



Warehousing Development & Regulatory Authority

Request For Proposal (RFP)

For

**Onboarding of Managed Service Provider for Design, Development,
Implementation, Operation & Maintenance of WDRA Portal**

Volume - II

Issued by

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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 |
| MIS | Management Information System |
| MoU | Memorandum of Understanding |
| MSA | Master Service Agreement |
| MSP | Managed Service Provider |

| Abbreviation | Details |
|--------------|--|
| 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 |
| WDRA | Warehousing Development and Regulatory Authority |
| WHM | Warehouseman Registration |
| WH | Warehouse Registration |
| 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) to Design, Develop, Implement, Operate and Maintain the WDRA Portal for the Warehousing Development and Regulatory 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, Operate and Maintain the WDRA Portal (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 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 Successful/Selected Bidder at the time of onboarding.

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1 Section 1: Overview

1.1 About WDRA

The Warehousing Development and Regulatory Authority (WDRA) was constituted on 26.10.2010 under the Warehousing (Development and Regulation) Act, 2007 vide Government of India Gazette Notification dated 26th October 2010. The Act provides for the establishment of the WDRA to exercise the powers conferred on it and to perform the functions assigned to it under the Act, Rules and Regulations for the development and regulation of warehouses, negotiability of warehouse receipts and promote orderly growth of the warehousing business in the country.

The WDRA is a Statutory Authority under the Department of Food and Public Distribution, Government of India. The Authority has its Headquarters in New Delhi. WDRA stands as a pivotal institution in the domain of warehousing and storage facilities within the Indian subcontinent and is entrusted with the task of regulating and promoting the warehousing sector, ensuring its seamless integration with the broader logistics ecosystem. Over the years, WDRA has been instrumental in fostering transparency, efficiency, and innovation within the warehousing industry, thereby catalyzing economic growth and agricultural development. With a comprehensive mandate to set standards, facilitate licensing, and monitor compliance, WDRA plays a crucial role in bolstering the nation's supply chain infrastructure.

As part of its ongoing commitment to excellence, WDRA invites proposals from qualified and experienced entities to collaborate in the Design, Development, Implementation, Operation & Maintenance of WDRA Portal. The selected partner will contribute significantly to the realization of WDRA's vision of a robust, technologically advanced, and inclusive warehousing ecosystem that underpins India's progress on the global stage.

1.2 About WDRA Portal

The WDRA aims to foster greater trust among stakeholders, including depositors, banks, financial institutions, and commodity exchanges, through the effective use of WDRA Portal by promoting transparency, accountability, and effective governance.

In 2014, WDRA embarked on a comprehensive Transformation Plan, which culminated in the digitization of the WDRA Portal. This initiative saw the development of a robust digital ICT infrastructure aimed at enhancing operational efficiency, improving service delivery, and promoting quality services. Key components of this include:

- Automated and paperless back-office system for streamlined processing and efficiency.
- State-of-the-art monitoring and surveillance system for effective supervision and enforcement, leveraging real-time data analysis and on-site verification.
- User-friendly online portal providing transparent access to information and facilitating seamless interaction between regulated entities, the public, and WDRA.
- Electronic storage of WDRA Portal information through integration with Repositories (NERL and CCRL), ensuring efficient data management and retrieval.
- Seamless integrations with various external systems to support business operations and promote interoperability.

As the warehouse industry continues to evolve, WDRA recognizes the need to continuously assess and refine its WDRA Portal to address the emerging challenges and opportunities. To achieve this, WDRA has conducted periodic re-evaluation and re-engineering of its processes and have identified certain key areas to be integrated the newly designed & developed WDRA portal to ensure alignment with the dynamic needs of the industry and maintain excellence in service delivery.

Hence, to have alignment with the new compliances, processes and increasing user base, WDRA portal has been conceptualized to include the following key themes:

1. The overall system, application, and databases to be developed using open-source technology and solutions.
2. Data Driven Governance to strengthen, optimize, and fast track decision making.
3. Unified and Integrated Digital Platform Ecosystem for various stakeholders like External Inspection Agencies, Financial Institutions, Other Government department and Citizens to access data reports, help in effective monitoring, ease of visibility and trackability through dashboards, and analytical platform to promote sound decision making.
4. Data Synchronization across different users and departments to avoid data conflicts, meet compliances, and keep data consistent over a period.
5. Effective Dashboard Design for senior management, mid-management, and administrative users of WDRA and employers. The dashboard will display relevant reports, widgets, or navigation specific to each type of user.
6. Innovative Features like the introduction of capability of geo-tagging, secure transaction of money, auto-fill, pre-populating of forms, single sign-on and online exchange of data.
7. Streamlined Processes for registration, licensing, return and inspection across Establishments to avoid duplicity and promote ease of doing business etc.
8. Timely Redressal of Complaints / Grievances for speedy resolution of problems leading to smooth functioning.
9. User-Centric Design for easy navigation among different modules, quick access to knowledge management repository, and comprehensive touchpoints for positive experience of users.
10. Tracking of applications, appeals, requests, etc. (event and time based) by the users.
11. Introduction of New Modules as needed in consultation with WDRA officials over the period.
12. Accessibility to navigate information easily and quickly on various platforms, including mobile apps, browsers, and desktop. Along with the Multi-Lingual feature to enhance the reach of the portal.
13. Data/information collection and dissemination: WDRA Portal is envisaged to become a platform of choice for all users/stakeholders.

