Custom Reports

Apart from the defined set MIS reports and dashboards, departments can receive the custom reporting requirement for data received from other departments and establishments. The system should have a provision to cater to the ad-hoc reporting requirements of internal and external users. The tool should support interactive Comparative analysis providing users the capability to dynamically compare the various aspects of same dimensions. The proposed solution should have the provision to automate the generation of these tables and graphs.

3.3.3.3 Data Warehouse

The activity of the functional wings of Purchaser carries out registration, returns, compliance check etc. for various public sector establishments. Every activity has its objective, design, and database structure. The difference in activities and database structure leads to the requirement of designing a unified Data Warehouse, which can be referenced across the IFMIS to answer almost all queries related to data. The data management tools should be able to integrate multiple data sources at the same time to process the reporting and analytical requirement. They should have the capability to integrate, design, transform, configure, and load the information across the available data sources and provide a strong data delivery layer for reporting and analytical solutions. Data Warehouse should have the capability to consolidate & link all previous Databases, and other data sets available with Purchaser for trend analysis & forecasting. There would be a functionality where relevant data is fetched through APIs /Web services from respective data sources (DDA Departments) and used for analysis & visualization. These may also be used to prepare desired reports. The data warehouse lifecycle should be followed as:

- Staging DB
  - The purpose of the Staging DB is to provide persistence storage for application. Data is supposed to be read-writable.
- Archival DB
  - The purpose of the Archival DB is to keep inactive data for past cycles. Data is supposed to be read-only for users. To the same degree, old reports can be regenerated from archival DB.
  - Deployment of archival DB assumes usage of less power options (like one instance DB).
  - Archival DB contains previously published reports in delivered format (PDF)

The various data sources may be from Purchaser, other Ministries/ Agencies/ Department, Other Government Department.

3.3.3.4 Data sources/Integration

The system should that proficient in managing and integrate multiple API's and sources of exchange as per the changing needs of purchaser.

3.3.3.5 Data Quality Management

While integrating information from multiple data-sources, Data quality will become an important aspect of data management. The proposed analytical solution should have features for data quality management and master data management.

3.3.3.6 Document Management System

In the contemporary business landscape, the adoption of a robust document management system (DMS) holds paramount importance for achieving success. A reliable DNS shall ensure that the system incorporates the following key features:

1. User Friendly Interface
2. Document Input
3. Document Indexing and Metadata Management

4. Robust Document Search
5. Document Processing
6. Workflow Automation
7. Document Security
8. User Dashboard
9. Customization

3.3.3.7 Data Security Management

Data Security will be maintained across the system on application and database layers. Access Control Matrix should be defined for application and reporting users.

3.3.3.8 Interoperability and Meta Data Standards

i. Information Security Management System

It is required that the security management system should be designed, established, and implemented based on ISO 27001:2013 standards.

1. Should prepare information security policy and supporting procedures for ISO 27001:2013 certifications. The policy and procedure should be submitted prior to Go-Live of business services.
2. Should perform Risk Assessment and Risk Treatment Plan for the application and infrastructure based on the approved Risk Assessment Methodology
3. Should implement all the controls as identified during the Risk assessment and treatment plan as per the agreed timelines
4. Shall ensure that the policies and procedures should be aligned with the Purchaser policies (if any) and comply with CERT – IN guidelines.
5. Will ensure that all the observations highlighted during the audit are tracked to closure

Should support / provide information / documents for conducting information security audit on a periodic basis through a third party /nominated agency identified by the Purchaser.

3.3.3.9 Support for Existing Application

During the development & implementation phase of system, additional three resources shall support for end-to-end continuation of the Existing Application.

3.3.3.10 Payment Gateway

The solution is envisaged to have integration with payment gateways, to enable financial transactions, as per the rights and privileges provided. The service provider is required to make the provision for integration with third party gateways and provide payment services, as per the requirement of the Purchaser. Payment Gateway is available with the purchaser and Successful/Selected Bidder is required to integrate with the same.

3.3.3.11   Email Services through relay

The solution will strengthen the internal users to send personalized E-mails to other users. Configuration and integration of E-mail service will be done as a part of the solution, this will be followed by the interface development for writing personalized contents to users.

Email services are envisaged to be made available as part of the solution design to send alerts/intimations/automated messages to register email ids, based on preference set up by various stakeholders of the eco-system.

3.3.4   Integration Methods

The solution should be designed to cater to its integration needs of sharing the data and business processes among any connected application or data source. It is envisaged that various systems need to be linked together may reside on different operating systems, use different database solutions or maybe legacy systems. These integrations are expected to be done through API based.

3.3.4.1   API Based

The proposed solution should be capable of seamless integration with leading Office tools both for import and export of data and reports in multiple formats. The solution should allow data to be accessed from any industry standard data source using native connectors. It should also allow data load jobs to be scheduled to automate the process of loading data into the system for Analysis.

3.3.5   Integration Modes Features

The proposed solution should be able to share data to and from the any other government departments, through batch mode synchronization, or on needs basis.

There are multiple ways of integration of the solution with other systems. These may be through Web Services or API based. The integration and data sharing mechanism shall be either Batch Mode or Need Based. Some of the key requirements of the interface /integration are mentioned below:

1. Should have provision for exceptional scenarios
2. Should have syntax details such as data type, length, mandatory/option, default values, range values etc.
3. Error code should be defined for every validation or business rule
4. Inputs and outputs should be defined
5. The failover scenarios should be identified
6. Data exchange should be auditable
7. Data exchange should abide by all laws on privacy and data protection

3.4   Application Testing

The Successful/Selected Bidder shall provide the testing strategy including the traceability matrix and relevant test cases and shall also conduct the testing of various components of the software developed/customized along with the solution. The testing should be comprehensive and should be

carried out at each stage of development as well as implementation. The Successful/Selected Bidder shall demonstrate the testing criteria outlined in the table below prior to Go-Live as well as during project operations phase. In case required, parameters might be revised by the Purchaser in mutual agreement with the Successful/Selected Bidder and the revised parameters shall be considered as the acceptance criteria. A comprehensive system should be set up that would have the capability to log and track the testing results, upload, and maintain the test cases and log and track issues/bugs identified. The table below depicts the details for the various kinds of testing activities required for the project:

3.4.1   Testing Details

The Successful/Selected Bidder shall provide the Testing strategy including traceability matrix, Test Cases and conduct testing of various components of the software developed/customized (e.g., Unit tests, System integration tests, Stress tests, Security Testing, and final user acceptance test.). Details of the testing strategy and approach should be provided in the response. The Successful/Selected Bidder is responsible to identify and inform the Purchaser regarding testing requirements and impacts. The successful Successful/Selected Bidder shall work in a manner to satisfy all the testing requirements and adhere to the testing strategy outlined. The Successful/Selected Bidder shall ensure deployment of necessary resources and tools during the testing phases. The Successful/Selected Bidder shall perform the testing of the solution based on the approved test plan, document the results, and shall fix the bugs found during the testing.

Successful/Selected Bidder shall provide complete support to the Purchaser team or their representatives at the time of user acceptance testing. It would be the Purchaser's responsibility to ensure that all issues raised during UAT are closed and signed-off from respective authority.

Details on Types of Testing, Responsibility and Scope of Work		
Type of Testing	**Responsibility**	**Scope of Work**
System Testing	MSP	1. The Successful/Selected Bidder shall prepare a test plan as well as test cases and maintain it. The Purchaser may request the Successful/Selected Bidder to share the test cases and results when required. 2. The testing should be performed through manual as well as automated methods 3. Automation testing tools will need to be provided by the Bidder 4. Comprehensive System testing would be performed for the application development.
Integration Testing	MSP/ Integrator MSP & DDA	1. The Successful/Selected Bidder shall prepare and share with the Purchaser the Integration test plans and test cases

Details on Types of Testing, Responsibility and Scope of Work		
Type of Testing	**Responsibility**	**Scope of Work**
		2. The Successful/Selected Bidder shall perform Integration testing as per the approved plan 3. Integration testing will need to be performed through manual as well as automated methods 4. Automation testing tools will have to be provided by the Bidder 5. Integration testing would include all data exchanged between various Stakeholders/systems 6. Integration testing would be performed for the application development.
Security Testing (including Penetration and Vulnerability testing)	• Bidder • The Purchaser/Third party Auditor (to monitor the performance testing)	1. The solution should demonstrate compliance with security requirements as mentioned in the RFP including but not limited to security controls in the application, network layer, cloud environment, and security monitoring systems deployed by the Bidder. 2. The solution shall pass vulnerability and penetration testing for rollout of the developed portal. The solution should pass web application security testing for the portal and security configuration review of the baseline infrastructure. 3. The Successful/Selected Bidder should carry out security and vulnerability testing for the developed solution through Third Party/Agency. 4. Security testing will need to be carried out in the exact same environment/architecture as the one set up for production. 5. Security test reports and test cases should be shared with DDA. 6. Testing tools, if required, will have to be provided by the Bidder. 7. During the O&M phase, vulnerability assessment and penetration testing will need to be conducted on a yearly basis. The Purchaser may also involve third party auditors to perform the

Details on Types of Testing, Responsibility and Scope of Work		
Type of Testing	**Responsibility**	**Scope of Work**
		audit/review/monitoring of the security testing carried out by the Bidder.

Details on Types of Testing, Responsibility and Scope of Work		
Type of Testing	**Responsibility**	**Scope of Work**
User Acceptance testing of Purchaser System	MSP & DDA	1. The DDA will perform User Acceptance Testing for application development and implementation. 2. The Successful/Selected Bidder will need to prepare the User Acceptance Testing test cases and share with the DDA. 3. Successful/Selected Bidder will have to carry out the UAT in the exact same environment/architecture as the one set up for Production 4. The Successful/Selected Bidder should fix the bugs and resolve the issues raised during UAT and seek approval on the fixes from the DDA. 5. Changes in the application as an outcome of UAT shall not be considered as a Change Request. The Successful/Selected Bidder will need to rectify the observations raised. 6. Successful/Selected Bidder shall share UAT test data and results with the Purchaser.

Table 3: Details on Types of Testing, Responsibility and Scope of Work

1. The Successful/Selected Bidder needs to provide the details of the testing strategy and approach including details of intended tools/environment to be used by the Successful/Selected Bidder for testing in its technical proposal.
2. The Successful/Selected Bidder shall obtain the sign-off from Purchaser on the testing approach and plan.
3. The Successful/Selected Bidder shall ensure deployment of necessary resources and tools during the testing phases. The Successful/Selected Bidder shall perform the testing of the solution based on the approved test plan, document the results, and shall fix the bugs found during the testing. It is the responsibility of the Successful/Selected Bidder to ensure that the product delivered by the Successful/Selected Bidder meets all the requirements specified in the RFP. The Successful/Selected Bidder shall take remedial action based on the outcome of the tests.
4. Successful/Selected Bidder shall share the test data and test results for each test case with the DDA.
5. Post Go-Live, the Production environment should not be used for testing and training purposes. If any Production data is used for testing, it should be masked and it should be protected. Detailed process in this regard including security requirement should be provided by the Successful/Selected Bidder in

its technical proposal. The processes in this regard will be finalized with the Successful/Selected Bidder and the Purchaser.

6. The cost of rectification of non-compliances shall be borne by the Bidder.

3.4.2   Go-Live of IFMIS (including preparedness)

1. Successful/Selected Bidder shall prepare and agree with Purchaser, the detailed plan for Go-Live (in-line with implementation plan as mentioned in RFP).
2. The Successful/Selected Bidder shall define and agree with Purchaser, the criteria for Go-Live and the timelines for the same.
3. Successful/Selected Bidder shall submit DDA signed-off UAT report (issue closure report) ensuring all issues raised during UAT are being resolved prior to Go-Live.
4. UAT will be signed off by DDA nominated personnel where UAT document shall be shared by MSP and will be evaluated by nominated personnel of DDA.
5. Successful/Selected Bidder shall ensure that Go –Live criteria as mentioned in User acceptance testing of IFMIS Platform is met and Successful/Selected Bidder needs to take approval from Purchaser team on the same.
6. Go-live of the application shall be done as per the finalized and agreed upon Go-Live plan

3.5 Quality Review

The purchaser shall form a team for conducting the Quality Review of the implementation of the proposed solution. The team will be defined by the purchaser.

The core responsibility of the quality review team will be as follows:

1. Review the project plan
2. Review the Business SRS/FRS document
3. Review the test plan
4. Review the test results
5. Review the Go-Live readiness

3.6 Project Documentation

The Successful/Selected Bidder will provide detailed final system documentation for reference to Purchaser. Successful/Selected Bidder shall prepare the final User Manuals incorporating details of all menus and functionality provided by the System. Purchaser expects the following (not limited to) in the form of product documents. In addition, the Successful/Selected Bidder will provide ongoing product information for reference purposes and to facilitate self-education for Purchaser Personnel. Key documents required are: -

1. Business Blueprint and Revised process documents consisting of granular details of each functional activity and any changes (if any) after the IFMIS solution implementation
2. Detailed Design document detailing technical architecture (application, network, and security)
3. Database infrastructure architecture, including clustering/ mirroring, backup & recovery strategies, defining data structure, data dictionary as per standards laid down by Government of India.
4. Data Architecture, interface architecture and integration architecture. Appropriate load balancing and clustering techniques should be adopted by the Selected Successful/Selected Bidder in the Solution design for meeting the requirements of the RFP
5. Configuration Documentation: consisting of a system setting and parameters for each function module.
6. User Manual including system instruction and use cases, running of a program to perform specific task in the system with sample reports, screen formats, details of menus & instructions on how to perform specific tasks in the system using screenshots etc.
7. Any other documentation required for usage and maintenance of implemented solution at each location like Technical Manual, Installation Guides etc.
8. System operational procedure manuals and user manuals
9. The Successful/Selected Bidder shall provide a minimum of three hard copies and two soft copies on the above-mentioned manuals.

10. The Successful/Selected Bidder shall submit the system documents including the Functional Specifications & Technical Specification
11. The Successful/Selected Bidder shall prepare & submit the System Administration manual indicating the system settings for each module
12. Successful/Selected Bidder shall ensure the provision of Toolkit/ Troubleshoot guides and Learning Management system for every component of the Application/ System software as well as IT infrastructure.

3.7   Project Management

MSP shall be responsible for managing the engagement and ensuring that the scope of work for the MSP is met to the satisfaction of DDA.

3.7.1   Setting up of Project Management Unit (PMU) by DDA

The DDA may arrange a PMU for the complete project term. PMU shall formally meet every week to discuss:

i. Project Progress
ii. Activities undertaken and planned by the MSP.
iii. SRS & FRS review prepared by MSP.
iv. Delays, if any – Reasons thereof and ways to make-up lost time
v. Issues and concerns
vi. Performance and SLA compliance reports.
vii. Unresolved and escalated issues.
viii. Change Management - Proposed changes, if any
ix. Discussion on submitted deliverable
x. Timelines and anticipated delay in deliverable, if any
xi. Any other issues that either party wishes to add to the agenda.

Please Note:

For this component, Successful/Selected Bidder needs to carry out all the activities such as requirement analysis, FRS preparation, SRS Preparation, Design, Development, UAT, Training etc. as per the requirement of the Purchaser.

The Successful/Selected Bidder shall carry out its own assessment of the requirement and deploy the skilled and qualified manpower required for the implementation of IFMIS.

The cost of the above-mentioned effort will become part of the financial bid (Additional Requirement Effort).

Based on the approved System Requirement Specification, the Successful/Selected Bidder will undertake the system configuration and customization. The purchaser may agree to modify the requirement mentioned in FRS document considering suggestions made by Bidder. However, Purchaser completely reserves the right to agree or not to agree to any changes suggested by Bidder. The implementation

methodology and approach has to be based on the global best practices in order to meet the defined Service Levels during the operation.

Purchaser has made best efforts to define major functionalities. The functional requirements are mentioned in Annexure A of this Volume II of this RFP. These functionalities are indicative and based on the present business process which may undergo changes by the time of Award of Work Order to the Successful/Selected Bidder as well as during the execution of the project based on the detailed System Requirement study conducted by the Bidder. All such identified changes shall also form part of the desired functionalities and shall be included in the scope of work for the implementation without any additional financial implications during the implementation period. The Successful/Selected Bidder may, if so required, include the add-ons or modules to fulfill the requirements.

Successful/Selected Bidder has to carry out the integration of IFMIS with other applications / solutions and new plug in modules or third party devices etc. to meet the requirements of Purchaser.