To allow successful inclusion of the above stated salient features, and to ensure a holistic development and implementation of WDRA Portal, Six Guiding Principles would be adopted which are depicted below:

1. **Usability and Inclusion** – To develop a system, it is important to understand the interconnection between users and the system. Multiple user-friendly options like motivate the users to come back to the portal and provide an opportunity to overcome barriers that might occur in the digital landscape.
2. **Easy to Accept and Adopt** – The system shall have processes that are designed to have reduced complexity, minimal compliance, maintain knowledge repositories that are easy to customize/configure and offer openness in all areas.

3. **Optimum Assets Utilization** – design scalable and inclusive solution utilizing existing assets, if feasible
4. **Secured Environment** – Data Security shall be ensured through controlled use of information, and inclusion of auditing as part of the security awareness generation process.
5. **Future Readiness** – system shall operate within the virtues of speed and innovation.
6. **Seamless Integration** – The system shall be a centralized platform having a convergence of all application data from different warehouses.

1.3 WDRA Functional Architecture and Modules overview

In view of the above, the Warehousing Development and Regulatory Authority has envisaged upgrading WDRA portal to a cutting-edge, unified platform for seamless management of warehousing operations. This next-generation portal will boast a robust data-sharing mechanism, fostering efficiency within the system and facilitating collaboration with external stakeholders with the refined & new processes for the key components of the portal.

In view of the functional, administrative and technology related expectations from WDRA Portal, envisaged **Business Architecture for WDRA Portal** has been conceptualized, the same is presented below for reference:

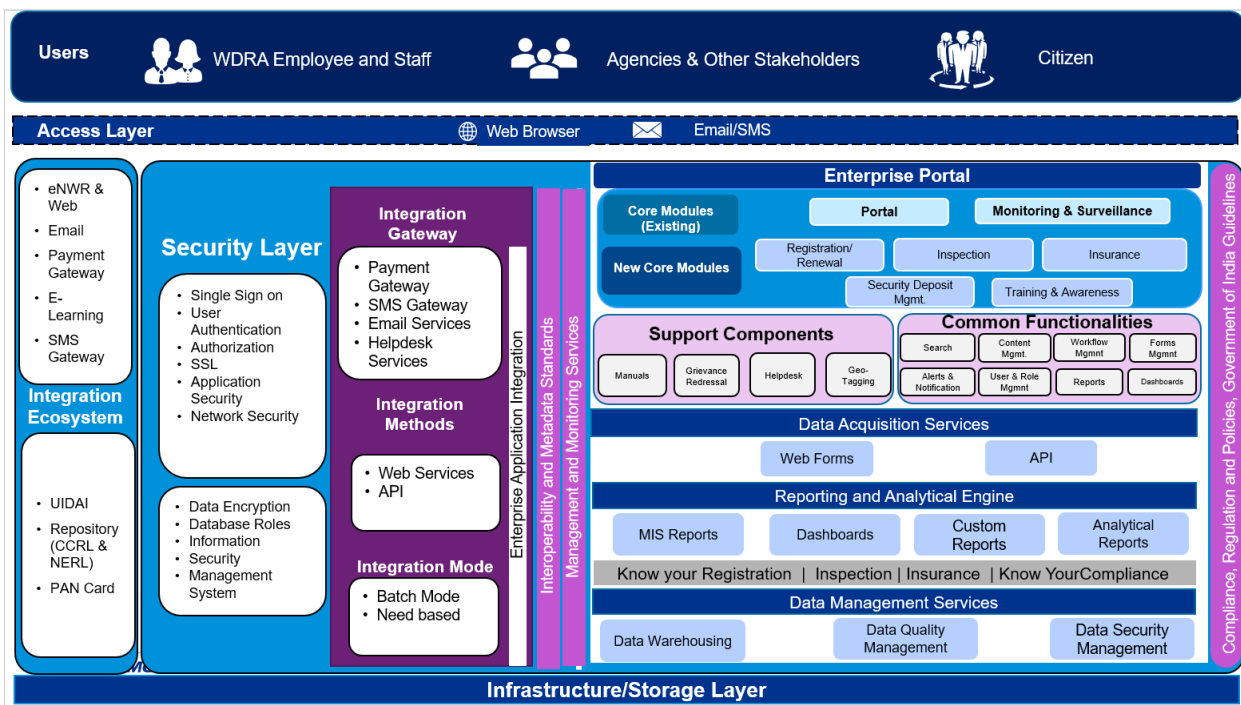


Figure 1: Indicative Business Architecture of WDRA Portal

The Business Architecture emphasizes on need for envisaged portal with comprehensive coverage of core modules, support components, common functionalities, and user-friendly features. The new portal would have an efficient data sharing mechanism within the system and with external entities as well.