4 Section 4: Training and Capacity Building

4.1 Training and Capacity Building Requirement

As and when required, an on-going classroom and virtual training plan needs to be developed for any of the stakeholders, Training plan would include 10 sessions (5 classroom training sessions + 5 Virtual Training Sessions) per year for the period of 2 years. If, however, apart from the training requirement is not adequate and The Purchaser feels the need to conduct a greater number of trainings, then additional trainings may be planned. The proposed training is expected to help the Purchaser's officers and other stakeholders to undertake their revised roles and responsibilities with ease and without any apprehensions. Following categories of training may be undertaken:

1. Training to all the stakeholders in one batch per day (one day training). However, the training days can be revised by the Purchaser, based on requirement.
2. It is proposed that the Users and Administrators would be divided in the following groups:

Categories of Users for Training for IFMIS		
Group	Officials	Mode
Group 1	Officials	Offline/Online
Group 2	Other Staff	Offline/Online

Table 4: Categories of Users for Training

The details of the training requirement are given in Annexure B of Volume II of this RFP

Online Help / Reference with Search option

It is also proposed that the training contents / user manuals need to be made available to Users in downloadable (PDF) format along with an online web version so that the Users may refer / download it for their own personal reference as and when needed. It is proposed that the downloadable training content should have proper indexing and internal references, mapped with key words, to allow any User to search and reach the desired content with the help of those key words. It envisaged that any User be able to search and read the directions/ information for only the part required by user rather than looking through the entire PDF document and manually searching for the right content.

4.2 Change Management

Over the period the changing dynamics may ignite the need of changes from traditional/ old/ complex processes of IFMIS to more simplified and advanced IFMIS. The migration to IFMIS shall be a systematic approach to deal with the transition or transformation of goals, processes, and technologies proposed for IFMIS requires and effective change management and capacity building plan. All changes requests should accompany ECN (Engineering Change Notes) Clearly mentioning the scope, Manpower, resources etc. required for functional point measurement.

The purpose of change management is to implement strategies for effecting change, controlling change, and helping the Warehousing Development and Regulatory Authority/ Employees of these organizations to adapt to the new world of IFMIS. The phases for a successful change would be based on the following framework:

Figure 1: Change Management Framework

 Initiate: **Understand the need for change for DDA**

a) **Plan**: Once the stakeholders are ready to embrace change, the recommended plan should entail:
- Strategic goals covering the span of Agencies, employees in groups. The training plan to cover two major aspects i.e., Training of internal and External Agencies employees via Train the trainer and employee training
- Identification of key performance indicators: Success could be measured with indicators like improved compliance by establishments i.e., reduced number of defaults, process automation, reduced grievances reduced manhours for compliance on the portal.

b) **Manage: Identify the Change Management Committee:** The committee to act as a navigator to make stakeholders accustomed to the new codes, processes, compliance etc. The committee should consist of the senior officials of DDA to manage the effective change management. The committee is responsible for developing a change strategy for development and review of the training plans, communication plan spanning over the DDA and employment and Agencies.

c) **Reinforce:**
- **Communication for understanding and buy-in:** The process entails supportive actions for fear, anger, and resistance by the DDA employees, encouraging culture of discussion, dissent, disagreement, and debate for the better understanding among officials
- **Empower others:** Train identified Official staff of the DDA, to equip with the desired skills for smooth functioning of DDA

d) **Review:**
- **Short term goals:** A small visible success, further impetus for change, setting up of short-term goals E.g., scheduled training coverage, helps to achieve the long-term objective by leveraging lessons learned to help plan next goal
- **Persistency in approach:** Reaffirm the DDA vision**,** acknowledge what people have left behind and prepare people for adapt IFMIS.

A critical success factor for the implementation of IFMIS is to get the buy-in of the DDA officials and employers, by ensuring that they are aware about the need, value addition/ advantages of IFMIS. The new codes/ technology requires change in the processes like registration/ return/ inspection etc. It requires re-skilling the officers and introducing them to different set of ethics and rules. Thus, training and capacity building is imperative. The capacity Building for IFMIS project will aim to engender an environment which is required for its successful implementation. Capacity Building for IFMIS The Framework would primarily include:

Types of capacity: Developing human capacity includes both the intellectual capacity (e.g., knowledge, skills for IFMIS) and the will (e.g., interest, patience, and persistence) to implement needed changes. This would involve interaction, collaboration, and communication among officials of the DDA.

Levels of capacity: In addition to attending to the type of capacity to be developed, DDA shall institute changes targeted at building different levels of capacity information, skills, structures, and processes. As DDA moves through the various stages of capacity building, new information, skills, structures, and processes are needed for the smooth operations and compliance on IFMIS

Stages of capacity building: Identified four stages of capacity building:

- Exploration: In this stage, key actors identify the need for change; determine the desired capacity and identify the knowledge, skills, structures, and processes that need to be in place to achieve the desired capacity. An important task during this stage is to evaluate the current capacity of the DDA, possibly including staff skills, number of staff, computer and other systems, infrastructure, and other resources. The "capacity gap" is the difference between existing capacity and needed capacity.

- Emerging Implementation: This stage can be summarized as identification of DDA and officials participate in activities; the officials build new knowledge, update technological, increase resources; and the DDA officials apply their new knowledge and utilize IFMIS and cascade the knowledge among fellow colleagues of DDA.

- Full Implementation: This stage involves the integration of the new processes, functionalities of IFMIS, information and new skills and the refining of practices based on evaluation of the changes. During this stage, evaluations of the capacity building activities can help to inform key actors on the IFMIS impact.

- Sustainability Exploration: This final stage involves "pervasive and consistent" use of the refined skills and practices. Also, IFMIS and agencies demonstrates the capacity and ability to analyze and modify practices for continuous improvement and for any needed refinement to evolve IFMIS

Outcomes of capacity building: Finally, as DDA goes through the capacity building process, one of three types of outcomes can occur: developmental (first-order change), transitional (second-order change), and transformational (third-order change). Developmental outcomes result from improvement of a skill or process. Transformational outcomes are achieved when there is a shift in culture and beliefs among members of the organization that results in significant differences in organizational structures and processes. The success parameter could be coverage of number of people and reduced number of defaults.

Evaluation: Evaluation of capacity building can be challenging; one challenge relates to the difficulty in differentiating between capacity building efforts and overall project activities. Another challenge is the dynamic and multidimensional nature of the capacity building process. It may not be possible to establish a clear relationship between capacity building activities and capacity increases because of the difficulty making causal links and because external factors may affect outcomes.

The Successful/Selected Bidder shall also support in the Change management initiatives undertaken by Purchaser. The detail change management requirement has been indicated at Annexure C Volume II of this RFP

4.3   Preparation of Training Calendar

The Purchaser to nominate nodal officer and Successful/Selected Bidder to prepare a training calendar covering the officials. The Successful/Selected Bidder is expected to prepare and implement the training schedule/plan in consultation with the Purchaser.

5   Section 5: User Support and Maintenance for the Integrated IT application for 2 Years

The Successful/Selected Bidder shall be appointed for a period of two (2) years from the date of successful Go-Live of IFMIS (i.e., completion of the IFMIS application).

Application support includes, but is not limited to, production monitoring, troubleshooting, and addressing the functionality, availability, and performance issues, implementing the system change requests etc. The Successful/Selected Bidder shall keep the application software in good working order; perform changes and upgrades to applications as requested by the Purchaser's team. Key activities to be performed by Successful/Selected Bidder in the application support phase are as follows:

1. Application monitoring and Compliance to Service Level Agreements
2. Application support includes modifications and integration with future systems.
3. Bugs/Fixes Management
4. Software Change and Version Control
5. Maintenance of Configuration and System Documentation

5.1   Service Level Agreements (SLAs) & Penalties

The Service Levels applicable for various activities under this RFP, that would be incorporated in the contract between the Purchaser and the Successful/Selected Bidder as service level agreement that have been provided in the tables in Annexure D of Volume II of this RFP. The Successful Successful/Selected Bidder is responsible to submit the periodic SLA report to the Purchaser for effective monitoring of SLA's.

Note: No penalties shall be levied on the Successful Successful/Selected Bidder in the following cases:

- Non-compliance to the SLA for reasons beyond the control of the Bidder
- Force majeure event affecting the SLA.

These service levels define the Successful Bidder's responsibility in terms of ensuring the timeliness and accuracy of services (including deliverables) under this contract and have been broadly categorized as below:

1. Successful Successful/Selected Bidder should provide adequate tools/ setup adequate processes for capturing data required for measuring SLAs in the development as well as in the maintenance phase at no extra cost to the Purchaser.

2. The maximum penalty, excluding LD which would be imposed for late delivery, at any point of time on a cumulative basis and for any period shall not exceed 10% of project cost as per the Financial Bid submitted by the Successful Bidder. In case the penalty exceeds 10%, Purchaser reserves the right to terminate the project and forfeit the PBG.

3. The SLAs shall be revisited by the Technical Coordination Committee during the IFMIS Project and may be revised in discussion with the Successful Bidder. However, the revised SLAs shall not cause any changes in the financial quote of the Bidder.

4. IFMIS is service-oriented, and the operational portion of the Agreement between the Purchaser and the Successful Successful/Selected Bidder will be in the form of a Service Level Agreement (SLA). The SLA specifies the expected levels of service to be provided by the Successful Successful/Selected Bidder to Successful/Selected Bidder (Details for SLA criteria have been added to Annexure D of Volume II of this RFP). This expected level is also called the baseline. Any degradation in the performance of the solution and services is subject to levying penalties as specified in Annexure D of Volume II of this RFP.

5. Annexure D indicates the suggested SLA between Purchaser and the Successful Successful/Selected Bidder for the project. A set of parameters has been identified as key to the successful implementation of the Project. If the performance of the Successful Successful/Selected Bidder in respect of any parameter falls below the prescribed tolerance limit, a penalty is imposed for the breach. All the payments to the Successful Successful/Selected Bidder are linked to the compliance with the SLA metrics specified in Annexure D of Volume II of this RFP. During the contract period, it is envisaged that there could be changes to the SLAs, in terms of addition, alteration or deletion of certain parameters, based on mutual consent of both the parties i.e., the Purchaser and Successful Bidder.

6. Annexure D of Volume II of this RFP describes the service levels to be established for the Services offered by the Successful Bidder. The Successful Successful/Selected Bidder shall monitor and maintain the stated service levels to provide quality service.

5.2 Application Support including Modifications and Integration with Future Systems

Successful/Selected Bidder shall also provide hand-holding support to the Purchaser's personnel from the date of Go-Live application. These personnel shall be clearly identified exclusively for this role.

The scope of Successful/Selected Bidder covers the following activities:

1. Enhancement / modifications with respect to new / enhanced / enriched functionality
2. Ensure the desired functioning of the Interface / integration
3. Test scripts preparation and interim application testing
4. Application installation and testing whenever required
5. Modification / development of reports
6. Provide technical support on system parameters and requirement for Purchasers Enterprise Applications Software
7. Manage the database administration according to the agreed standards.

8. Present relevant information and training if applicable and necessary regarding the use and functions of new products and services to a defined number of relevant Users designated by Purchaser
9. Provide handholding support to end users in carrying out the business process transactions

5.3   Bugs/Fixes Management

1. Successful/Selected Bidder shall provide unlimited support as required as per the service window defined in the RFP
2. The Successful/Selected Bidder shall address all the errors/bugs/gaps in the functionality in the solution implemented by the Successful/Selected Bidder (vis-à-vis the FRS and SRS signed off) at no additional cost during the support phase.
3. All patches and upgrades from OEMs shall be implemented by the Successful/Selected Bidder ensuring customization is done in the solution as per the Purchaser's requirements. A technical upgrade of the installation to the new version, as and when required, shall be done by the Bidder.
4. Any changes/upgrades to the software performed during the support phase shall subject to the comprehensive and integrated testing by the Successful/Selected Bidder to ensure that the changes implemented in the system meets the specified requirements and doesn't impact any other function of the system.
5. Tuning of products/ applications, databases, third party software's and any other components provided as part of the solution software including reconfiguration of the system in the event of any hardware/ network failures/ if any hardware/ network components shall be replaced, shall be the responsibility of the Bidder.
6. Issue log for the errors and bugs identified in the solution and any change made in the solution shall be maintained by the Successful/Selected Bidder and periodically submitted to the Purchaser team.

Problem Identification and Resolution
1. Errors and bugs that persist for a long time, which impact a wider range of users and are difficult to resolve become a problem. Successful/Selected Bidder shall identify and resolve all the application problems in the identified solution (e.g., system malfunctions, performance problems and data corruption etc.)
2. A monthly report on problem identified and resolved would be submitted to the Purchaser's team along with the recommended resolution.

5.4   Software Change and Version Control

1. The Successful/Selected Bidder shall define the Software Capacity Building & Version control process and obtain approval for the same from the Purchaser
2. The Successful/Selected Bidder shall maintain version control and configuration information for any system documentation and application software

3. Any changes/customizations to the IFMIS application performed/ identified within the period of six (6) months post "Go-Live" are not to be considered as separate Change Requests and hence are to be carried out by the Successful/Selected Bidder at no extra cost

4. All configuration changes or minor customizations to the IFMIS application which don't involve the creation of any new development object (even if identified after the stabilization period of six months post "Go-Live") are not to be considered as separate Change Requests and hence are to be carried out by the Successful/Selected Bidder at no extra cost

5. Any major change in the application under SRS would come under Change request. Change requests will be capped at 15% of the total project value quoted by the Successful/Selected Bidder.

6. The effort & cost estimates shall be based on the man-month cost quoted by the Successful/Selected Bidder for Design, Development, Implementation, Operation & Maintenance (New Modules) of IFMIS application in the commercial quote. This cost per man-month shall remain unchanged during the contract period

7. Changes in the application software which are mandatorily required for complying to any of the predefined SLA requirements, FRS or To-be Functional solution cannot be treated as a separate Change Request, and hence are to be completed by the Successful/Selected Bidder at no extra cost

8. All Change Requests submitted by the Successful/Selected Bidder will contain an effort estimate, which would be discussed with and approved by the Purchaser. The Purchaser may ask the Successful/Selected Bidder to provide justification using standard methodology like Function Point Analysis or any similar method.

9. All changes during the stabilization or support & maintenance phase shall be subjected to the comprehensive & integrated testing by the Successful/Selected Bidder to ensure that the changes implemented in the system meets the desired and specified requirements of the Purchaser and doesn't impact any other function of the system.

10. The Bidders should submit a Quarterly Report on the changes performed on the application and resolution of malfunctions carried out by the Bidder

11. Troubleshoot all possible problems, monitor erratic behavior through the Application Logs.

12. All planned changes to application systems shall be coordinated within established Change Control processes to ensure that:
    - Appropriate communication on change required has taken place.
    - Proper approvals have been received.
    - Schedules have been adjusted to minimize impact on the production environment.

13. For any changes to the software, Successful/Selected Bidder shall submit a document indicating proposed changes, impact to the system in terms of functional outcomes/additional features added to the system etc.

14. The Successful/Selected Bidder is required to obtain approval from the Purchaser for all the proposed changes before implementation of the same into production environment and such documentation is subject to review at the end of each quarter of operations & maintenance support.

15. The Successful/Selected Bidder is required to keep all such documentation up to date to reflect the latest enhancements/modifications made to the application. All documentation should be prepared as per the latest industry standards and should incorporate the necessary version control mechanism.

5.5 Maintenance of Configuration Information and System Documentation

The Successful/Selected Bidder shall be responsible for arranging for annual technology support for the products to the Purchaser provided by respective OEMs. The Purchaser would require ATS for a period of 3 years from the date of Go-Live of all the applications.

Successful/Selected Bidder shall maintain and update documentation of the software system ensuring that:

1. Source code is documented
2. Functional specifications are documented
3. Application documentation is updated to reflect on-going maintenance and enhancements including FRS and SRS, in accordance with the defined standards
4. User manuals and training manuals are updated to reflect on-going changes/enhancements
5. Standard practices are adopted and followed in respect of version control and management.

5.6 User Administration

Successful/Selected Bidder will be responsible for

1. Maintain access control and provide individual and group access to LAN / WAN resources to Purchaser's authorized users.
2. Register new users and delete existing user's accounts as Purchaser requests.
3. Assign and change user passwords.
4. Implement adequate password complexity policy across the enterprise.
5. Use of the Web Single Sign On solution for the users
6. Undertake the usage of the Authentication, Authorization & Auditing module for the users
7. For critical user transactions, employ the usage of the OTP solution
8. Also employ the usage of Digital Signature for the digital signage of the documents.

5.7 Security Administration

The security service will cover the user profile management, authentication, and authorization aspects of the security control. This service runs across all the layers since service components from different layers will interact with the security components. All public content should be made available to all users without authentication. The service will authenticate users and allows access to other features of the envisaged application for which the user is entitled to.