The brief description of the Core modules, Support Components and Common Functionalities has been provided below for reference:

| Brief on Core Modules (Existing and the new to be Developed) | | |
|---|---------------------------------|--|
| # | Component | Brief Description |
| A. | Portal | The WDRA Portal is a robust warehouse management system offering streamlined end to end management of warehousing processes by providing a series of services for the stakeholders in the warehousing sector. The portal allows users to register themselves and their warehouses, submit applications for licenses and renewals, and make payments online. The detailed functional requirements of the WDRA Portal are appended in Annexure-A. Existing Module will be redeveloped to make the overall solution more robust, modular, and comprehensive in nature. The Successful/Selected Bidder shall carry out the required redesign of the department as per the need over the period. |
| B. | Monitoring & Surveillance (M&S) | The M&S module is designed to provide real-time monitoring and surveillance of various aspects of the organization's operations and emphasize for a comprehensive system, highlighting the importance of secure application functions with role-based access control streamlining data management and analysis processes within for WDRA. The detailed functional requirements of the WDRA Portal are appended in Annexure-A. Existing Module will be redeveloped to make the overall solution more robust, modular, and comprehensive in nature. The Successful/Selected Bidder shall carry out the required redesign of the department as per the need over the period. |
| Brief on New Requirements for the Core Components of Envisaged WDRA Application | | |
| # | Component | Brief Description |
| A. | Registration | <p>Since November 1, 2017, any individual or entity seeking to operate a warehousing business and issue WDRA Portal shall register their warehouse with the Warehousing Development & Regulatory Authority (WDRA). To streamline the process, an online registration system has been implemented, making it mandatory for all applicants to submit their requests through the digital platform</p> <p>This module covers two types of registrations: Warehouseman Registration (WHM) and Warehouse Registration (WH).</p> <p>a) Warehouse Man Registration:</p> <p>Warehouse Man Registration is a mandatory registration for any individual or entity looking to operate as a warehouse manager in India and involves a comprehensive evaluation of the applicant's eligibility, financial stability, and adherence to the regulatory framework set forth by the WDRA. The registration process ensures that the warehouse manager possesses the</p> |

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| | | <p>necessary infrastructure, expertise, and financial capacity to effectively manage and safeguard goods stored within the warehouse premises which establishes trust and confidence in the warehouse management system, fostering a secure and reliable environment for stakeholders in the warehousing industry.</p> <p>b) Warehouse Registration:</p> <p>Warehouse Registration is a pivotal step for any warehouse operator towards seeking to function within the Indian jurisdiction. This process encompasses a thorough assessment of the warehouse's compliance with the established norms and standards mandated by the WDRA including scrutinizing factors such as storage capacity, safety measures, and adherence to quality control protocols. The registration of the warehouses whether Agri or Non Agri or both ensures that the warehouse meets the requisite criteria for storing goods in a secure, efficient, and environmentally responsible manner.</p> <p>The number of WHM/WH registrations has been increasing steadily over time, highlighting the need for streamlined and automated processes. In response, WDRA has proposed several key changes to the existing registration processes and the detailed functional requirements for the same are outlined in detail in Annexure A to make the overall solution more robust, modular, and comprehensive in nature. In addition, if the department requires any additional changes in the existing module, the same shall be carried out by Successful/Selected Bidder over the period.</p> |
| B. | Inspection | <p>One of the primary objectives of the WDRA is to establish and maintain trust among key stakeholders, including depositors, banks, financial institutions, commodity exchanges, and others, in the WDRA System. This is achieved through a rigorous supervisory framework and four types of inspections: physical, general, stock, and surprise. Various Inspection being carried out by WDRA are:</p> <p>a) Physical Inspection: This involves assessing the warehouse's physical infrastructure to ensure compliance with specified requirements, a crucial step in the registration process.</p> <p>b) General Inspection: Conducted periodically, it provides a comprehensive view of compliance with WDRA Portal integrity, infrastructure, regulatory requirements, and standard operating procedures.</p> <p>c) Stock Inspection: This verifies the quantity and quality of goods reflected in NWRs/eNWRs /eNNWRs, offering insight into the risk profile of registered warehouses.</p> |

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| | | <p>d) Surprise Inspection: An unannounced inspection covering various aspects, triggered by complaints, previous discrepancies, or discrepancies in WDRA Portal information.</p> <p>Presently, physical inspections workflow is being executed through the exiting WDRA portal, streamlining tracking, accessibility, and maintenance of reports. WDRA now also aims to digitize general and stock inspections to achieve similar efficiency and transparency benefits. Additionally, payment to inspection agencies, currently managed through physical files, will also be transitioned to the portal to prevent duplication, and enhance efficiency.</p> <p>Furthermore, WDRA also seeks to have digital versions of Stock Inspection Reports for easier analysis and informed decision-making to enhance overall operational efficiency and bolster the credibility of the WDRA System. The proposed functional requirements for the key processes to be incorporated for a) General Inspection, b) Stock Inspection and c) Payment to Inspection Agency d) Digital Stock Inspection Report are outlined in Annexure A to make the overall solution more robust, modular, and comprehensive in nature. In addition, if the department requires any additional changes in the existing module, the same shall be carried out by Successful/Selected Bidder over the period.</p> |
| C. | Insurance | <p>The insurance module of the WDRA portal serves as a crucial component in ensuring the integrity and security of the WDRA System. This module is designed to provide comprehensive coverage for stored goods within registered warehouses, instilling confidence in stakeholders such as depositors, financial institutions, and commodity exchanges by facilitating seamless communication between insurers and warehouse operators, streamlining the process of obtaining and updating insurance coverage for stored commodities. WDRA in the changing times aims to further fortify the trustworthiness of the WDRA System while offering a convenient and efficient insurance solution for all involved parties by incorporating the challenges of the current system related to IT system, repository software, other administrative challenges. The detailed functional requirements of requisite process changes for the Insurance Module are outlined in Annexure A, to make the overall solution more robust, modular, and comprehensive in nature. In addition, if the department requires any changes in the existing module, the same shall be carried out by Successful/Selected Bidder over the period.</p> |
| D. | Security Deposits Management | <p>Different types of Security Deposits in Warehousing are:</p> <p>a) Fixed Security Deposit (FSD): When registering a warehouse, the Warehouse Manager (WHM) or Authorized Representative (AR) is required to submit the Fixed Security Deposit (FSD) to the Warehousing Development and Regulatory Authority (WDRA) in the form of a Fixed</p> |