Following is some of the key requirements for Security Services through solution:

1. Data security policies and standards to be developed and adopted across the departments and systems
2. To adequately provide access to secured information, security needs shall be identified and developed at the data level. Database design shall consider and incorporate data integrity requirements.
3. Role based access for all the stake holders envisaged to access and use the system
4. Appropriate authentication mechanism adhering to industry good practice of password policies etc.
5. Authorization validity to be ensured for the users providing the data to the system. Data should be accepted only from the entity authorized
6. Data should be visible only to the authorized entity
7. Audit trails and Audit logging mechanism to be built in the system to ensure that user action can be established and can investigated if any can be aided. (E.g., Logging of IP Address etc.)
8. Data alterations etc. through unauthorized channels should be prevented.
9. Industry good practice for coding of application to ensure sustenance to the Application Vulnerability Assessment

5.7.1 Single Sign-on, Authentication and Authorization

It is recommended to adopt an enterprise level centralized authentication model that is secured and ensures that the user has a single credential to access the all the services. In this model, there will be a centralized authentication service with provision for centralized user registration and user credential store. A centralized user repository (directory services) for the storage of user credentials will also store the authorization information for the user which will be used in different application.

This service will provide the central authentication service for the users/groups created by verification of the user credentials. When a user tries to login to any centralized application e.g., single window portal, departmental sub-, the user credentials will be validated through the central authentication service.

5.7.1.1 Single Sign-on

Users shall be provided 'single sign on' functionality for the entire IFMIS module deployed.

Single Sign-On service will centrally maintain user session thus preventing user from multiple logins when trying to access multiple applications.

Once the users enter their login credentials, the user credentials from the user authentication server database shall be verified and then only the access should be granted inside the Portal modules. The personal 'Dashboard' facility should be available for all the users after successful login as a first interface within the application. The type of information and content to be displayed on the personal 'Dashboard' of users should be dynamically controlled through the Access control module / Admin Module. However, it should be noted that for each user there should be only one session at a time should be maintained i.e., when one User logs-in to the application using his / her own credentials, then the same credentials shall not be allowed to be used for logging into the application through same or different computer.

The solution should implement security features, such as password complexity, automatic blocking (temporary/permanent) of user logins after given number of unsuccessful login attempts (should be

parameterized), controlled access to content stored on the portal and logging of security incidents. It should by its own or through an integrated Identity Management solution be capable of managing security rights and privileges by individual, group, and role, and should support Single Sign On.

5.7.1.2 Authentication

The solution should support multiple authentication methods such as Username password, two factor authentication, digital certificate and Aadhaar based authentication or mobile OTP as per decided by the DDA. The Successful/Selected Bidder along with the Purchaser, shall roll-out strong authentication for users in phased manner.

Authentication should be done for all valid Users. A valid user for this application should be the one who has been set-up in the application such that he/she can access the application and perform tasks as per assigned roles and responsibilities. Authorized users should have to access the login screen for authentication. The proposed solution should support authentication – SMTP AUTH, POP before SMTP, File system, Database, LDAP etc.

The application should have a configured directory of all authorized users. Through the user authentication server 'Rights Management Services' (RMS), there should be a form of user authentication functionality that should allow various users to access the IFMIS and work as per their defined Roles and Responsibilities. Rights Management Services should be used for restricting access to rights-protected content / sections / modules / screens / fields, etc. to authorized users only. Rights to all active users should be granted based on their hierarchy and level in the organization, designation, assigned roles and responsibilities, location etc. among other parameters. It is also proposed that the new rights can be created through the Rights Management UI as well as existing rights be managed through the same. The access to the functionalities of the application should be strictly based on "Role Based Access Control" (RBAC) and only Administrator(s) will have the rights define ACCESS Policy. The details of any change in the module should be captured in the Audit Trail of the application. Also, there should be facility to assign/modify/deactivate/delete rights globally for the desired Groups within the system.

Audit trail should be a detailed record showing who has accessed the IFMIS and what transactions/ operations have been performed by the concerned user during a given period. Audit trail shall display the following details, but not limited to, with filter / sorting criteria options:

1. Timestamp
2. Username
3. Module – Sub Module – Screen – Section – Field Name
4. Previous Value
5. Current Value
6. Remarks (if any)

It is desired that the Audit Trail module does not have a 'Delete' or 'Edit' right granted to any user irrespective of any type or hierarchy as created in the system. The 'view' rights should also be controlled through RBAC in Admin Module.

5.7.1.3   Authorization

Solution should allow a user to access various functions, forms, screens, sub modules, information, etc. as per the authorization and user role permitted by the portal administrator as per available guidelines and policies.

Public users can browse the portal with rights to view public content available on the website, remaining all types of users shall enter the solution using appropriate secured authorizations.

Authorization of system users should be enforced by access controls. It is recommended to develop access control lists. Consider the following approach for developing access control list

- Establish groups of users based on similar functions and similar access privileges.
- Identify the owner of each group
- Establish the degree of access to be provided to each group

5.7.1.4   Network Security

Network security consists of the policies and practices adopted to prevent and monitor unauthorized access, misuse, modification, or denial of a computer network and network-accessible resources

5.7.1.5   SSL & Digital Certification

There should be a provision of logging into the system through the web and/or intranet. The solution should comply with all requirements of security, reliability, and non-repudiation as per the Government of India guidelines. The solution provider will need to ensure provision for authentication using digital certificates as per the government of India guidelines.

Solution should enable SSL for all sensitive pages, set the secure flag on all sensitive cookies and secure backend connections.

5.7.1.6   Web Application Security Audit

IT Auditor shall perform a Security Audit of the Web application and provide "Safe to Host" certificate for the Application to go live. Also, a Security Audit needs to be performed on the application before the release of any new patch or version. SI should take into consideration the timelines for the Security Audit to ensure that the application can go live within the said time frame.

Web Application Security Audit should be performed taking into consideration the latest OWASP guidelines and consider the following:

- o SQL Injection
- o Broken Authentication and Session Management
- o Cross-Site Scripting (XSS)
- o Insecure Direct Object References
- o Security misconfiguration
- o Insecure Cryptographic Storage
- o Sensitive Data Exposure
- o Missing Function Level Access Control

- o Cross-Site Request Forgery (CSRF)
- o Using Known Vulnerable Components
- o Un-validated Redirects and Forwards
- o Failure to Restrict URL Access
- o Insufficient Transport Layer Protection
- o Any other attacks, which are vulnerable to websites and web applications

The IT Auditor should also perform the following activities to assess the web applications:

- **Re-Engineering**
  - o Decompose or deconstruct the binary codes, if accessible
  - o Determine the protocol specification of the server/client application
  - o Guess program logic from the error/debug messages in the application outputs and program behavior/performance.
- **Authentication**
  - o Find possible brute force password-guessing access points in the applications
  - o Find valid login credentials with password grinding, if possible
  - o Bypass authentication system with spoofed tokens
  - o Bypass authentication system using Injection attacks
  - o Bypass authentication system with replay authentication information
  - o Determine the application logic to maintain the authentication sessions - number of (consecutive) failure logins allowed, login timeout, etc.
  - o Determine the limitations of access control in the applications – access permissions, login session duration, idle duration
  - o Determine the transmission of authentication credentials in clear text/encrypted/ hash form
- **Session Management**
  - o Determine the session management information - number of concurrent sessions, IP-based authentication, role-based authentication, identity-based authentication, cookie usage, the session ID in URL encoding string, the session ID in hidden HTML field variables, etc.
  - o Guess the session ID sequence and format
  - o Determine if the session ID is maintained with IP address information; check if the same session information can be retried and reused in another machine
  - o Determine the session management limitations - bandwidth usage, file download/upload limitations, transaction limitations, etc.
  - o Gather excessive information with direct URL, direct instruction, action sequence jumping, and/or page skipping
  - o Gather sensitive information with Man-In-the-Middle attacks
  - o Inject excess/bogus information with Session-Hijacking techniques
  - o Replay gathered information to bypass session authentication
- **Input Manipulation**
  - o Verify if input validation is happening at the client or server or at both ends.

- o Find the limitations of the defined variables and protocol payload - data length, data type, construct format, etc.
- o Use exceptionally long character strings to find buffer overflow vulnerabilities in the applications.
- o Concatenate commands in the input strings of the applications.
- o Inject SQL language in the input strings of database-tiered web applications.
- o Examine "Cross-Site Scripting" in the web applications of the system
- o Examine unauthorized directory/file access with path/directory traversal in the input strings of the applications
- o Use specific URL-encoded strings and/or Unicode-encoded strings to bypass input validation mechanisms of the applications
- o Execute remote commands through "Server Side Include"
- o Manipulate the session/persistent cookies to modify the logic in the server-side web applications
- o Manipulate the (hidden) field variable in the HTML forms to modify the logic in the server-side web applications
- o Manipulate the "Referrer", "Host", etc. HTTP Protocol variables to modify the logic in the server-side web applications
- o Use illogical/illegal input to test the application error-handling routines and to find useful debug/error messages from the applications

- **Output Manipulation**
  - o Retrieve valuable information stored in the cookies.
  - o Retrieve valuable information from the client application cache.
  - o Retrieve valuable information stored in the serialized objects.
  - o Retrieve valuable information stored in the temporary files and objects.
  - o Retrieve bulk information/ multiple rows from the database.

- **Information Leakage**
  - o Find useful information in hidden field variables of the HTML forms and comments in the HTML documents
  - o Find valuable information stored in the HTML source code on a browser like Unencrypted View State
  - o Examine the information contained in the application banners, usage instructions, welcome messages, log-out messages, application help messages, debug/error messages, etc.

- **Penetration Testing**
  - o To identify ways to exploit vulnerabilities to circumvent or defeat the security features of system components through a manual process that may include the use of vulnerability scanning or other automated tools.

- **Standards**
  - o In addition to the internal IT policies, the IT Auditor should adhere to all the applicable laws of land and rules, regulations, and guidelines prescribed by various regulatory, statutory and

Government authorities, multiple industry-accepted methodologies during the execution such as the following:

- National Critical Information Infrastructure Protection Center (NCIIPC)
- The National Institute of Standards and Technology ("NIST") Special Publication
- 800-115
- Cert-In Guidelines
- Latest ISO27001
- Open-Source Security Testing Methodology Manual ("OSSTMM")
- OWASP Testing Guide
- Penetration Testing Execution Standard
- Penetration Testing Framework

- **Security Audit Documentation**
  - o The Security Audit report should contain details of all steps, test vectors, and exploited vulnerabilities that lead to positive and /or false positive penetration during testing for which remediation and retesting are required. It is also important to identify vulnerabilities that are not always exploitable but may pose a potential risk to the environment. The report shall have but not limited to the following sections:
    - **Executive Summary:** Brief high-level summary of the penetration test scope and major findings with an overall severity graph
    - **Methodology:** Details on the methodologies used to complete the testing.
    - **Constraints:** Document any restrictions imposed on testing such as designated testing hours, bandwidth restrictions, special testing requirements for legacy systems, etc.
    - **Summary of test results**: Detailed results for vulnerabilities discovered, exploited vulnerabilities and proof of concepts/screenshots, detailed explanations of the implications of findings, business impacts, and risks for each of the identified vulnerabilities.
    - **Recommendations:** Remediation recommendations to close the deficiencies identified. Detailed steps (wherever/whenever applicable) to be followed while mitigating the reported deficiencies. Security issues that pose an imminent threat to the system are to be reported immediately.
    - **Tools:** Details of all the tools used, the purpose of each tool, and the impact of each the tool on the testing.
    - **Clean up:** After testing, there may be tasks to be performed to restore the target environment (e.g., update/removal of test accounts or database entries added or modified during testing, uninstall of test tools or other artifacts, restoring active protection-system settings, and/or other activities the tester may not have permissions to perform, etc.). Provide directions on how clean-up should be performed and how to verify that security controls have been restored.

- **Retest (if required)**
  - o If significant vulnerabilities are identified from the Security Audit, the SI will be required to fix the identified vulnerabilities within a time, as mutually agreed with DDA. Thereafter, IT

Auditor shall perform a retest to validate if the changes mitigate the original risk. The scope of a retest should consider whether any changes occurring because of remediation identified from the test are classified as significant. A Security Audit report, as per the above specifications, should be prepared after the retest.

5.7.2 Compliance, Regulation and Policies, Government of India Guidelines

The solution shall comply with MeitY' s security guidelines, compliances, regulations, and other guidelines as well as policies.

The technical solution shall be in conformance with the e-Governance Standards of MeitY.

The entire solution shall be capable of incorporating any changes because of changes in the regulations and policies of the government from time to time.

5.8 Source Code, Infrastructure and Sizing

To keep the source code safe and in sync all source code is kept in in-house source code repository hosted in open-source and handover the access to DDA. Providing DDA infrastructure, Firewall, Infrastructure Security, Network, Bandwidth, Email Gateway, SMS Gateway, SSL, Domain Name, App Store/Play Store and Payment Gateway will be the responsibility of DDA (Purchaser). It can be accessed locally or using VPN. The sizing and infrastructure requirement shall be provided by Successful/Selected Bidder with justification/ calculation.

6   Section 6: Manpower Requirement

Purchaser has identified certain key positions and minimum qualifications for each of these positions that should be part of project team of the Successful/Selected Bidder (hereby referred to as "key personnel"). Only key resources would be dedicated resources at Bidder's location for the duration of the project.

The Successful/Selected Bidder shall deploy at minimum the following key personnel as part of the project team as per the scope of work for this RFP. As per the discretion of the purchaser a profile related to the delivery of the project can be requested.

If DDA needs any additional resources for the project, the same shall be provided by the bidder as per his quoted bid price.

The following key personnel will operate from Purchaser/ Successful/Selected Bidder premises as decided by the Purchaser. Their deployment will be as per the deployment plan proposed by the Successful/Selected Bidder and agreed by Purchaser:

#	Role	Experience Level (years)	M1	M2	M3	M4	M5	M6	Total
1	Project Manager	15	1	1	1	1	1	1	6

#	Role								Total
2	Solution Architect	15	1	1	1	1	1	1	6
3	Business Analyst	8	1	1	1	1	1	1	6
4	Business Analyst	8	1	1	1	1	1	1	6
5	Business Analyst	8	1	1	1	1	1	1	6
6	UI /UX Designer	4		1	1	1	1	1	5
7	UI /UX Designer	4		1	1	1	1	1	5
8	QA Test Engineers	12	1	1	1	1	1	1	6
9	QA Test Engineers	8	1	1	1	1	1	1	6
10	QA Test Engineers	8	1	1	1	1	1	1	6
11	QA Test Engineers	6	1	1	1	1	1	1	6
12	DBA	8		1	1	1	1	1	5
13	Front end Developer 1	8		1	1	1	1	1	5
14	Front end Developer 2	8		1	1	1	1	1	5
15	Front end Developer 3	6		1	1	1	1	1	5
16	Front end Developer 4	6		1	1	1	1	1	5
17	Front end Developer 5	4		1	1	1	1	1	5
18	Backend Developer 1	10			1	1	1	1	4
19	Backend Developer 2	8			1	1	1	1	4
20	Backend Developer 3	8			1	1	1	1	4
21	Backend Developer 4	6			1	1	1	1	4
22	Backend Developer 5	4			1	1	1	1	4
23	Backend Developer 6	4			1	1	1	1	4
24	DevOps	5		0.5	0.5	0.5	0.5	0.5	2.5
25	Domain Expert	5	1	1	1	1	1	1	6
26	API Expert	5	1	1	1	1	1	1	6
27	ETL Developer	5	1	1	1	1	1	1	6
28	Data Architect	5	1	1	1	1	1	1	6
29	Infra Engineer	15	0.5	0.5	0.5	0.5	0.5	0.5	3
Total (29)									**147.5**

Operation & Maintenance

#	Role	Experience Level (years)	1 Year	2 years	Total
1.	Project Manager	15	12	12	24
2.	Developer (Full Stack, Back End, Front End) – 3	10	12	12	24
3.	QA Test Engineers	8	12	12	24
4.	DBA (.25)	6	12	12	24

5.	Infra Engineer (.5)	15	12	12	24
	Total		60	60	120

Table 5: Proposed Resources for Portal

The Successful/Selected Bidder shall provide different CVs for each profile mentioned above. Purchaser will provision space for Successful/Selected Bidder Key personnel in its premises, in case of resource deployment at Purchaser's premises is unavailable. The profiles for the above roles are provided in Annexure F of Volume II of this RFP.