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| | | <p>Deposit (FD), Bank Guarantee (BG), or Indemnity Bond (IB), as specified by WDRA as per the amount and validity as stipulated by WDRA in the Warehousing (Development & Regulation) Registration of Warehouse Rules, 2017.</p> <p>b) Dynamic Security Deposit (DSD): In addition to the FSD, WHMs shall also submit a Dynamic Security Deposit (DSD) to WDRA once stocks are deposited in the warehouse as per the required amount specified by WDRA for the DSD in the Warehousing (Development & Regulation) Registration of Warehouse Rules, 2017.</p> <p>Key functional requirements of the proposed processes for the system related to Security Deposit Management are outlined in detail in Annexure A to make the overall solution more robust, modular, and comprehensive in nature. In addition, if the department requires any changes in the existing module, the same shall be carried out by Successful/Selected Bidder over the period.</p> |
| E. | Training & Awareness | <p>WDRA aims towards the development and implementation of an integrated IT system to streamline and enhance the management of training and awareness programs conducted by it over the time. The proposed system aims to replace manual processes currently in place, addressing challenges such as data inefficiency, manual errors, and prolonged Turn Around Time (TAT). The system will include features for WDRA officers and training partners, facilitating program allocation, online verification of information and invoices, data submission, and report generation. Security measures, performance requirements, and future enhancement possibilities will be integral components of the system. This endeavor seeks to improve overall efficiency, reduce errors, and provide stakeholders with a user-friendly platform. For detailed functional requirements, refer to Annexure A accompanying this document.</p> |
| Support Components | | |
| A. | Manuals | <p>Manuals provide instructions or guidelines on how to perform an activity and serve as a reference for any given activity. The system should have all manuals for activities identified in the above-mentioned core modules. Video representation of the (Registration, Inspection) should 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.</p> |
| B. | Grievance Redressal | <p>The Grievance Redressal mechanism enables the prompt and effective capture of grievances, ensuring swift resolution and fostering constructive feedback to enhance the system's performance. The Department facilitates an environment where the support avails himself of proper procedures and redressal mechanisms put in place by regulation to address complaints and grievances of all users efficiently and with speed.</p> |

| | | |
|-------------------------------|----------------------------------|---|
| C. | Complaint Redressal and Helpdesk | Complaints shall be registered by any users of the Portal against the functioning of the Portal. Timely redressal of the same shall be a crucial KPI for measuring the success and compliance of the portal. Hence, it is pivotal to design a module to manage, periodically collect, and record complaints and disseminate it to an appropriate authority. This will not only address technical glitches and errors during portal registration and transaction processing but also will serve as a tool for continuous improvement, allowing for timely corrective actions and enhancing the overall quality of the system |
| D. | Mobile App | The bidder shall have the provision for development and integration of Mobile App. |
| Common Functionalities | | |
| A. | Search | The Portal has been envisaged to support its internal data processing and report dissemination requirements. |
| B. | Executive Dashboard | The dashboard functionality will enable each of the key WDRA users to view their virtual personal space and manage their tasks, organize their work etc. based on their roles and responsibilities in WDRA. This should be strictly privilege restricted section based on Role Based Access Control (RBAC) mechanism defined through the 'Admin' module. Dashboard should also support tracking of all process within the system and provide a countdown display and reminder feature to enable tracking of applications submitted. |
| C. | Reports | The system should be able to generate reports for the key modules like Registration, Inspection, Insurance, Finance, eNWR and Pledge Finance and Security Deposit etc.; WDRA should be given the ability to redefine report formats as needed. The end users should be enabled to filter, sort sections of the reports, with drill down reports. |
| D. | Tracking system | To increase transparency and ensure accountability, it is proposed that all processes within the WDRA portal should be trackable. Internal Users of WDRA shall be issued a unique tracking / ID number to track the status of their applications. |
| E. | Content Management for Website | The content available on WDRA will be governed by the WDRA. The web interface will be developed for the WDRA users to add/modify/delete the content, and the process will be layered with Makers/Checker/Approver. All authorized users will be given facility to add / modify/ delete the contents for their respective division based on the approval of WDRA. |
| F. | Workflow Management | Workflow Management System allows the user to define different workflows for different types of jobs or processes. 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 |

| | | |
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| | | task are notified and receive the data they need to execute their stage of the process. System should maintain entire audit trail of workflow. |
| G. | Forms Management | The WDRA Portal and its stakeholders generate extensive information in the form of forms. These forms should be managed and maintained properly within WDRA. This system should allow the users to input the files from web-based interface from their files system. The platform will support share, move, and forward functionalities for documents. |
| H. | Alerts and Notifications | <p>The WDRA portal should be empowered by an alert and notification management system like SMS service, and Email system. The integrated communication services will be used for activities.</p> <p>This module shall have functionality to issue automated alerts/ notifications to various data suppliers/users as per defined periodicity and summary of their responses will be available on admin super user's dashboard for analytical purpose/ action.</p> |
| I. | User & Role Management | The WDRA Portal should provide browser-based interface to the Internal (i.e., WDRA users) and external stakeholders. The user registration process should be an integrated part of system and every registered user will be assigned appropriate role based on their user group i.e., Administrative Department and Establishments. All the user management features, and Access Control matrix should be managed from the web-based interface by departmental user/admin. |
| J. | Payment Gateway | The solution is envisaged to have integration with payment gateways, to enable authorized users to make financial transactions, as per 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 WDRA Portal. |
| K. | Countdown display and reminders | It is proposed that a countdown display will be included in the dashboard of the agencies and officials of WDRA Portal to enable viewing of time left to complete a task. Such a feature allows for efficient time management and boosts productivity as countdown displays give a sense of urgency and highlight how much time is left to complete a specific task. |
| L. | Performance and scalability | <p>Performance: The application should be responsive enough to execute any action within a given time interval</p> <p>Scalability: The application should be designed in a manner it is able to cope with the future requirements/change in business needs and increase in user base.</p> |
| M. | Usability & Security | Usability: The application should be user friendly which includes ease of navigation, filling of forms etc. |

| | | |
|--|--|---|
| | | Security: The application should be designed to conform to all the standard security protocols. |
| Note: <ol style="list-style-type: none"> 1. Functional Requirements for each module are specified in Annexure A. 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 will also provide all other components of the solution landscape and third party tools as may be necessary for the successful implementation and functioning of WDRA with respect to the required functionalities mentioned in the RFP specifically Functional Requirement Specification. 6. The WDRA platform shall have Integration with, SMS Gateway, e-Mail Messaging services, Payment Gateway services, PAN Verification, Repositories for transmission of data from WDRA to Repositories and Repositories to WDRA, IRDA Repository and other external systems / applications as required. 7. The modules, as mentioned above, are indicative. However the Purchaser shall have the flexibility to include / exclude/amend/reorganize modules based on the requirements. | | |

Table 1: Brief on Core Components of WDRA Portal

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 WDRA Portal. The total project is scheduled to span three years and eight months, starting from the project's commencement at T where T= Signing of MSA (Master Service Agreement). The overall system, application, and databases to be developed using open-source technology and solutions. The Successful/Selected Bidder is expected but not limited to carry out the following main tasks:

| Summary of Scope of Work for WDRA Portal | | |
|--|---|---|
| # | Scope | Description |
| 1. | Transition and Managing of Existing Application. Refer Section 3 | a. Transition from existing Service Provider/System Integrator for WDRA Portal to the selected Successful/Selected Bidder as the new Service Provider/System Integrator for the WDRA Portal b. Knowledge Transfer-Handover and Takeover of Existing Application c. Support of Existing Application till Go Live d. Exit of incumbent Service Provider/System Integrator |
| 2. | Application, Design, Development, Customization, Testing, Implementation Deployment and Go Live of WDRA Portal Refer Section 4 | a. Support of Existing Application till Go Live b. Development of Project Implementation plan c. Business Requirements (SRS and FRS), System Design & Application Development d. Supply, Installation, Configuration & Development of WDRA Portal (Functional Requirements) e. Data Acquisition and Reporting Services f. Data Management Service g. Application Testing h. Quality Review i. Project and Product Documentation |
| 2. | Training and Capacity Building Refer Section 5 | a. Conduct Trainings (Physical and Virtual) and fulfill Capacity Building requirement b. Change Management c. Preparation of training modules (Manual / Materials in English in hard copy & soft copy formats) d. Imparting of regular refresher trainings |
| 3. | User Support, Helpdesk Operation and Maintenance of the Integrated IT application and Infrastructure for 3 years extendable up to 2 years as per the requirement WDRA | a. Application monitoring and Compliance to Service Level Agreements b. Application support including modifications and integration with future systems c. Integration with new Exchange partners |

| Summary of Scope of Work for WDRA Portal | | |
|--|--|--|
| # | Scope | Description |
| | Refer Section 6 | d. End of life and end of support for all deliverables shall be minimum five years from the date of Go - Live e. Bug Management offering bug reporting and bug fixing f. Software Change and Version Control g. Maintenance of Configuration Information & System documentation h. Help Desk Services and Grievance Management System i. User Administration j. Security Administration k. Source Code and Infrastructure Setup l. Existing Infrastructure Details |
| 5 | Integration with Applications/Portals of the Purchaser, Associated organizations, Other Ministries, and other Government Departments Refer Annexure G | a. Integration with Identified Applications/Portals of other Government Departments through APIs |

Table 2: Summary of Scope of Work

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 WDRA Portal, 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 (Cloud) for both staging and production environment will be provided by the Purchaser. Additionally, Email Gateway, SMS Gateway, SSL, Domain Name, and Payment Gateway will be provided by the Purchaser.

3 Section 3: Transition and Management of Existing Application

The indicative brief approach for the transition & management of the existing application is outlined as below. Successful Bidder's transition approach shall not only be limited to the below outlined approach rather shall design and communicate to the purchaser a more detailed approach as per their understanding of the project.