7 Section 7: Deliverables, Timelines and Payment Schedules

S. No.	Deliverable / Milestone	Timeline	Payment Milestone	Payment Schedule
A	**Project Inception**			
1	Team Deployment	T+ 2 weeks		
2	Inception report (including Project Plan)	T+ 4 weeks	Approved Inception report	5% of the Project value
B	**IFMIS Design**			
3	**Design Documents**	T+ 6 weeks		
	a) IFMIS Technology Blueprint with High level Solution Design and Architecture			
	b) SRS (process/module wise BPM, Prototype (Interactive & Clickable), internal and external interfaces, data design, RTM etc.)		Approved SRS	5% of Project value
	c) High Level Design			
	d) Low Level Design (including Schema Diagram)			
	e) Test Plan (Test cases)			
C	**Phase 1 & Phase 2 Delivery**			
4	Commissioning of Cloud/NIC & Hosting of Phase 1 & 2 applications	T+ 2 Months		
5	Development & Integration with external application	T+ 4 Month		
6	Test cases & Test results (Unit, SIT, Integration, UAT, Security and Performance) applications	T+ 4 months		
7	Conduct of UAT for Phase 1 & 2 Modules and submission of final UAT report	T+ 5 Months	Approved UAT report	12% of Project value
8	Training Plan, Training Document, Submission of training completion report for Phase 1 & 2	T+ 5 Months		

S. No.	Deliverable / Milestone	Timeline	Payment Milestone	Payment Schedule
9	Phases 1 & 2 Go-live	T+ 6 Months	Go-live	30% of Project value
D	**Operations & Maintenance (O&M)**			
19	O&M (Year 1)	1st Year	Quarterly SLA report	QGR @ 6% of project value
20	O&M (Year 2)	2nd Year	Quarterly SLA report	QGR @ 6% of project value
F	**Exit Management**			
27	Exit Management Plan	Last 3 months		
28	Transfer of all documents, agreements, licenses and Knowledge Transfer	One month before end of project		
27	Completion of all exit management requirements (Sign-off on the exit management from DDA)	At the end of project		

Table 6 7: Deliverables, Timelines and Payment Schedule

Note:

1. Payments for exclusive three developer/resource for support for existing application will only be made on successful Go Live of the new application.
2. For all the deliverables submitted by the Bidder, Purchaser will approve/reject/provide feedback to the Successful/Selected Bidder within fifteen (15) working days after submission of a deliverable.
3. All payments to the Successful/Selected Bidder shall be made upon submission of invoices along with relevant signoffs from the Purchaser.
4. The Successful/Selected Bidder alone shall raise invoices for all the payments after receiving due approval/acceptance of the Deliverables the Services from the Purchaser or any nominated agency. Such invoices shall be correct and accurate and shall be raised in a timely manner within thirty (30) days of accomplishment of obligations of the Successful/Selected Bidder and delivery of the Goods, the solutions, the Deliverables, and the Services to the satisfaction of the Purchaser.
5. The above payments are subject to meeting SLAs; failing which the appropriate deductions as mentioned in the SLA section of this RFP shall apply.
6. The Successful/Selected Bidder will be required to submit a compliance report every month and a consolidated compliance report at the end of 3 months (quarterly) based on which these payments would be made.
7. The quarterly payments during the Operations and Maintenance Phase will be made upon submission of quarterly project health report, audit reports, SLA compliance report, project performance and status report, change control report and issue/ incident reports.

8. First quarterly payment for O&M services shall be paid subject to above mentioned conditions on completion of three months post Go-Live of IFMIS.

9. Any monetary figure in decimal shall be rounded off to the nearest INR

10. All incidental charges whatsoever such as premium, commission etc. with respect to the performance bank guarantee shall be borne by the bidder. If the project implementation/Go-Live is delayed, the PBG shall be extended by the Successful/Selected Bidder for such additional duration. The performance bank guarantee may be discharged/ returned by Purchaser upon being satisfied that there has been due performance of the obligations of the Successful/Selected Bidder under the agreement. However, no interest shall be payable on the performance bank guarantee. In the event of the Successful/Selected Bidder being unable to service the agreement for whatever reason, Purchaser would invoke the PBG. Notwithstanding and without prejudice to any rights whatsoever of Purchaser under the agreement in the matter, the proceeds of the PBG shall be payable to Purchaser as compensation for any loss resulting from the Bidder's failure to perform/comply its obligations under the agreement. Purchaser shall notify the Successful/Selected Bidder in writing of the exercise of its right to receive such compensation within 15 (Fifteen) days, indicating the contractual obligation(s) for which the Successful/Selected Bidder is in default.

8   Section 8: Exit Management

1. The Successful/Selected Bidder shall submit a structured & detailed transition and Exit Management plan along with the technical proposal.
2. The Successful/Selected Bidder needs to update the Transition and Exit Management on a half yearly basis or earlier in case of major changes during the entire contract duration. This plan needs to be discussed and approved by the Purchaser.
3. At the end of the contract period or during the contract period, if any other agency is identified or selected for providing services related to the Bidder's scope of work, the Successful/Selected Bidder shall ensure that a proper and satisfactory handover is made to the other agency.
4. All risk during transition stage shall be properly documented by the Successful/Selected Bidder and mitigation measures shall be planned to ensure a smooth transition without any service disruption.
5. The Successful/Selected Bidder shall ensure that no end of support products exist at time of transition.
6. The transition & exit management period will start 6 months before the expiration of the contract. The Successful/Selected Bidder will provide shadow support for at least three months and secondary support for an additional three months before the end of the O&M period or termination of the contract, as applicable at no additional cost to Purchaser. In case of termination, the exit management period will start from effective date of termination, or such other date as may be decided by Purchaser but no later than 6 months from effective date of termination.
7. Closing off all critical open issues as on date of exit. All other open issues as on date of Exit shall be listed and provided to Purchaser.
8. The Successful/Selected Bidder shall provide necessary knowledge transfer and transition support. The deliverables are indicated below:
    i.   Updated transition plan on periodic basis
    ii.   Complete documentation for the entire system handed over to the Purchaser /identified agency.
    iii. Handover of all O&M support-related documents, credentials etc.
    iv.   Detailed walk-throughs and demos for the solution.
    v.   Hand-over of the entire software including source code, program files, configuration files, setup files, project documentation, etc. made for the Purchaser
9. Knowledge transfer of the system to the incoming Purchaser to the satisfaction of the Purchaser per the specified timelines.
10. The Successful/Selected Bidder shall be released from the project once successful transition is completed by meeting the parameters defined for successful transition
11. A detailed program of the transfer process that could be used in conjunction with a Replacement Successful/Selected Bidder including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer.
12. Plans for the communication with such of the Bidder's staff and any related third party as are necessary to avoid any material detrimental impact on the Purchasers operations because of undertaking the transfer.

13. Plans for provision of contingent support to the Purchaser, and Replacement Successful/Selected Bidder for a reasonable period after transfer

14. The Successful/Selected Bidder shall re-draft the Exit Management Plan annually and get it approved from the purchaser to ensure that it is kept relevant and up to date

15. In the event of termination or expiry of MSA (Volume III of this RFP), each Party shall comply with the Exit Management Plan

16. During the exit management period, the Successful/Selected Bidder shall use its best efforts to deliver the services

17. Payments during the Exit Management period shall be made in accordance with the Terms of Payment Schedule as indicated in Volume III of this RFP.

9   Annexures

Annexure A: Functional Requirements

9.1   Core Modules – Functional Requirement

The new requirements of the Core Modules for the IFMIS are outlined below:

9.1.1   Receipt Management

FRS ID	Requirement Description
DDA_REC_01	The system shall allow users to create challans with unique challan numbers for various types of dues.
DDA_REC_02	The system shall integrate with respective existing applications (Refer Annexure 1 for list of applications) to fetch details for each challan (e.g., amount, due date).
DDA_REC_03	The system shall provide a user interface to payor and Payee department for viewing and managing created challans.
DDA_REC_04	The system shall store all challan data securely in a database.
DDA_REC_05	The system shall generate reports summarizing dues by category and date range.
DDA_REC_06	The system shall support multi-user access with role-based permissions.
DDA_REC_07	The system shall provide search functionality to find challans based on various criteria.
DDA_REC_08	The system shall integrate with existing DDA applications for data synchronization.
DDA_REC_09	The system shall provide notifications for successful challan creation and errors.
DDA_REC_10	The system shall allow batch creation of multiple challans at once(for consolidated postings)
DDA_REC_11	The system shall validate challan data for completeness and accuracy.
DDA_REC_12	The system shall provide a dashboard for users to view and manage their dues.
DDA_REC_13	The system shall allow users to export challan data to CSV format, to facilitate consumption by other application
DDA_REC_14	The system shall provide audit trails for all user actions.
DDA_REC_15	The system shall support mobile access for challan creation and payment.
DDA_REC_16	The system shall allow users to tag challans with custom labels.
DDA_REC_17	The system shall provide filtering options for challan views.
DDA_REC_18	The system shall support bilingual (English and Hindi) interfaces.
DDA_REC_19	The system shall ensure compliance with data protection regulations.

FRS ID	Requirement Description
DDA_REC_20	The system shall allow users to set reminders for challan payments.
DDA_REC_21	The system shall support integration with email for challan notifications.
DDA_REC_22	The system shall provide a summary view of monthly dues and payments.
DDA_REC_23	The system shall provide a print option for individual challans.
DDA_REC_24	The system shall print barcode/ QR Code on challans
DDA_REC_25	The system shall not allow generation of duplicate challans.
DDA_REC_26	The system shall provide a user activity log.
DDA_REC_27	The system shall provide a notification for challans nearing their due date.
DDA_REC_28	The system shall support integration with accounting software.
DDA_REC_29	The system shall allow users to add notes to challans.
DDA_REC_30	The system shall support integration with payment gateways for dues payment.
DDA_REC_31	The system shall provide a summary of challans by payment method.
DDA_REC_32	The system shall allow users to generate and download payment receipts.
DDA_REC_33	The system shall have the capacity to ensure that all receipts, except one-time use fees, are recorded against an existing receivable. Additionally, the system shall enforce the creation of invoices for all future receipts on their scheduled date. The system shall also record the frequency of the bill, the date of initiation, and whether it is a one-time or recurring charge

Table 8: 9: Functional Requirement of Receipts

9.1.2 Payment

FRS ID	Requirement Description
DDA_PAYM_01	The system shall allow users to initiate payments to contractors and vendors
DDA_PAYM_02	The system shall support multiple payment methods (e.g., bank transfer) .
DDA_PAYM_03	The system shall validate payment details before processing.
DDA_PAYM_04	The system shall provide a confirmation message upon successful payment.
DDA_PAYM_05	The system shall log all payment transactions for auditing purposes.
DDA_PAYM_06	The system shall allow users to view payment history.
DDA_PAYM_07	The system shall support recurring payments.
DDA_PAYM_08	The system shall allow users to cancel scheduled payments.
DDA_PAYM_9	The system shall notify users of failed payments.
DDA_PAYM_10	The system shall allow users to generate payment reports.
DDA_PAYM_11	The system shall provide role-based access control.
DDA_PAYM_12	The system shall allow users to set payment limits.
DDA_PAYM_13	The system shall integrate with external accounting systems.
DDA_PAYM_14	The system shall allow users to add and manage payees.

FRS ID	Requirement Description
DDA_PAYM_15	The system shall send email notifications for payment status updates.
DDA_PAYM_16	The system shall allow users to export payment data in CSV format.
DDA_PAYM_17	The system shall provide a dashboard for payment analytics.
DDA_PAYM_18	The system shall support batch payments.
DDA_PAYM_19	The system shall allow users to set up payment approval workflows.
DDA_PAYM_20	The system shall provide error messages for invalid payment attempts.
DDA_PAYM_21	The system shall allow users to filter payment history by date range.
DDA_PAYM_22	The system shall support integration with ERP systems.
DDA_PAYM_23	The system shall provide audit trails for all payment activities.
DDA_PAYM_24	The system shall allow users to upload invoices for payment processing.
DDA_PAYM_25	The system shall support payment scheduling.
DDA_PAYM_26	The system shall provide a help section for payment-related queries.
DDA_PAYM_27	The system shall allow users to set up automatic payment reminders.
DDA_PAYM_28	The system shall support refunds and reversals.
DDA_PAYM_29	The system shall provide a summary of pending payments.
DDA_PAYM_30	The system shall allow users to customize payment templates.
DDA_PAYM_31	The system shall provide real-time payment status updates.
DDA_PAYM_32	The system shall allow users to manage payment disputes.
DDA_PAYM_33	The system shall support integration with payment gateways.
DDA_PAYM_34	The system shall allow users to view detailed payment receipts.
DDA_PAYM_35	The system shall support API access for payment functionalities.
DDA_PAYM_36	The system shall provide a search function for payment records.
DDA_PAYM_37	The system shall allow users to set up payment notifications via SMS.
DDA_PAYM_38	The system shall allow users to configure payment approval thresholds.
DDA_PAYM_39	The system shall include a Delegation of Power check within the IFMIS. This feature will ensure that all financial transactions and approvals are conducted in accordance with the predefined delegation of authority. The system shall verify that the appropriate level of authorization is in place for each transaction, record the details of the approving authority, and maintain an audit trail for compliance and accountability purposes

Table 10 11: Functional Requirement of Payment

9.1.3 General Ledger and Accounts Management

FRS ID	Requirement Description
DDA_Acco_01	The system shall allow users to create and manage a chart of accounts that categorizes all financial transactions.

FRS ID	Requirement Description
DDA_Acco_02	The system shall support double-entry accounting, ensuring that every transaction is recorded in at least two accounts (debit and credit).
DDA_Acco_03	The system shall provide functionality for users to enter journal entries, including the ability to specify transaction dates, amounts, and descriptions.
DDA_Acco_04	The system shall automatically post journal entries to the appropriate accounts in the general ledger upon approval.
DDA_Acco_05	The system shall allow users to record, validate, and approve journal entries while maintaining audit trails for all financial transactions.
DDA_Acco_06	The system shall ensure accurate matching between General Ledger entries and financial records.
DDA_Acco_07	The system shall support the reconciliation of accounts, allowing users to match transactions recorded in the general ledger with external statements.
DDA_Acco_08	The system shall generate a trial balance report that summarizes all account balances to ensure that debits equal credits.
DDA_Acco_09	The system shall allow users to generate financial statements, including income statements, balance sheets, and cash flow statements, based on the data in the general ledger.
DDA_Acco_10	The system shall perform month-end and year-end closing, ensuring all financial transactions for the period are accurately captured.
DDA_Acco_11	The system shall manage and track accruals and deferrals, ensuring proper accounting of revenues and expenses.
DDA_Acco_12	The system shall track prepayments and advances made to vendors or employees and ensure proper accounting.
DDA_Acco_13	The system shall manage fixed assets and calculate depreciation based on accounting rules.
DDA_Acco_14	The system shall facilitate financial adjustments between different departments within the organization.
DDA_Acco_15	The system shall maintain the organization's Chart of Accounts, ensuring proper classification of all transactions.
DDA_Acco_16	The system shall integrate the accounting system with the Management Information System (MIS) for real-time data synchronization and financial reporting.
DDA_Acco_17	The system shall implement role-based access control to ensure that only authorized users can create, modify, or delete entries in the general ledger.
DDA_Acco_18	The system shall maintain an audit trail of all transactions, capturing details such as the user who made the entry, timestamps, and any changes made.

FRS ID	Requirement Description
DDA_Acco_19	The system shall allow for the generation of customizable reports to meet specific reporting requirements of the Delhi Development Authority.
DDA_Acco_20	The system shall support the integration of the general ledger with other modules (e.g., accounts payable, accounts receivable) to ensure seamless data flow and accuracy.
DDA_Acco_21	The system shall have the capacity to incorporate the function to design the balance sheet at different Admin Hierarchy levels (e.g. Zone wise, sports complex wise, Housing Division wise etc.)
DDA_Acco_22	The system shall support the integration of cost center functionality with other modules (e.g., general ledger, accounts payable, accounts receivable) to ensure accurate tracking and allocation of costs.

Table 12 13 : Functional Requirement of General Ledger & Accounting

9.1.4 Budget

FRS ID	Requirement Description
DDA_BUD_01	The system shall provide a user-friendly interface for departments to input budget requests, allowing attachment of supporting documents (e.g., project plans, historical expenditure data).
DDA_BUD_02	The system shall implement a workflow for the submission of budget requests, ensuring that submissions are routed to the Budget Division, Dy. CAO, CAO and FM for review.
DDA_BUD_03	The system shall set deadlines for budget request submissions and send reminders to departments as the deadline approaches.
DDA_BUD_04	The system shall allow Budget Division, Dy. CAO, CAO and FM to review submitted budget requests and provide a mechanism for higher authorities to send feedback or request additional information.
DDA_BUD_05	The system shall track the status of each budget request (e.g., submitted, under review, approved) and generate reports on the status of budget requests for review.
DDA_BUD_06	The system shall continuously monitor DDA's departments' expenditures against allocated budgets and highlight exceptions when spending approaches predefined thresholds.
DDA_BUD_07	The system shall send alerts to departments, budget division and management when potential budget overruns are detected and configure alerts for thresholds and notification preferences.
DDA_BUD_08	The system shall generate reports on budgetary compliance and provide insights into potential budget overruns and areas of concern.
DDA_BUD_09	The system shall allow DDA departments to create budgets spanning multiple fiscal years and support the allocation of funds across different years for long-term projects.
DDA_BUD_10	The system shall track financial commitments for ongoing projects and provide visibility into future financial obligations.

FRS ID	Requirement Description
DDA_BUD_11	The system shall generate reports on multi-year budget plans and provide insights into long-term financial planning and commitments.
DDA_BUD_12	The system shall implement a workflow for the submission of budget proposals, ensuring proposals are routed to the stakeholders in departments for review and approval.
DDA_BUD_13	The system shall allow stakeholders to review and approve budget proposals and provide a mechanism for raising queries and requesting additional information.
DDA_BUD_14	The system shall log and track each step of the approval process and maintain a clear history of changes and approvals for transparency.
DDA_BUD_15	The system shall generate reports on the status of budget proposals and provide insights into the approval process and decision-making.
DDA_BUD_16	The system shall ensure seamless integration with procurement, expenditure tracking, and payroll modules, automatically adjusting budget data based on real-time transactions.
DDA_BUD_17	The system shall provide real-time updates on DDA's financial status, ensuring accurate and up-to-date financial information.
DDA_BUD_18	The system shall generate comprehensive reports on financial status and provide insights into overall financial management.
DDA_BUD_19	The system shall identify surplus funds in the budget and provide visibility into available surplus funds.
DDA_BUD_20	The system shall implement a workflow for budget reallocation, ensuring reallocation requests are reviewed and approved through the budget division, Dy. CAO, CAO and FM, .
DDA_BUD_21	The system shall allow departments to submit supplementary budget requests and provide a mechanism for reviewing and approving supplementary requests.
DDA_BUD_22	The system shall maintain a clear audit trail of all budget changes in IFMIS, ensuring transparency and accountability in the reallocation process.
DDA_BUD_23	The system shall collect budget data and performance metrics from various sources, ensuring data accuracy and completeness.
DDA_BUD_24	The system shall generate standard and customizable reports, providing insights into budget performance and variance analysis.
DDA_BUD_25	The system shall implement real-time dashboards for quick insights into DDA's financial status, allowing users to customize dashboard views based on their needs.
DDA_BUD_26	The system shall provide tools for analyzing budget data, supporting informed decision-making based on reports and dashboards.
DDA_BUD_27	The system shall define various user roles (e.g., department head, budget officer, IT administrator) and specify responsibilities and access levels for each role.
DDA_BUD_28	The system shall assign access permissions based on user roles, ensuring that users have access only to the data and functions necessary for their roles.
DDA_BUD_29	The system shall implement access control mechanisms to secure budget data, using authentication and authorization protocols to manage access.

FRS ID	Requirement Description
DDA_BUD_30	The system shall monitor user access to budget data and maintain an audit trail of access and changes to ensure data security.
DDA_BUD_31	The system shall allow IT administrators to update roles and permissions as needed, ensuring that changes are documented and reviewed for security compliance.
DDA_BUD_32	The system shall identify events that require notifications (e.g., budget submission deadlines, potential budget overruns) and define criteria for triggering notifications.
DDA_BUD_33	The system shall be configured to send notifications based on event criteria and allow users to set preferences for receiving notifications (e.g., email, SMS).
DDA_BUD_34	The system shall send alerts to IFMIS users in DDA in a timely manner, ensuring that alerts are clear and actionable.
DDA_BUD_35	The system shall monitor user responses to notifications and track actions taken in response to alerts.
DDA_BUD_36	The system shall ensure that work awards do not exceed the set limits established for Administrative Approval (AA) & Expenditure Sanction (ES) and the allocated budget. This feature will include checks and validations to prevent any financial commitments beyond the approved thresholds.
DDA_BUD_37	The system shall have the feature to map the administrative hierarchy from the top level to the lowest level. It shall configure the system to map each receipt and expenditure clearly with the respective entity and activity at the transaction level.

Table 14: 15Functional Requirement of Budget

9.1.5   Tax Management

FRS ID	Requirement Description
DDA_Tax_01	The system shall automate the calculation, deduction, and filing of TDS on income tax, ensuring compliance with statutory requirements.
DDA_Tax_02	The system shall allow users to input payment details, applicable TDS rates, vendor information, and employee salary details.
DDA_Tax_03	The system shall generate TDS returns (Form 24Q for salaries, Form 26Q for other payments) for filing.
DDA_Tax_04	The system shall issue TDS certificates (Form 16 for employees, Form 16A for vendors) to dedicatees.
DDA_Tax_05	The system shall reconcile TDS deducted with amounts deposited and reported, ensuring accuracy.
DDA_Tax_06	The system shall automate the calculation of GST liability and processing of GST returns.

FRS ID	Requirement Description
DDA_Tax_07	The system shall allow users to input sales and purchase transaction details, GST rates, and TDS details from government departments.
DDA_Tax_08	The system shall facilitate the classification of services into taxable and non-taxable output services, mapping them with HSN codes.
DDA_Tax_09	The system shall generate and file GST returns (GSTR-1, GSTR-3B) and facilitate payment of GST liabilities.
DDA_Tax_10	The system shall reconcile TDS deducted by government departments on GST payments.

Table 16: Functional Requirement of Tax Management

9.1.6 Cash & Bank Management

FRS ID	Requirement Description
DDA_CaBa_01	The system shall continuously track and monitor the balances in all bank accounts, ensuring accurate recording of transactions.
DDA_CaBa_02	The system shall retrieve bank statements from all rationalized bank accounts and compare them with internal financial records to identify discrepancies.
DDA_CaBa_03	The system shall record all incoming cash transactions, including payments received from home buyers and leaseholders.
DDA_CaBa_04	The system shall record all outgoing cash transactions and verify their accuracy before updating the system.
DDA_CaBa_05	The system shall generate reports on current bank balances and transaction summaries to aid in financial planning.
DDA_CaBa_06	The system shall forecast future cash flow requirements based on historical data and upcoming projects.
DDA_CaBa_07	The system shall reconcile bank statements with internal financial records to ensure accuracy and resolve discrepancies.
DDA_CaBa_08	The system shall generate reconciliation reports and cash flow forecast reports, providing a clear financial outlook for the DDA.
DDA_CaBa_09	The system shall integrate with other financial modules within IFMIS to ensure cohesive financial management.
DDA_CaBa_10	The system shall continuously track and monitor the balances in all bank accounts, ensuring accurate recording of transactions.

FRS ID	Requirement Description
DDA_CaBa_11	The system shall retrieve bank statements from all rationalized bank accounts and compare them with internal financial records to identify discrepancies.
DDA_CaBa_12	The system shall record all incoming cash transactions, including payments received from home buyers and leaseholders.

Table 17 : FRS for Cash & Bank Management

9.1.7   Investment & Debt Management

FRS ID	Requirement Description
DDA_Inve_01	The system shall prepare a tentative investment plans based on available balances and maturity schedules and other relevant inputs provided by user .
DDA_Inve_02	The system shall facilitate the approval process for investment plans by the CAO and generate necessary documentation.
DDA_Inve_03	The system shall enable the request and submission of investment quotes from banks and SDL arrangers.
DDA_Inve_04	The system shall support the evaluation of bids by the Investment Committee, ensuring compliance with investment criteria.
DDA_Inve_05	The system shall allow for the entry of investment details into IFMIS for both FD and SDL investments.
DDA_Inve_06	The system shall capture the rules and guidelines framed for investments within the system.
DDA_Inve_07	The system shall create alerts for investment maturity dates to ensure timely actions.
DDA_Inve_08	The system shall generate reports on investment performance and cash flow management for decision-making.
DDA_Inve_09	The system shall automate the preparation of investment plans based on available balances and maturity schedules.
DDA_Inve_10	The system shall facilitate the management of debt obligations, including tracking repayment schedules and interest rates.
DDA_Inve_11	The system shall provide insights into debt levels and serviceability to support strategic financial planning.
DDA_Inve_12	The system shall include functionality to check maturity calculations and track receipt dates for all investments.

Table 18 : FRS for Cash & Bank Management

9.1.8   Integrated MIS & Dashboard

FRS ID	Requirement Description
DDA_MIS_01	The system shall collect and consolidate data from various DDA departments.
DDA_MIS_02	The system shall validate and standardize the collected data.
DDA_MIS__03	The system shall store the consolidated data in a central repository.
DDA_MIS__04	The system shall generate customizable reports and dashboards.
DDA_MIS__05	The system shall distribute reports and dashboards to DDA stakeholders.
DDA_MIS__06	The system shall provide real-time data updates to ensure current information is available.
DDA_MIS__07	The system shall support advanced analytics and visualization tools for report generation.
DDA_MIS__08	The system shall facilitate feedback and review processes for continuous improvement.
DDA_MIS__09	The system shall ensure data integrity and security during the consolidation process.
DDA_MIS__10	The system shall allow for customizable views and KPIs on the dashboard.

Table 19: FRS for Integrated MIS & dashboard

9.1.9 Payroll & Medical Claims

FRS ID	Requirement Description
DDA_Payroll_01	Integrate with Payment Management System for salary disbursement.
DDA_Payroll_02	Automate tax deductions and retirement fund contributions (PF and NPS).
DDA_Payroll_03	Provide real-time insights into payroll expenses.
DDA_Payroll_04	Facilitate compliance with employment contracts and labor laws.
DDA_Payroll_05	Manage employee medical claims and ensure efficient reimbursement processing.
DDA_Payroll_06	Generate monthly payroll reports for management review.
DDA_Payroll_07	Implement role-based access control for payroll data security.
DDA_Payroll_08	Enable employees to view and download their payslips online.
DDA_Payroll_09	Track and manage employee leave balances and deductions.

FRS ID	Requirement Description
DDA_Payroll_10	Integrate with attendance systems for accurate payroll calculations.
DDA_Payroll_11	Support retroactive payroll adjustments and corrections.
DDA_Payroll_12	Automate year-end tax filing and issuance of tax forms.
DDA_Payroll_13	Provide alerts and notifications for payroll deadlines and issues.

FRS ID	Requirement Description
DDA_Medical_01	Collect medical bills at OPD counters and issue acknowledgement slip with unique numbers using IFMIS.
DDA_Medical_02	Process Limited Reimbursement OPD bills at the OPD section.
DDA_Medical_03	Enter bill details into the application and check the total amount claimed during the current financial year.
DDA_Medical_04	Forward non-Limited Reimbursement bills to respective sections for further processing.
DDA_Medical_05	Process bills in MC-1 for IPD and OPD-Chronic cases of serving employees.
DDA_Medical_06	Process bills in MC-2 for IPD cases of retired employees.
DDA_Medical_07	Process bills in MC-3 for OPD-Chronic cases of retired employees.
DDA_Medical_08	Scrutinize bills manually and approve at appropriate levels based on delegation of power.
DDA_Medical_09	Initiate the process to issue pay orders in the IFMIS once bills are verified.
DDA_Medical_10	Approve pay orders by Account Officers and release them in batches through IFMIS.
DDA_Medical_11	Make payment through RTGS/NEFT transactions via IFMIS and mark bills as paid upon payment confirmation.
DDA_Medical_12	Mark bills as "Not paid" and resend for payment if any payment fails.
DDA_Medical_13	For retired employees process payments from the "Post Retirement Medical Benefit Fund" through IFMIS.
DDA_Medical_14	Implement a tracker to monitor the status of bills at each stage and identify where bills are stuck.

9.1.10 Pension, NPS and PF Management Module

FRS ID	Requirement Description
DDA_Pension_01	Manage pension and provident fund contributions, including NPS.

FRS ID	Requirement Description
DDA_Pension_02	Integrate with payroll for automatic deduction of PF and NPS contributions.
DDA_Pension_03	Ensure timely disbursement of pensions and PF balances.
DDA_Pension_04	Update employee accounts with PF and NPS contributions.
DDA_Pension_05	Manage future pension disbursements for retired employees.
DDA_Pension_06	Generate monthly and annual pension and PF reports.
DDA_Pension_07	Provide online access for employees to view their PF and pension balances.
DDA_Pension_08	Support pension plan administration and changes.
DDA_Pension_09	Automate calculation of pension benefits based on service years and salary.
DDA_Pension_10	Ensure compliance with government regulations for pension and PF management.
DDA_Pension_11	Implement role-based access control for pension and PF data security.
DDA_Pension_12	Provide alerts and notifications for pension and PF contributions and disbursements.
DDA_Pension_13	Support transfer of PF balances for employees changing jobs.
DDA_Pension_14	Enable employees to apply for pension and PF withdrawals online.
DDA_Pension_15	Ensure data backup and disaster recovery for pension and PF information.

9.1.1   Fixed Asset Management

FRS ID	Requirement Description
DDA_Asset_01	Track acquisition, sale, and depreciation of assets.
DDA_Asset_02	Integrate with General Ledger for asset value updates and depreciation schedules.
DDA_Asset_03	Ensure efficient asset management and minimize financial losses.
DDA_Asset_04	Maintain up-to-date asset data for financial reporting and auditing.
DDA_Asset_05	Feature to Implement asset tagging and tracking using RFID or barcodes.
DDA_Asset_06	Schedule and track asset maintenance activities.
DDA_Asset_07	Calculate and record asset depreciation as per DDA policy
DDA_Asset_08	Support asset disposal and write-off processes.

FRS ID	Requirement Description
DDA_Asset_09	Integrate with procurement systems for asset acquisition.
DDA_Asset_10	Support audit trails for all asset transactions and changes.

9.1.2   Audit Management System

FRS ID	Requirement Description
DDA_Audit_01	Track all financial transactions and support compliance checks.
DDA_Audit_02	Enable both internal and external audits with transparent audit trails.
DDA_Audit_03	Generate reports for review by external auditors.
DDA_Audit_04	Address audit paragraphs and capture responses from concerned departments, AAO, and AO.
DDA_Audit_05	Manage the dropping of audit paragraphs.
DDA_Audit_06	Integrate with all financial modules for comprehensive audit coverage.
DDA_Audit_07	Provide real-time access to audit data and findings.
DDA_Audit_08	Implement role-based access control for audit data security.
DDA_Audit_09	Provide alerts and notifications for audit schedules and findings.

9.1.3   Training & Awareness

Requirement No.	Module/Functionality	Role	Requirement Description
TAP.REQ.01	**DDA Officer**	Allocation of Program	The system shall allow DDA officer to allocate the training /awareness program to the empaneled training institute / partner. At the time of allocation, the system shall allow DDA officer to fill up the necessary details. System will have features to notify the training institute / partner (through email, SMS, Dashboard notification) once the program is allocated
TAP.REQ.02		Verification of the information submitted by the Training Institute/partner	The system will allow DDA to verify the information submitted by the training institute/ partner and write necessary observations. The

Requirement No.	Module/Functionality	Role	Requirement Description
			observations need to be addressed by the training institute / partner.
TAP.REQ.03		Verification of the invoice submitted by the Training Institute/partner	The system will allow DDA officer to verify the invoice submitted by the training institute/ partner and write necessary observations. The observations need to be addressed by the training institute / partner.
TAP.REQ.04		Filling up the invoice Details	Once the payment is released, the system shall allow DDA officer to enter the date of payment, released amount etc. in the system.
TAP.REQ.05		Generation of MIS Reports, dashboard	The system shall allow DDA officer to generate various MIS reports. Dashboard will allow DDA officer to monitor the key metrics and take necessary action.
TAP.REQ.06		Checking of status of Requests	The system shall allow DDA officer to check the status of various requests (submitted online).
TAP.REQ.07	Training Partner/Institute	Filling up the details of the Program	The module will allow the Authorized Representative (AR) of the training institute/partner to acknowledge the allocation of the programs. The acknowledgement will be done online.
TAP.REQ.08		Upload of the Questionnaire	The module will allow the AR of the training institute partner to enter the details (such as Date of Training, District, No. Of Participants etc.) related to the trainings online.
TAP.REQ.09		Filling up Online Analytical Program Report	The module will allow the AR of the training partner / institute to upload the scanned copy of Pre-Training Questionnaire and Post Training Questionnaire (this will be done at the time of submitting the details of program to DDA). The same will be submitted online to DDA for verification.
TAP.REQ.10		Filling up Online Survey Report	The proposed T system shall allow AR of the training institute / partner

Requirement No.	Module/Functionality	Role	Requirement Description
			to fill up the Analytical Program Report online (this will be done at the time of submitting the details of program to DDA). The information needs to be filled up online so that various insights can be generated by the system.
TAP.REQ.11		Submission of Invoice	Filling up Online Survey Report: The proposed IT System shall allow AR of the training institute / partner to fill up the Survey Report online and submit to DDA for verification. This needs to be done post completion of the program and within the timeline as prescribed by the DDA. The information needs to be filled up online so that various insights can be generated by the system. System will send alerts to train.
TAP.REQ.12		Generation of MIS Reports	The billing module will allow the AR of the training institute / partner to fill up the details of the invoice online and submit the invoice. The system shall allow the AR to upload the necessary supporting documents at the time of submitting the invoice.
TAP.REQ.13		Checking of Status of Requests	The system shall allow AR of the training institute / partner to generate various MIS reports.
TAP.REQ.14		Filling up the details of the Program	The system shall allow AR of the training institute / partner to check the status of various requests (submitted online).

Table 20 : FRS for Security Training & Awareness Module

Note for MSP:

- The above Functional Requirements for each module are the indicative of the module. The same are required to be discussed in detailed with department further.