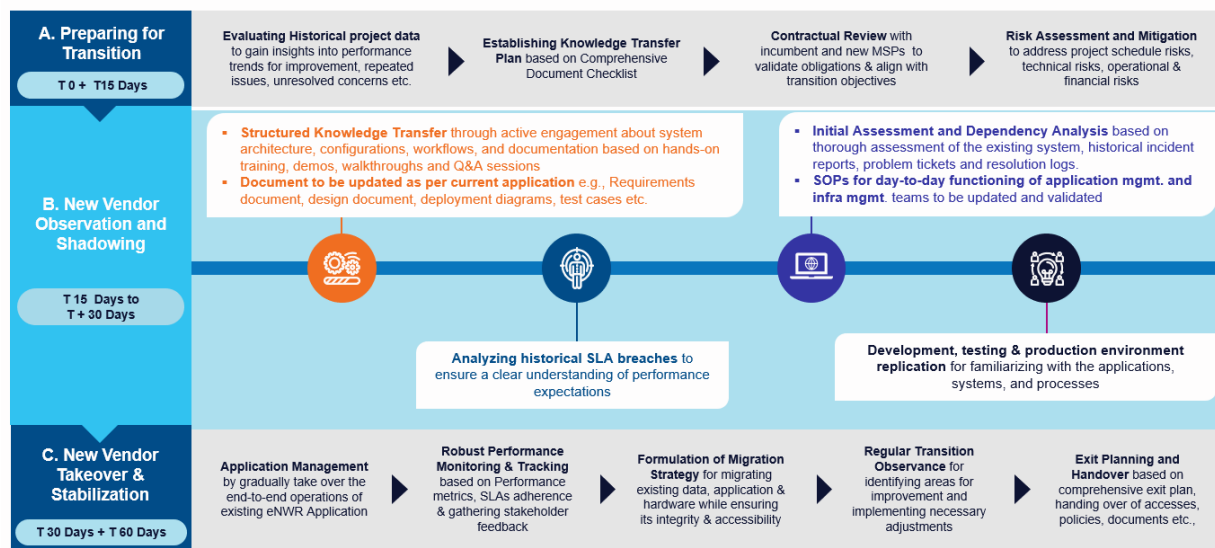


Figure 2: Indicative Transition Management Approach of WDRA Portal

3.1 Knowledge Transfer

The MSP is required to develop and submit a knowledge transfer plan prior to commencing project activities, ensuring the entire knowledge transfer process is concluded within 15 days starting from the project's commencement at T (Period) where T- Date of issue of LOI/Workorder to Successful/Selected Bidder.

The knowledge transfer plan shall include but will not be limited to the following:

- Functional study - Study of functional and business processes of existing WDRA Portal and make presentations to WDRA Officials/ incumbent MSP to confirm the understanding.
- Technical Study:
 - Identification and study of all technical documents
 - Access and study of software scripts, jobs, etc., understanding and documentation of overall IT architecture and its various components, understanding of development, support processes, configuration management processes etc.
 - Infrastructure for end-to-end development & successful production deployment of the application and all its components will be provided by the WDRA.
 - Understanding of the various environments (Development, UAT, Preproduction, Production etc.)

- Training on all the existing tools being used, processes being followed, activities being performed, integration with various other systems
- Business rules and their implementation

3.2 Support of Existing Application till Go Live

The MSP is responsible to operate and manage the existing WDRA Portal till the Go Live of new application. Below are the some of the expected key responsibilities of the MSP to operate and maintain the Portal:

- End to end management and support for the existing WDRA Portal and ODOO Application of the Department
- Content Sourcing, cleaning, proof reading and indexing.
- Ensure all contents are error free and always updated.
- Organize and index all contents to enable searching and publish/upload the same on the website using an integrated content management system.
- Functional testing / Integration testing of the website.
- Existing Application SLA monitoring tool to be deployed and managed to capture the service performance of the website and generate statistics for service levels.
- Regular updating of the content on the website.
- Generating reports (periodic, ad hoc, and customizable) and submitting to the department.
- Rectifying 'broken links' or those leading to 'Page not found' errors
- Providing helpdesk support to users calling for issues related to the existing WDRA Portal

The adequate manpower with required expertise shall be deployed by the Successful/Selected Bidder during Transition.

3.3 Transition

The MSP shall submit the transition plan and project plan within 15 Days of on-boarding. Transition activities include the following but are not limited to:

a) Preparation of implementation of new solution & managing of existing solution plan which shall capture detailed approach and the activities needed to successfully complete the transition from the incumbent MSPs. The plan shall include but not limited to the following:

- Support requirements from the incumbent MSP.
 - Handover and takeover activities required to be performed.
 - Transition risk identification along with the timelines which shall include the detailed risk logs and strategy for risk mitigation.
- b) Submission and approval of Functional Requirement Specification (FRS), System Requirements Specification (SRS), prototyping/wireframes, Scope of Work.
- c) Successful bidder shall provide shadow support for one month to the incumbent MSP post signing of MSA in transition phase.

- d) Operate and maintain existing system as primary MSP with support from the incumbent MSPs (as reverse shadow support) after completion of one month of the transition phase.
- e) Post completion of two months of transition, the MSP shall be responsible for taking over of the entire set of activities and services including security, facility management, call center, Helpdesk services etc. which are currently delivered by the incumbent MSPs to ensure the business continuity and performance.

Apart from the above activities, MSP needs to, inter-alia, adhere to the following points:

- a) The expected outcome of the transition is that the MSP should have developed all the necessary skills, learning, understanding, and experience required for successful and smooth operations and maintenance of existing WDRA portal. After completion of transition period, the incumbent MSPs shall exit completely, and the MSP shall have to operate, manage, and enhance the existing WDRA portal on its own until the time the new solution is acceptable and functioning.
- b) For removal of all doubts, it is reiterated that all activities that are part of scope of work for existing WDRA portal as performed by the incumbent MSP, shall be within the scope of work for the MSP during the operations and maintenance of existing WDRA portal until the Go-Live of new WDRA portal.
- c) The MSP shall point out any lapse or defect or shortcoming at an early stage of transition phase with two months which shall have to be met/overcome by the incumbent MSPs and in case the same is not done or agreed by the incumbent MSP, the MSP shall complete the task and provide necessary details to WDRA. The MSP shall be guided by the decision of WDRA in this regard whose decision will be final.
- d) Parallel run of existing Portal with the new WDRA Portal till the new Portal goes live.
- e) MSP is 100% liable for any delays/risks and shall subsume the additional efforts such as-
 - In transition
 - For the development of new solution
 - Dependencies of internal / external stakeholders, etc.

The MSP is required to plan and proactively execute risks/ delays mitigation approach.

3.4 Exit of incumbent MSP

At the time of exit of incumbent MSPs, the MSP (selected bidder) shall ensure the following indicative but not exhaustive list of activities:

- a) Have a detailed checklist of items taken over, which shall be prepared well in time before exit of incumbent MSPs to ensure a smooth transition and get the same approved by WDRA Officials.
- b) Takeover of responsibilities and activities to be performed.
- c) Resources for operate and managing the existing WDRA Portal
- d) Continuation of the “business as usual” existing WDRA Portal
- e) All License, software shall be in the name of WDRA and shall be the property of WDRA

- f) Change Control Management
- g) Design and execution of training and communication strategy
- h) Record Management System (RMS) - storage and retrieval of records
- i) Training/Capacity Building of users based on comprehensive and user-friendly Learning Management System

4 Section 4: Application Development, Implementation

4.1 Development of Project Implementation Plan

The Successful/Selected Bidder would be required to undertake the following activities and not limited to:

- Conduct an expectation mapping exercise with the stakeholders
- Conduct a comprehensive assessment that would cover all the key processes, IT applications, hardware, software, emerging technologies and prepare and submit a detailed project implementation plan to WDRA for approval.
- Submit a work completion report (Monthly and Quarterly) highlighting milestones achieved, the report would be updated every week to ensure tracking of the progress of the project.
- Prepare a weekly report on the progress of the project highlighting planned and completed activities, risks, gaps, and approach for mitigation of risks/ gaps
- Deploy resources functional / domain experts at the WDRA office
- Provide detailed list of all the dependency on the purchaser within first two (weeks) post signing of MSA to ensure there is no delay in the project on account of dependencies on the Purchaser

4.1.1 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 3 years and if required with extension for 1 + 1 year.
13. Quality Assurance and Control Process details which shall include (but not limited to) detailing on Metrics, Reviews, Problem Reporting and Corrective action, System audit etc.
14. Provide detailed list of all the dependency on the purchaser within two weeks post signing of MSA to ensure there is no delay in the project on account of dependencies on the Purchaser

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

The Successful/Selected Bidder shall perform the detailed assessment of the solution requirements as mentioned in Section 4 of Volume II, 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. Bidder's resources would need to interact with 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 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 (3) years from the date of Go-live of WDRA portal.

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 implement 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.

4.2.1 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 WDRA Portal
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
3. IPR for any bespoke applications and any customization done in off the shelf product shall lie with the Purchaser

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.

4.3 Supply, Installation, Configuration & Development of WDRA Portal

4.3.1.1 Access Layer

It is envisaged that the WDRA Portal 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 WDRA Portal are described below:

4.3.1.2 Web Browser

Access over Internet / through Web Browsers will be one of the key access mechanisms for the WDRA Portal. All the ecosystem partners will connect to the Portal 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 WDRA Portal will be managed through the 'role-based access control' (RBAC) mapped to individual / group login credentials. The WDRA Portal should have both static and dynamic information / content that should be available and accessible through a web browser via 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.

4.3.1.3 Email/SMS

The WDRA Portal 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 WDRA Portal and delivered to intended inbox or mobile device. The WDRA Portal is envisaged to send text messages and notifications to user, Successful/Selected Bidder will make the necessary arrangement to integrate with SMS Gateway.

4.3.2 Enterprise Portal Application Service

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

1. Proposed portal will be single integrated user interface for all stakeholders. Backend bespoke applications will be exposed through WDRA Portal 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 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 engine 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 a 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 WDRA Portal platform shall have integration with, SMS Gateway, e-Mail Messaging services, Payment Gateway services and other National or Warehouse schemes and programs as well as with external systems and applications, as required.

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 WDRA Portal. 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.

4.3.2.1 Web Form

The WDRA Portal will be 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 WDRA Portal. The current processes of Purchaser will be studied/discussed in detail to design a unified web-based interface which allow the user to interact with proposed system.

Designing the web-based data entry form of registration/return etc. execution will help the department to avoid the data losses happen 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.

4.3.2.2 Application Program Interface (API)

The WDRA Portal platform should be open to accept data from existing application running at the associate sites (i.e., Department, and Establishments) 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 through push and pull

4.3.2.3 Data Files

The WDRA Portal 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 merging it with main database. Successful/Selected Bidder shall keep a record of all such files getting shared and maintain a data inward register.