- The Successful/Selected Bidder is expected to provide a detailed functional architecture based on the business architecture and module list provided in this RFP & discussion happened after the onboarding.
- Any other module which is required to meet the requirements mentioned in the Functional requirement specifications and other clauses of this Terms of reference.
- The modules, as mentioned above, are indicative. the Purchaser shall have the flexibility to include / exclude/amend/reorganize modules based on the requirements

9.2   Support Component

9.2.1   Manuals

Manuals (User & System Manuals) and downloads are essential for any newcomer to the portal as these shall provide instructions or guidelines on how to perform an activity and serve as a reference on the activity. The system has manuals for activities identified in all modules. Each module shall also have the downloadable component. Video representation shall also be made available on the portal. A list of documents to be kept ready for any process should be reflected at the bottom of the module page of the portal.

9.3   Common Functionality

9.3.1   Search

A Search Box will be available on the header of the web portal homepage as well as on the landing page of each core module and supporting components. The search functionality shall allow users to search for modules such as appeals, applications, attributes, Combination, keys etc., reports and documents via text input.

9.3.2   Analytics & Executive Dashboard

This will provide executive information analytics in the form of graphical representation. This is mainly provided for the authorized users of Guidance for monitoring the statistics & taking action at appropriate times. Authorized Users would be able to view the status of the Applications, service request, pendency, etc. from macro level to micro level by drill down feature of the Dashboard.

9.3.3   Reports

The system should be able to generate more reports for each of the modules of the IFMIS. Reports should be configurable, and all reports should have a download facility in Excel and CSV Format. There should also be a facility to send the incremental reports to users based on criteria provided time to time at scheduled time with a facility for viewing in tabular or graphical format (wherever possible). The Purchaser should be given the ability to redefine report formats as needed. The end users should be enabled to filter, sort and drill down into reports. Below is tentative list of reports to be generated

9.3.4   Content Management for Website

Content Management includes approval of the content which needs to be uploaded on the portal. Without the workflow approval, the System will not accept any content to be viewed or deployed on the portal for public users. The web interface will be developed for DDA users to add/modify/delete the content, and the process itself will take care of versioning the of content. All authorized users will be given a facility to create and edit content for their respective division.

Key functionalities of the Content Management System are as follows:

FRS Number	Functional Requirement Description
DDA_IFMIS_001	System should be integrated with a Content Management framework so that the layout and content on the portal can be changed dynamically and utilities such as search can be provided.
DDA_IFMIS _002	System to allow removal of duplicate content and automatically handle updates to key areas
DDA_IFMIS _003	System to manage website content portal, URLS for all the landing pages of IFMIS, links for reports/forms, web pages, complaint redressal, etc.
DDA_IFMIS _004	System to allow creation for new pages, format them easily, insert media, edit of new link / URL / page by an authority appointed by DDA
DDA_IFMIS _005	System to allow approval of page content from the role-based administration
DDA_IFMIS _006	System to publish every page content post approval of the authority
DDA_IFMIS _007	System should have ability of checker-maker.
DDA_IFMIS _008	System to allow access to remote users through a secure Web interface
DDA_IFMIS _009	System to administer and assign user privileges and roles, allowing users to only access the content they are authorized to use. Employers will only be able to access information pertaining to their establishment(s).
DDA_IFMIS _010	System to allow multilingual content capabilities/ multiple language support for all the documents

Table 21: FRS for Content Management for Website

9.3.5   Workflow Management

Workflow Management System to facilitate different workflows for modules pertaining to these are some of the key functions like budget, payments etc. At each stage in the workflow, one individual or group is responsible for a specific task. Once the task is complete, the system will ensure that the individuals responsible for the next task are notified and receive the data they need to execute their stage of the process.

FRS Number	Functional Requirement Description
DDA_IFMIS _001	System to enable individuals to streamline tasks and processes
DDA_IFMIS _002	System to allow authority to create and assign tasks to respective officials.
DDA_IFMIS _003	System to provide a facility where respective officials can view / update tasks

FRS Number	Functional Requirement Description
DDA_IFMIS _004	System to allow administrative user to define the tasks involved in each step of the processes for all the modules
DDA_IFMIS _005	System to automatically follow up on unfinished tasks in the process like appealing for the cancellation/revocation of registration, inspection etc.
DDA_IFMIS _006	System to synchronize tasks in every stage of the process flows chain
DDA_IFMIS _007	System to set up, execute, monitor workflows, and adapt to changes along the way
DDA_IFMIS _008	System to provide overall visibility of the workflow along with performance metrics
DDA_IFMIS _009	System to help users to keep a track or sequence of any changes in the workflow up and keep tab of sequences in operation
DDA_IFMIS _010	System to provide individuals the needed information to perform tasks effectively
DDA_IFMIS _011	System to allow custom email notifications regarding workflow status to concerned individuals

Table 22: FRS for Workflow Management

9.3.6   Forms Management

The DDA has a form pertaining to each of the core modules. The filled forms should be managed and maintained properly within IFMIS. This system should allow the users to input the from web-based interface or upload files in prescribed format from their computer/ Mobile/ Tablet. The platform will support to upload and download the relevant forms/ documents.

FRS Number	Functional Requirement Description
DDA_IFMIS _001	System to capture forms pertaining to each of the core modules and support components
DDA_IFMIS _002	System to capture meta data of establishments budget, payments etc. in an organized format
DDA_IFMIS _003	System to allow different types of users to view different parts of the same form, depending on the permissions assigned to each user type

Table 23: FRS for Forms Management

9.3.7   Alerts and Notifications

The IFMIS should be empowered by an alert and notification management system like SMS, and an Email system.

9.3.8   User and Role Management

The IFMIS should provide browser-based interface to the Internal (i.e., DDA's users) and external stakeholders. The user registration process should be an integrated part of system and every registered user will be assigned an appropriate role based on their user group.

9.3.9   Payment Gateway

The portal would provide online payment services (for payment of salary and other bills) through

integration with the available payment gateways. The portal solution shall also support receipt through card payments, wallets, over the counter, UPI using bank or related payment gateway integrations. The system shall offer required services like Secure Gateway Service, DNS Services, DHCP Services, Web Application Services, and so on.

Annexure B: Training Requirements

9.4.1 Develop Overall Training Plan

The Successful/Selected Bidder shall be responsible for finalizing a detailed Training Plan and role-based training curriculum for the program in consultation with the Purchaser. Successful/Selected Bidder shall own the overall Training plan collaborating closely with the Purchaser.

The Training plan should cover the following aspects:

- Content of each training course
- Training methodology
- Tools used for training
- Concept for continuous support after initial training

9.4.2 Training Techniques and Tools

It is likely that the Key Stakeholders would on-board the IFMIS in a phased manner; for this reason, the Successful/Selected Bidder would need to provide training to the various Associated Organizations as and when they initiate the DDA platform within their organization. Train the trainer approach shall be used for provision of training. The Successful/Selected Bidder will be responsible for the following set of activities:

1. Preparation of training material including Computer Based Trainings (CBTs) – audio/video, presentations, Functional flow documents, FAQs, etc. and periodic updates to these artifacts for following stakeholders:
   - the Purchaser officials, internal users, system administrators
2. Five classroom training sessions for the following stakeholders:
   - the Purchaser's officials and system administrators
   - Associated Organizations master users as and when they initiate the DDA platform in their respective organization; The Successful/Selected Bidder would primarily provide classroom training to the master trainers from the organizations and the Purchaser. Training for other stakeholders and users of the system would be organized on a needs basis.
3. As and when required on-going classroom training for any of the stakeholders, subject to a maximum of 10 sessions (5 classroom training sessions + 5 Virtual Training Sessions per year) for a period of 2 year.
4. Successful/Selected Bidder should nominate personnel who have the right mix of technical and domain experience to impart the training.
5. Based on targets identified, initial training session for all DDA Employees is expected to be completed within 2 months from the date of Release of Go-Live.

9.4.3   Scope of Work

1. The proposed training module is expected to help the course takers and other stakeholders, including Purchaser's officials, to undertake their revised roles and responsibilities with ease and without any apprehensions.

2. The Successful/Selected Bidder shall provide training to all the stakeholders in one batch per day (one day training). However, the training days can be revised by Purchaser based on requirement.

3. The Successful/Selected Bidder needs to conduct a 'Training Needs Analysis' (TNA) and impart training to the users as per groups defined above, according to their individual needs and requirements.

4. The schedule/training calendar and the training material for imparting training shall be developed by the Successful/Selected Bidder in consultation with the Purchaser.

5. In the event of modifications either in the training plans or substitutions of the regular trainers, proper correspondence with Purchasers team shall be made.

6. A detailed training schedule, including the dates, areas to be covered, time and the training literature (to be supplied by Bidder) at various stages of the project cycle and feedback for effectiveness will be agreed to by all parties during the performance evaluation of the Successful/Selected Bidder as per the Contract.

7. Training shall be provided as per the training schedule provided by the Successful/Selected Bidder in consultation with Purchaser. The key training modules provided are indicative for reference of the Successful/Selected Bidder and a detailed training plan shall be proposed by the Bidder.

8. It is the responsibility of the Successful/Selected Bidder to prepare documents including user manuals, technical manuals, and administration manuals, and provide the same to the purchaser's management team. The team will provide the necessary inputs for preparing the training material.

9. Audio Visual Training system - The Successful/Selected Bidder is also required to provide Audio-Visual Trainings to the users for assistance in operating/navigating through the Portal. The modules/section wise training material, especially in form of Audio-Visual content or animation, apart from PDF version, shall be uploaded in each module/sub-module/section of the portal which can be played at any given point of time through the browser. The users should find it easy to understand the process and functionality better by seeing the audio-visual training content for that specific module/sub-module/section and work accordingly as required.

10. These Audio-Visual clips will have the functionality to start, stop, pause, back and forward options, so that user can play the training content as per his own free will and requirement. All these specific module/sub-module/section wise audio-visual training content should be integrated to form a complete training of the portal, and uploaded on the portal for free access, download and ready reference.

11. Online Help/Reference with Search option - It is also proposed that the training contents and user manuals will be made available to users in downloadable (PDF) format so that the users may refer/download it for their own personal reference as and when needed. It is required that the downloadable training content should have proper indexing and internal references, mapped with key words to allow any user to search and reach the desired content with the help of those key words. It is envisaged that any user will be able to search and read the directions/information for only the

part required by him/her rather than looking through the entire PDF document and manually searching for the right content.

12. On entering the key words for search criteria, the system should pull out and display the links to the content as mapped. This feature should be dynamic with real time search availability, i.e., as soon as the key words are changed; a new set of content links with page/chapter references within the document should appear for selection. Once the selection is made by the user, the system should display the PDF content.

13. The Successful/Selected Bidder would also create a Help function on every screen of the DDA platform; any user would be able to click on the Help icon to get a pop-up help screen in a new window with instructions to describe the screen, along with search capability to search for more topics.

14. The Successful/Selected Bidder needs to ensure that all printed training material would be in Hindi and English. The training material will be made available in English and Hindi language.

9.4.4 Trainer Evaluation

Training Evaluation will help Purchaser in measuring the effectiveness of trainer and training program to increase the knowledge and skills of the end users. End user feedback should be used to make improvements in the training content and delivery. Refresher Training should be conducted for modules where there is a scope of further learning based on the results of Training Effectiveness Evaluation.

The Successful/Selected Bidder shall be responsible for analyzing the feedback and arrange for conducting refresher training, wherever needed.

The purchaser's top management will periodically monitor the training effectiveness through the performance metrics and Service levels and the Successful/Selected Bidder shall comply with the same.

9.4.5 Learner Evaluation

The following methods of assessment can be used:

- Formative assessment – the observation of a trainee's progress throughout the learning process. Feedback and support are the main objectives
- Summative assessment – the assessment done at the end of the training program which confirms whether the trainee has met the overall set standards (outcomes)
- Examination and/or practical demonstration

At the end of training session, participants should be provided a certificate as a declaration of competence upon successful completion of the training course. The certificate should indicate:

- A full overall understanding of the subject matter
- Successful completion of the practical examination provided
- Full understanding of all manual processes
- Attendance

The trainer will notify the Purchaser of any employees who failed the evaluation. The complete training curriculum will be repeated by the trainer for a specific group of trainees should two-thirds of the trainees fail the evaluation at the end of the training course.

The Successful/Selected Bidder will prepare a training portal as part of the IFMIS to provide training to all the Portal users.

The audience for the training includes the Purchaser's Central level user (the Purchaser), Other user, stakeholders, users from associated Organizations.

Annexure C: Change Management

9.5.1 Target Stakeholders for Change Management, Awareness and Communication

Stakeholder groups can be categorized into below categories, based on their influence and role in managing the change and making it successful:

Group I: This group comprises of Key senior officials from top management that would be involved in the strategic planning and decision making and provide overall direction and guidance to the DDA staff.

Group II: This group comprises of key officers from DDA. These resources would provide overall strategic direction towards the implementation of the project at the field level.

Group III: A few of the key officers from DDA that act as change agents responsible for training of lower officials, transferred or new officials and conducting refresher courses.

Group IV: A few of the key officers comprising of end users of various business applications who will be trained and coached to provide support and guidance to users and motivate others to adopt the new systems.

9.5.2 Change Management Requirements

Following outline, the responsibilities of the Successful/Selected Bidder with respect to designing and implementation of change management for the Project.

1. All changes requests should accompany ECN (Engineering Change Notes) Clearly mentioning the scope, Manpower, resources etc. required for functional point measurement.
2. The Successful/Selected Bidder shall conduct Change Management workshops to build appreciation of change management and develop change leadership across the stakeholder groups.
3. The Successful/Selected Bidder is required to conduct the Change Management Workshops for all the identified members in a phased manner in line with the overall implementation plan. These workshops shall be conducted at the Purchaser's locations.
4. The Successful/Selected Bidder shall conduct workshops for each group of personnel in sync with the capacity building plan.

5. The Successful/Selected Bidder shall conduct at least three Change Management Workshops (minimum of one-day) in the Purchasers Office for Group I comprise of Key senior officers.

6. The Successful/Selected Bidder shall conduct at least three Change Management Workshops (minimum of one-day) in the Purchasers for Group II comprising of key officers from Purchasers providing overall strategic direction towards the implementation of the project at the field level.

7. The Successful/Selected Bidder shall conduct at least three Change Management Workshops (minimum of one-day) in the Purchaser's for Group III & Group IV comprising of key officers from Purchasers.

8. The Successful/Selected Bidder is required to provide the necessary material for the workshops including presentations, training material etc. in both soft and hard copy formats. The workshop content & material shall be designed with specific focus on the requirements of the personnel. Successful/Selected Bidder shall design the necessary content (reading material, presentations) in English for the Change Management Workshops. Successful/Selected Bidder shall develop content – discussion scripts, presentations, or videos to explain the objectives of the program, what is in it for them and their people, what the benefits are.

9. The Successful/Selected Bidder shall also associate and train the identified internal change agents during these workshops so that subsequent workshops can be conducted by the internal change agents.

10. In case of any changes request/change management the final authority shall be with DDA to finalize weather the work is a change in scope or an existing software bug. For any Change request final authority shall be DDA to finalize whether the work is a change in scope or not. Also, if there is change in the scope then the payment shall be made on mutually agreed term.

11. The Successful/Selected Bidder shall employ innovative methods for the conduct of Change Management Workshops like:
    - Interactive Discussions
    - Case Studies / Success stories
    - Group Projects
    - Individual Presentations
    - Panel Discussions
    - Role Plays
    - Quizzes
    - Assessment Exercises

9.5.3 Communication and Awareness

Communication and Awareness aims at engaging Purchasers in a two-way interactive communication about the changes so that all individuals in the Purchasers understand the target vision and strategy for moving forward. The purpose of the communication plan is to educate and involve all audience groups to build understanding and ownership of the IT Integrated Solution.

The communication plan also ensures that the Integrated Solution provides relevant, accurate, consistent, and timely project information to relevant stakeholders to promote and gain support for the Project. This plan provides a framework to manage and coordinate the wide variety of communications that take place during the project covering who will receive the communications, how the communications will be delivered, what information will be communicated, who communicates, and the frequency of the communications.

Communication & Awareness campaigns will be conducted throughout the duration of the implementation of the project across the PIUs at Project, Program level as well as for General awareness.

- The Successful/Selected Bidder shall work with the identified internal change agents for all the Communication and Awareness Programs.
- The Successful/Selected Bidder shall utilize existing channels of communication and at the same time use innovative methods of communication for effectiveness.
- The Successful/Selected Bidder should ensure that the communication messages are consistent, continuous, and easy to understand and wherever possible in vernacular medium using all available channels.
- The Successful/Selected Bidder shall align communication content, timing, and delivery to the deployment plan of each solution.

Annexure D: Service Level Agreements & Penalty

9.6.1 Service Levels
This section describes the service levels to be established for the Services offered by the Successful/Selected Bidder to the Purchaser. The Successful/Selected Bidder shall monitor and maintain the stated service levels to provide quality service to the Purchaser

9.6.2 Definitions
1. **"Scheduled Maintenance Time"** shall mean the time that the System is not in service due to a scheduled activity as defined in this SLA. The scheduled maintenance time would not be during 16X5 timeframe. Further, scheduled maintenance time is planned downtime with the prior permission of the Purchaser
2. **"Scheduled operation time"** means the scheduled operating hours of the System for the month. All scheduled maintenance time on the system would be deducted from the total operation time for the month to give the scheduled operation time. The total operation time for the systems and applications within the critical client site infrastructure will be 24X7X365. The total operation time for the client site systems shall be the business hours of the Purchaser
3. **"System or Application downtime"** means accumulated time during which the System is totally inoperable within the Scheduled Operation Time but outside the scheduled maintenance time and measured from the time the Purchaser and/or its employees log a call with the Successful/Selected Bidder team of the failure, or the failure is known to the Successful/Selected Bidder from the availability measurement tools to the time when the System is returned to proper operation. Downtime will be considered post omission of scheduled maintenance where scheduled maintenance will be measured as per the logs maintained by SI.
4. **"Availability"** means the time for which the services and facilities are available for conducting operations on the Purchaser system including application and all its modules and common functionalities. Availability is defined as:
   {(Scheduled Operation Time – System Downtime) / (Scheduled Operation Time)} * 100%
5. **"Incident"** refers to any event / abnormalities in the functioning of the any of IT Equipment / Services that may lead to disruption in normal operations of the System or Application services.

9.6.3 Interpretation and General Instructions
1. The SLA parameters shall be monitored monthly as per the individual SLA parameter requirements. The Successful/Selected Bidder is expected to provide the following service levels. In case these service levels cannot be achieved at service levels defined in the tables below, it shall result in a breach of this service level agreement and invoke the penalty clause.
2. A Service Level violation will occur if the Successful/Selected Bidder fails to meet Minimum Service Levels monthly for a particular Service Level.
3. Quarterly SLAs would be analyzed. However, there would be month wise SLAs and all SLA targets shall be met monthly.

4. Overall Availability and Performance Measurements will be on a quarterly basis for the purpose of Service Level reporting. Month wise "Availability and Performance Report" will be provided by the Successful/Selected Bidder every quarter in the DDA suggested format and a review shall be conducted based on this report. Availability and Performance Report provided to the DDA shall contain the summary of all incidents reported and associated performance measurement for that period.

5. The primary intent of Penalties is to ensure that the system performs in accordance with the defined service levels. Penalties are not meant to be punitive or, conversely, a vehicle for cutting fees.

6. DDA shall have the right to encash the Performance Bank Guarantee or terminate the contract or both in any of the following cases:

   i. Overall penalty applicable on Successful/Selected Bidder for any of the Quarter exceeds 25% of the quarterly payment

   ii. Overall penalties applicable on Successful/Selected Bidder for both the consecutive Quarter is above 15% of the quarterly payment

9.6.4 Service Level Agreement

Following outlines, the key performance requirements for the Project, which need to be ensured by the Bidder. These performance requirements shall be strictly imposed, and continuous monitoring would be done to ensure the performance of the Portal against the target performance metrics. The performance requirements have been logically segregated in the following categories:

1. Functional Availability
2. Operations
3. Project Implementation
4. Resource

9.6.5 Functional Availability

Service Level Agreements for Functional Availability				
#	SLA Parameter	Target Performance	Description	Penalty Ref
Portal availability and performance				
1.	Availability of all Critical functionalities of the IFMIS as defined below: • All core modules mentioned in Annexure A • Report Access • Data Dissemination Layer Access • Search Engine Access • All APIs	>=99.5%	Availability of all functionalities for at least 99.5% of time measured on Quarterly basis for a 24x7x365 time.	1

Service Level Agreements for Functional Availability				
#	SLA Parameter	Target Performance	Description	Penalty Ref
2.	Server request dispatch time of all requests	99.5%	Response time of Page loading and Business Transaction Response Time	2

Table 24: Service Level Agreements for functional Availability

9.6.6 Operations

Service Level Agreements for Operations				
#	SLA Parameter	Target Performance	Description	Penalty Ref
Reporting and Analytics Solution				
4.	Timeliness of availability or the scheduled reports	On time	Measured as the availability of scheduled/periodic reports in the system as per pre-set date/ time	3
5.	Average generation time for any customized report	< 15 sec	Measured as the elapsed time between submitting a request for a custom report and the generation and display of the report to the user	4
6.	Rectification time for any reported violation of SLA with respect to Page response time	< 48 hours	Measured as the elapsed time between reporting of an SLA violation for any page response and the resolution of the issue to meet the SLA	5
7.	Time to Resolve	For Severity 1, 100% of the incidents should be resolved within 4 hours of problem reporting	Time taken to resolve the reported problem	7
8.	MTTR - Time to resolve	>=99.5% of Severity 2 within 8 hours of Problem reporting	Time taken to resolve the reported problem	8

Service Level Agreements for Operations				
#	SLA Parameter	Target Performance	Description	Penalty Ref
		Severity 3 within 24 hours of problem reporting		
9.	Percentage of reopened incidents	<= 2%	For all incidents which are designated resolved by the Successful/Selected Bidder but are re-opened by the client. This is calculated for all incidents reported within the quarter.	9
10.	Submission of Root Cause Analysis (RCA) Reports	Monthly	For all Severity 1 & Severity 2 incidents resolved during the month, Successful/Selected Bidder to submit RCA reports	10
Note: 1 A simple query is a query that searches using just one parameter 2 A medium complex query is a query that searched using parameters in addition to 2 or 3 types of criteria's 3 A highly complex query is a parameter query that searches using more than one parameter value i.e., on multiple criteria's				

Table 25:Service Level Agreement for Functional Availability

9.6.7   Project Implementation

Service Level Agreements for Project Implementation for DDA				
#	SLA Parameter	Target Performance	Description	Penalty Ref
Portal availability and performance				
1.	Delay in any of the project milestone as defined in Section 7 of Vol-II	< 15 days	Measured as the difference between the agreed planned date for the milestone defined in Section 7 of Vol-II and	11

Service Level Agreements for Project Implementation for DDA				
#	SLA Parameter	Target Performance	Description	Penalty Ref
			the actual date of its completion	

Table 26: Service Level Agreements for Project Implementation

9.6.8   Resource

Service Level Agreements for Resource for DDA				
#	SLA Parameter	Target Performance	Description	Penalty Ref
Portal availability and performance				
1.	Deployment of Resource	< 7 calendar days	The deployment of resources shall be done within 7 days from LOA.	12
2.	Absence of Resource	0	Other than approved leaves and if substitute resource is not provided of resource on the working days as DDA calendar	13
3.	Replacement of Key Personnel Resource	0	In case of resource leaves the organization or DDA asks to replace the resource due to lack of performance or required skillset or reason mentioned in module	14

Table 27: Service Level Agreements for Resource

9.6.9   Portal

#	SLA Parameter	Function	Average End -to End response Times	Penalty Ref

| 1. | Availability of all Critical functionalities of the Portal | Login & Authentication | <=2 seconds | 15,16, 17, 18 |
| | | Rendering of portal pages | <=2 seconds | |

Table 28: Service Level Agreements for Portal

9.6.10 Monitoring & Surveillance

Sr. No		Function	Average End -to End response Times	Penalty Ref
1.	Availability of all Critical functionalities of the Monitoring & Surveillance	Rendering of other application pages	<=2 seconds	15, 16, 17, 18
		Queries	<=3 seconds	
		Rendering of MIS report	<=10 seconds	
		Rendering of Exception report	<=10 seconds	
		Rendering of Executive dashboard	<=30 seconds	

Table 29: Service Level Agreements for Monitoring & Surveillance

9.7.1 Penalty

A Penalty no. is mentioned in "Penalty" column of above table against each SLA. These numbers refer to S. No. in penalty table which is as follows. Penalty table includes penalty that would be levied on Successful/Selected Bidder on non-achievement of SLAs. Slabs have been created for each SLA and penalty would be imposed on Successful/Selected Bidder asper the SLA achievement/ non-achievement for the period under consideration. Penalties are mentioned as a percentage of certain components of cost, for example, support cost or call center cost etc. For levying penalty on non-performance during sustenance support period, Equated Monthly Installment (EMI) of Operations & maintenance phase would be considered for calculation purpose. Penalty would be deducted from the next payment being made to bidder.

Penalties for SLA Criteria's for DDA		
#	SLA Parameter	Penalty Description
1.	Availability of all Critical functionalities of the new envisaged IFMIS	Penalty will be levied as per the following table: <table><tr><td>% Availability</td><td>Penalty as % of the Equated Quarterly Instalment (EQI) of Operations & Maintenance cost</td></tr><tr><td><99.5%&>=99%</td><td>0.5%</td></tr><tr><td>< 99% &>= 98%</td><td>1%</td></tr><tr><td>< 98% &>= 97%</td><td>2%</td></tr></table> For each additional drop of 1% in performance below 97%, 2% of EMI of Operations & Maintenance will be levied as additional penalty.

Penalties for SLA Criteria's for DDA		
#	SLA Parameter	Penalty Description
2.	Server request dispatch time of all requests	**Average elapsed time (In seconds)** / **Penalty as % of the Equated Quarterly Instalment (EQI) of Operations & Maintenance**

Average elapsed time (In seconds)	Penalty as % of the Equated Quarterly Instalment (EQI) of Operations & Maintenance
<17 &>=15	0.5%
< 19 &>= 17	1%
< 21 &>= 19	2%

For each additional drop of 2 second in performance above 21 seconds, 3% of EMI of Operations & Maintenance cost will be levied as additional penalty. Log shall be maintained by SI for minimum of 6 months and shall be submitted to DDA.

#	SLA Parameter	Penalty Description
3.	Timeliness of availability or the scheduled canned reports	For each occurrence of unavailability, 1% of EMI of Operations & Maintenance cost will be levied as penalty
4.	Average generation time for any customized report	Penalty will be levied as per the following table:

Average elapsed time (In seconds)	Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance
<17 &>=15	0.5%
< 19 &>= 17	1%
< 21 &>= 19	2%

For each additional drop of 2 second in performance above 21 seconds, 3% of EMI of Operations & Maintenance cost will be levied as additional penalty.

#	SLA Parameter	Penalty Description
5.	Rectification time for any reported violation of SLA with respect to Page response time	Penalty will be levied as per the following table:

Average elapsed time (In hours)	Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance
<60 &>=48	0.5%
<72 &>= 60	1%
<84 &>= 72	2%

For each additional drop of 1 hour in performance above 84 hours, 3% of EMI of Operation & Maintenance cost will be levied as additional penalty.

#	SLA Parameter	Penalty Description
6.	Time to Resolve	Penalty will be levied as per the following table:

Penalties for SLA Criteria's for DDA			
#	SLA Parameter	Penalty Description	
		% Transaction with more response time as mentioned in SLA table (Severity wise)	**Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance**
		<100% &>=98%	0.5%
		<98% &>=96%	1%
		<96% &>=94%	2%
		For each additional drop of 1% in performance below 94%, 2% of EMI of Operation & Maintenance cost will be levied as additional penalty.	
7.	MTTR - Time to resolve	Penalty will be levied as per the following table:	
		% Transaction with more response time as mentioned in SLA table (severity wise)	**Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance**
		<95% &>=93%	0.5%
		<93% &>=91%	1%
		<91% &>=89%	2%
		For each additional drop of 1% in performance below 89%, 2% of EMI of Operation & Maintenance cost will be levied as additional penalty.	
8.	Percentage of reopened incidents	Penalty will be levied as per the following table:	
		% Of reopened Incidents	**Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance cost**
		<=4% &>2%	0.5%
		<=6% &>4%	1%
		<=8% &>6%	2%
		For each additional increase of 2% in reopened incidents above 8%, 2% of EMI of Operations & Maintenance cost will be levied as additional penalty.	
9.	Submission of Root Cause Analysis (RCA) Reports	For delay of every 2 days in submitting Root Cause Analysis (RCA) report above 5 days, 1% of Operations & Maintenance cost for that month will be levied as penalty.	

	Penalties for SLA Criteria's for DDA	
#	**SLA Parameter**	**Penalty Description**
10.	Delay in any of the project milestone as defined in Section 7 of Vol-II	If the Successful/Selected Bidder fails to achieve the completion of any milestones within the defined duration in Section 7 of Vol-II, the payment to the bidder will be withheld @2.5% per week or part of the week for that milestone payment for any delay. Also, the decision shall be lied with DDA based on further justification provided by the MSP.
11.	Deployment of Resource	In case of delay in deployment of any resource, the INR 2000 per person per day shall be deducted.
12.	Absence of Resource	If any key personnel or resources are absent on any day, INR 2000 per person per day shall be deducted from the original contract/bill payment.
13.	Replacement of Key Personnel	If resource with similar or better qualification/experience is supplied, then penalty will be levied for the period of absence. For every replacement there should be a knowledge transfer period of 15 days, in case resource is not providing KT for 15 days, this should be considered as absence. And penalty will be levied as per point number 13.
14.	**Availability of all Critical functionalities of the Portal** a) Login & Authentication b) Rendering of portal pages **Availability of all Critical functionalities of the Monitoring & Surveillance** a) Rendering of other application pages	Penalty will be levied as per the following table: **Table** (see below) For each additional drop of 2 second in performance above 21 seconds, 3% of respective Project phase cost will be levied as additional penalty.
15.	**Availability of all Critical**	Penalty will be levied as per the following table: **Table** (see below)

Table for item 14:

Average elapsed time (In seconds)	Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance
<4 &>=3	0.5%
<6 &>= 5	1%
< 10 &>= 7	2%

Table for item 15:

Average elapsed time (In seconds)	Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance
<6 &>=5	0.5%
<8 &>= 7	1%
< 15 &>= 9	2%

#	SLA Parameter	Penalty Description
	Penalties for SLA Criteria's for DDA	
	functionalities of the Portal a) All online transactions (without document upload) b) All online queries **Availability of all Critical. functionalities of the Monitoring & Surveillance** a) Queries	For each additional drop of 2 second in performance above 21 seconds, 3% of respective Project phase cost will be levied as additional penalty.
16.	**Availability of all Critical functionalities of the Monitoring & Surveillance** a) Rendering of MIS report b) Rendering of Exception report	Penalty will be levied as per the following table: See table below. For each additional drop of 2 second in performance above 21 seconds, 3% of respective Project phase cost will be levied as additional penalty.
17.	**Availability of all Critical functionalities of the Portal** a) All online transactions (with document upload) b) All downloads (documents, e-learning content) **Availability of all Critical functionalities of the Monitoring & Surveillance** a) Rendering of Executive dashboard	Penalty will be levied as per the following table: See table below. For each additional drop of 2 second in performance above 21 seconds, 3% of respective Project phase cost will be levied as additional penalty.

Table for #16:

Average elapsed time (In seconds)	Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance
<11 &>=10	0.5%
<13 &>= 12	1%
< 20 &>= 14	2%

Table for #17:

Average elapsed time (In seconds)	Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance
<31 &>=30	0.5%
<33 &>= 32	1%
< 40 &>= 34	2%

Penalties for SLA Criteria's for DDA		
#	SLA Parameter	Penalty Description
Note: Overall Project penalty would not exceed more than 10% of the total Project cost (as indicated in Form 2 of Annexure 4 of Volume 1 of this RFP). If the overall project penalty goes beyond 10% at any point during project execution, the Purchaser reserves the right to terminate the contract and forfeit the PBG.		

Table 30: Penalties for SLAs Criteria

Annexure E: Application Service Compliance Criteria

9.8.1 IFMIS Architecture

#	Specifications	Compliance (Yes/No)	Comments
1.	The solution should be compatible with both Windows and Linux operating systems	Yes	
2.	The solution should provide Scalability and High Performance leveraging cost-effective architecture	Yes	
3.	The solution should have the ability to be configured on commodity hardware which gives the scalability and brings down upfront capital investments for an organization	Yes	
4.	The solution shall be available in the Cloud Foundry environment for deploying, managing, orchestrating, and updating enterprise cloud applications	Yes	

Table 31: DDA Architecture Compliance Specifications

9.8.2 Enterprise Portal & Content Management

#	Specifications	Compliance (Yes/No)	Comments
1.	Proposed tool should have the quicker mechanism of creating, deploying, managing, editing, storing, preserving & delivering the content, videos, photos, audios, links as well as embedded graphics on web page	Yes	
2.	Should support Single sign-on	Yes	
3.	Should have versioning feature to allow track new versions as well as roll back to previous versions	Yes	
4.	Should provide support/interoperable with multiple databases.	Yes	
5.	Proposed tool should have facility of one click page creation & quick site creation	Yes	

Enterprise Portal & Content Management Service Compliance Criteria for DDA			
#	Specifications	Compliance (Yes/No)	Comments
6.	Proposed tool should allow to combine web content alongside web application portlet, widgets	Yes	
7.	Proposed tool should have capability to administer user defined contents including content, videos, audios etc.	Yes	
8.	Should be able to address both structured and unstructured data	Yes	
9.	Proposed tool should have facility to automatically generate a hierarchical site map for the entire portal	Yes	
10.	The proposed tool should capability of dynamic keyword tagging to web content	Yes	
11.	The proposed tool should make content pages instantaneously searchable by external search engines.	Yes	
12.	The proposed tool should have internal workflow engine	Yes	
13.	The proposed tool should have workflow-based lifecycle from content creation to review and approval, and finally publishing of the content, as per Access Control to users and groups	Yes	
14.	The proposed tool should be capable of search, archiving and versioning of the content	Yes	
15.	The proposed tool should have capability of live page editing and scheduling without affecting published content	Yes	
16.	The proposed tool should provide all relevant functionalities to provide centralized knowledge base	Yes	

Table 32: Enterprise Portal Compliance Specifications

9.8.3 Data Dissemination and Acquisition

Data Dissemination and Acquisition Compliance Specifications for DDA			
#	Specifications	Compliance (Yes/No)	Comments
1.	The solution should provide capabilities to Drill up and down through hierarchies, or expand and collapse entire levels	Yes	

Data Dissemination and Acquisition Compliance Specifications for DDA			
#	Specifications	Compliance (Yes/No)	Comments
2.	The solution should provide the capability to export data to Excel, PDF, Text and CSV/TSV document formats	Yes	
3.	The solution should be capable of read and write of comments in reports to aid in collaboration	Yes	
4.	The solution should allow users to Capture screenshots	Yes	
5.	The solution should allow users to Receive Alerts	Yes	
6.	The solutions should have the capability to custom colors across reports and sessions	Yes	
7.	Self-service capability to import data from databases	Yes	
8.	The solution should be capable of applying filters on aggregated variables	Yes	
9.	The solution should be capable of Parameterized Calculations / Display Rules / Filters / Ranks	Yes	
10.	The solution should be capable to schedule & distribute reports/dashboards	Yes	
11.	The solution should have both simple & advance variable aggregation options	Yes	
12.	The solution should allow users to securely view reports on mobile devices while online or offline	Yes	
13.	The solution should support viewing Reports and Dashboards in Office solutions	Yes	
14.	The solution should have capability to monitor User sessions	Yes	
15.	The solution should provide ability to Refresh reports from the device	Yes	
16.	The solution should provide server-side logging for user actions like downloading of reports.	Yes	
17.	The solution should have 'out of the box' usage report	Yes	

Data Dissemination and Acquisition Compliance Specifications for DDA			
#	**Specifications**	**Compliance (Yes/No)**	**Comments**
18.	Interactively evaluate lift at different percentiles	Yes	

Table 33: Data Dissemination and Acquisition Compliance Specifications

9.8.4 Data Management Service

Data Management Compliance Specifications for DDA			
#	**Specifications**	**Compliance (Yes/No)**	**Comments**
1.	The solution should be able to seamlessly call Data Quality functionalities such as data standardization (standardizing city, state etc.) as part of the ETL process flow	Yes	
2.	The solution should be able to seamlessly call Data Quality processes as a web service for de-duplication, as part of the ETL process flow	Yes	
3.	The ETL tool should provide for Multiple-user design environment with a governance mechanism to prevent corruption of data integration related objects, and supports collaboration on large, enterprise-wide projects.	Yes	
4.	The solution should provide the ability to create User Written Code transformations, which allows leveraging custom code as part of the ETL process flow	Yes	
5.	The solution should provide the capability to create customized transformations which can be reused across ETL process flows	Yes	
6.	The solution should provide a utility to check if a particular transformation can be executed inside the database	Yes	
7.	The solution should provide an in-built analytical transformation to perform forecasting on time-series or transactional data as part of the ETL process flow	Yes	
8.	The solution should have the ability for Command-line job deployment options for deploying single and multiple jobs	Yes	

Data Management Compliance Specifications for DDA			
#	Specifications	Compliance (Yes/No)	Comments
9.	The solution should provide the ability to execute external OS level commands such as call shell scripts as part of the ETL process	Yes	
10.	The solution should provide the capability to assign checkpoints in the ETL process flow to ensure recovery and de-bugging in case of failure, interruptions, or errors	Yes	
11.	The solution should provide enhanced logging capabilities accessible from a log tab which can help determine the point of failure of the ETL process and the corresponding error highlighted in the code	Yes	
12.	The solution should provide the capability to drill through to source level information in the data profiling report	Yes	
13.	The solution should perform the data quality functionalities without creating a copy of the data in a proprietary/external format	Yes	
14.	The solution should enable parsing of data into atomic level information for better matching	Yes	
15.	The solution should provide open-source code executions	Yes	
16.	The solution should have the capability to identify duplicates and cluster records	Yes	
17.	The solution should have intuitive, flexible rules to identify households	Yes	
18.	The solution should have the ability to have options for automatic merging of clustered records	Yes	
19.	The solution should have the capability to enrich data from external/third party data sources	Yes	
20.	Does the system provide audit trails?	Yes	
21.	Does the system have the capability to set alerts?	Yes	
22.	Does the system enable enforcing data governance rules?	Yes	

Data Management Compliance Specifications for DDA			
#	Specifications	Compliance (Yes/No)	Comments
23.	Can we create customized rules to validate and audit operational processes?	Yes	
24.	The solution should be capable of handling positive and negative duplicates at real time	Yes	
25.	The solution should have an out-of-the-box Email.	Yes	

Table 34: Data Management Compliance Specifications

Annexure F: Manpower Qualification Criteria

Proposed Resources for IFMIS			
#	Role	Experience Level (years)	Minimum Qualifications
1	Project Manager	15	Education: Full Time B. Tech/B.E. and MBA / M.Tech from a reputed institute is mandatory — Total Experience: Should possess at least 15 years of experience in IT domain. — Should have more than 7 years of experience in handling large projects as a project/program manager — Should have led at least two such project of comparable nature that must include development, deployment, UAT & O&M phase
2	Solution Architect	15	Education: Full Time B. Tech/B.E. is mandatory and MBA / M.Tech from a reputed institute is preferred — Total Experience: At least 15 years of experience in IT, with significant time spent in solution architecture and system integration. — Proven track record of designing and implementing IFMIS or similar large-scale financial management systems — Deep understanding of software architecture, system integration, and financial management systems.
3	Business Analyst	8	Education: Should have a minimum educational qualification of B.Tech. (in Computer Science/IT/EC) or BCA or equivalent. Master's degree in finance, MBA is preferred — At least 8 years of experience in business analysis, with a significant portion of that time spent working on IFMIS projects

			— Proficiency in financial management software, data analysis tools, and business intelligence platforms — Relevant certifications such as Certified Business Analysis Professional (CBAP)
4	UI /UX Designer	4	A bachelor's degree in design, Computer Science, Graphic Design, Human-Computer Interaction, or a related field. — Total Experience: Should possess at least 4 years of experience in UI/UX. — Proficiency in UX tools and processes, such as wireframing, prototyping, and user testing — Strong understanding of UI patterns and design principles with a solid portfolio showcasing previous UX research and design projects
5	QA Test Engineers	12	Education: Full time MCA/M. Tech/B. tech/B.E. (Preferably Computer science and Information Technology) — Minimum 12 years of relevant work experience — Well-rounded experience with multiple operating systems, virtualization technologies, and test environments — Proficiency with database technology (e.g., Oracle, SQL)
6	DBA	8	Education: Full time MCA/M. Tech/B. tech/B.E./Certified DBA — Total Experience: At least 8 years in IT domain — Should have experience of more than 5 years in Database architecting/design in large projects of similar nature — Experienced in database activities like instance tuning, schema management, space management, backup and recovery, disaster recovery, data replication, database refresh etc.
7	Front end Developer 1	8	Education: Full time MCA/M. Tech/ B.Tech/BE or equivalent — At least 8 years of experience in frontend development, with a significant portion of that time spent on large-scale financial management systems or similar projects — Proficiency in frontend technologies such as HTML, CSS, JavaScript, and frameworks like React, Angular — Extensive experience in developing user interfaces for financial management systems — Experience in creating responsive web applications
8	Front end Developer 2	5	Education: Full time MCA/M. Tech/ B.Tech/BE or equivalent — At least 5 years of experience in frontend development, with a significant portion of that time spent on large-scale financial management systems or similar projects — Proficiency in frontend technologies such as HTML, CSS, JavaScript, and frameworks like React, Angular — Proficiency in using version control systems like Git

9	Backend Developer 1	10	Education: Full time MCA/M. Tech/ B.Tech/BE or equivalent — At least 10 years of experience in backend development, with significant time spent on large-scale financial management systems or similar projects — Proficiency in backend technologies such as Java, Python, C#, or Node.js — Strong experience with relational databases (e.g., MySQL, PostgreSQL) and NoSQL databases (e.g., MongoDB) — Expertise in designing and developing RESTful APIs
10	Backend Developer 2	8	Education: Full time MCA/M. Tech/ B.Tech/BE or equivalent — At least 8 years of experience in backend development, with significant time spent on large-scale financial management systems or similar projects — Proficiency in backend technologies such as Java, Python, C#, or Node.js — Strong experience with relational databases (e.g., MySQL, PostgreSQL) and NoSQL databases (e.g., MongoDB) — Expertise in designing and developing RESTful APIs
11	Backend Developer 3	5	Education: Full time MCA/M. Tech/ B.Tech/BE or equivalent — At least 5 years of experience in backend development, with significant time spent on large-scale financial management systems or similar projects — Proficiency in backend technologies such as Java, Python, C#, or Node.js —Experience with relational databases (e.g., MySQL, PostgreSQL) and NoSQL databases (e.g., MongoDB) — Expertise in designing and developing RESTful APIs
12	DevOps	5	Education: Should have a minimum educational qualification of B.Tech. (in Computer Science/IT/EC) or BCA or equivalent. — At least 5 years of experience in DevOps, with a focus on automation, continuous integration/continuous deployment (CI/CD), and infrastructure management — Experience in automating and managing infrastructure for financial management systems — Proficiency in DevOps tools and practices, including CI/CD pipelines, Infrastructure as Code (IaC), and Configuration as Code (CaC)
13	Technical writer	6	Education: CA/MBA Finance — At least 3 years of experience in Finance, with a focus on implementation for complex systems like IFMIS in public finance domain. — Proven experience in Finance project.

			— Strong communication skills demonstrated through previous project documentation. —Relevant certifications or licenses that validate their expertise.
14	Infra Engineer	15	Education: Full time MCA/M. Tech/ B.Tech/BE or equivalent — At least 15 years of experience in IT infrastructure, with significant time spent on large-scale financial management systems or similar projects — Deep understanding of network architecture, server management, cloud computing, and cybersecurity — Relevant certifications such as Cisco Certified Network Professional (CCNP), Microsoft Certified: Azure Solutions Architect Expert, or similar is preferred
15	ETL Developer	5	Education: Full time MCA/M. Tech/ B.Tech/BE or equivalent - 5 year experience. - Proficiency in SQL and database management - Knowledge of ETL tools like Informatica, Talend, or SSIS - Understanding of data warehousing concepts - Strong problem-solving and debugging skills - Familiarity with data transformation techniques and best practices
16	Data Architect	5	Education: Full time MCA/M. Tech/ B.Tech/BE or equivalent - 5-year experience. - Creating blueprints for data management systems to integrate, centralize, protect, and maintain the data sources. - Establishing data quality, integrity, and security standards. - Working closely with other IT staff and business stakeholders to understand the needs and objectives. - Overseeing the implementation of databases and data processing systems. - Creating data models that support business processes and align with organizational goals. - Optimizing database performance and ensuring efficient data retrieval. - Implementing measures to safeguard sensitive data and ensure compliance with regulations.

Annexure G: External Integration with Applications/Portals

#	Department	Application Name	Responsibilities	URL	Current Payment	Current Receipt	In proposed system
1	Budget	Online Budget Compilation System	Addition of budget code and addition of major and minor description	http://98.70.109.43/onlinebudget/	N	N	Will be replaced by e-Budget
2	Land costing	IDLI	e-mutation, e-EOT (extension of time for construction of plots), e-Conversion (Plotted properties) and re-apply for rejected properties.	IDLI SYSTEM || Delhi Development Authority (dda.org.in)	Y	Y	To be Integrated in phase 1
		BHOOMI	It offers services related to Land Disposal, Land inventory Management, Damage Assessment, Processing letter request etc.	Login: Delhi Development Authority (dda.org.in)	Y	Y	To be Integrated in phase 1
		E-auction	The e-auction is happening through SBI portal.	SBI (e-tender SBI)	Y	Y	To be Integrated in phase 1
		Land Pooling Portal	Expression of willingness for participation under land pooling scheme	https://online.dda.org.in/landpooling/appform			
3	Housing	Awaas	This portal provides details of all payment & receipts data manually entered data & API integrated.	User Login: Delhi Development Authority (dda.org.in)	Y	Y	To be Integrated in phase 1
		AWAAS NEW	This portal provides all the information, and services related to DDA's housing schemes to the citizens. Its	User Login: Delhi Development Authority (dda.org.in)	Y	Y	To be Integrated in phase 1

| # | Department | Application Name | Responsibilities | URL | Current | | In proposed system |
					Payment	Receipt	
			major components are general schemes, real time booking of plots/flats.				
			Single sign on portal for around 33 applications.				To be Integrated in phase 1
			Appointment for Personal Hearing				
			Housing conversion for allotee and attorney; RWA maintenance request form		Y	Y	To be Integrated in phase 1
			Application for addition alteration		Y	Y	To be Integrated in phase 1
		Citizen Services	Application form for registration of RWA	Delhi Development Authority (dda.org.in)	Y	Y	To be Integrated in phase 1
			Application form for allotment of office space		Y	Y	To be Integrated in phase 1
			Land use change public suggestion and objection.		Y	Y	To be Integrated in phase 1
			Master plan amendment public suggestion/objection				To be Integrated in phase 1
			Application form for process of lease restoration		Y	Y	To be Integrated in phase 1
			Lease and license fees for administration		Y	Y	To be Integrated in phase 1
			Request form for permission of diesel, LPG, petrol, outlet		Y	Y	To be Integrated in phase 1

| # | Department | Application Name | Responsibilities | URL | Current | | In proposed system |
					Payment	Receipt	
			Application form for the mortgage of flat or plot		Y	Y	To be Integrated in phase 1
			Application form for lost property		Y	Y	To be Integrated in phase 1
			Application form for park booking.		Y	Y	To be Integrated in phase 1
			Application for adoption of park		Y	Y	To be Integrated in phase 1
			Application form for permission of lift		Y	Y	To be Integrated in phase 1
			Contract/deputation/direct service		Y	Y	To be Integrated in phase 1
			Published forms		Y	Y	To be Integrated in phase 1
		Challan Generation	Online Payment for DDA Flats/ Plots/ Group Housing Properties/ Cooperative Society/ Unauthorized Colonies. Users can generate Challan, make payment (if Challan is created), re-print e-challan, check payment status, charge back request.	Online Payment System (dda.org.in)	Y	Y	To be Integrated in phase 1
4	Zones	E-MB		Online Measurement Book Filling System (dda.org.in)	Y	Y	To be Integrated in phase 1
		Online Booking		https://online.dda.org.in/booking/Admin_login.aspx	Y	Y	To be Integrated in phase 1

#	Department	Application Name	Responsibilities	URL	Current Payment	Current Receipt	In proposed system
		Water Bill Online		Water Bill Online Payment System - Delhi Development Authority (dda.org.in)	Y	Y	To be Integrated in phase 1
		Sports		DDA-Login (ddasports.com)	Y	Y	To be Integrated in phase 1
5	Establishment	Online Pay slip Generation Module	DDA Employees can generate their salary/pay slip online via this system.	Login: Integrate Financial Management System (dda.org.in)	M	M	To be Integrated in phase 2
		Staff Benefit Fund	Approval and Disbursement of Staff Benefit Fund	http://98.70.109.43/sbf/			
6	Pension	Pension Calculator	The pension amount shall be calculated by this application.	Delhi Development Authority	M	M	
7	Medical	OPD Bill		Delhi Development Authority	Y	Y	Y
8	Account Main	Tally			Y	Y	To be Integrated in phase 1
9	Land	Land Pooling	Land pooling is a method used to consolidate small land parcels from multiple landowners into a larger, contiguous area for planned development	https://online.dda.org.in/landpooling/appform)	Y	Y	To be Integrated
10	ERP	Staff Benefits	This fund provides financial assistance for various purposes, including higher education for employees'	http://98.70.109.43/sbf/)	Y	N	Integrate with IFMIS system

#	Department	Application Name	Responsibilities	URL	Current		In proposed system
					Payment	Receipt	
			children and recreational activities				
11	Zone	Qutab Golf Course	Playing Rights/Membership For Qutab Golf Course	https://online.dda.org.in/golf course/Home.aspx)	Y	Y	Integrate with IFMIS system

Table 35: External Integration with Applications/Portal