4.3.2.4 Content Archival

The WDRA Portal shall have the Content Archival Facility.

4.3.2.5 ERP

ERP to contain various functions for Finance, Procurement, Receivables, Payables, HRA, FA and Payroll etc. Existing ERP solution of the system is presently based on ODOO.

4.3.2.6 e-Learning Module

WDRA is presently using the Moodle Framework for e-Learning Module. The details of the same is appended in Annexure -H and compliance Matrix is appended Annexure E.

4.3.3 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 separate categories that are discussed in detail in this RFP.

4.3.3.1 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 user of system who will be granted rights by the admin but can extended to public users with limited functionality. The capability should include development of indicators using Dashboard.

The dashboard functionality should enable each of the key WDRA Portal User to view manage their tasks, organize their work etc. based on their roles and responsibilities in the WDRA Portal functions and assigned privileges. This should be strictly privilege 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 WDRA Portal
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: WDRA Portal 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 particular set of tasks. They may also want to reassign a certain task to themselves or to other staff members, due to any administrative reason, and get the task completed. All such functionalities and
7. Features shall be developed by the Bidder, while designing the automated processes within the WDRA Portal application.
8. 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.

The detailed Executive Dashboard and required Reports are appended in Annexure A, 10.4.2.

4.3.3.2 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, department can receive the custom reporting requirement for data received from other departments and establishments. The system should have a provision to cater 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.

The detailed requirements for MIS Reports along with Exception Reports is mentioned in Annexure A

4.3.3.3 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 reference across the WDRA Portal to answer the almost all queries related to data. The data management tools should be able with integrate multiple data source at the same time to process the reporting and analytical requirement. They should have 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 solution. 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 (Central/Other Governments/Other Ministries/Establishments) and used for analysis & visualization. These may also be used to prepare desired reports. The data warehouse lifecycle should be followed as:

- **Staging DB**
 - Purpose of the Staging DB is to provide persistence storage for application. Data is supposed to be read-writable.
- **Archival DB**
 - Purpose of the Archival DB is to keep inactive data for past cycles. Data is supposed to be read-only for users. At 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 source may be from Purchaser, other Ministries/ Agencies/ Department, Other Government Department.

4.3.3.4 Data sources/Integration

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

4.3.3.5 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.

4.3.3.6 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

4.3.3.7 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.

4.3.3.8 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.

4.3.3.9 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.

4.3.3.10 Payment Gateway

The solution is envisaged to have integration with payment gateways, to enable financial transactions, as per 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.

4.3.3.11 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 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.

4.3.4 Integration Methods

The solution should be designed to cater 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 system, use different database solution or may be legacy systems. These integrations are expected to be done through API based.

4.3.4.1 API Based

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.

4.3.5 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

4.4 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:

4.4.1 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 | Bidder | <ol style="list-style-type: none"> 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 |

| Details on Types of Testing, Responsibility and Scope of Work | | |
|---|--|--|
| Type of Testing | Responsibility | Scope of Work |
| | | 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 | Bidder | 1. The Successful/Selected Bidder shall prepare and share with the Purchaser the Integration test plans and test cases 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. |
| Performance and Load Testing | <ul style="list-style-type: none"> • Bidder • The Purchaser/Third party Auditor (to monitor the performance testing) | 1. The Successful/Selected Bidder will need to conduct performance and load testing in production setup. 2. Various performance parameters such as transaction response time, throughput, hits per second and transactions per second etc. should be considered. 3. Load and stress testing of the WDRA platform will need to be performed based on volumes and sizing by the Purchaser. 4. The performance and load testing tools shall be provided by the Bidder. 5. Test cases and test results to be shared with the Purchaser. 6. The Purchaser if required, could involve third party auditors to monitor/validate the performance testing. 7. Professional fee for such auditors shall be paid by the Purchaser. 8. Performance testing to be carried out in the exact same architecture that would be set up for production |

| Details on Types of Testing, Responsibility and Scope of Work | | |
|---|----------------|---|
| Type of Testing | Responsibility | Scope of Work |
| | | <p>9. Successful/Selected Bidder is required to conduct performance tuning based on the performance testing outcome.</p> <p>Note:</p> <p>Before Go-Live of the project, the Successful/Selected Bidder needs to complete load testing in the production environment to showcase the capability of the system to handle the volumes that are provided by Purchaser. In case the system fails to handle the expected load, the Successful/Selected Bidder will have to take corrective action (e.g., tuning of application/middleware, etc.) at no additional cost to the Purchaser and inform the Purchaser in case Infrastructure ramp up is required.</p> <p>This exercise would continue a yearly basis from Go-Live. The Successful/Selected Bidder shall conduct predictive analysis to determine the volumes for next two years. Successful/Selected Bidder shall assure the Purchaser that the system can handle the enhanced volumes. This load testing will not be allowed to be carried out in the production environment and the Successful/Selected Bidder needs to bear the costs involved. The Purchaser/Purchaser's appointed agency will validate the test results.</p> |

| Details on Types of Testing, Responsibility and Scope of Work | | |
|--|--|---|
| Type of Testing | Responsibility | Scope of Work |
| Security Testing (including Penetration and Vulnerability testing) | <ul style="list-style-type: none"> • Bidder • The Purchaser/Third party Auditor (to monitor the performance testing) | <ol style="list-style-type: none"> 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. For details, please refer to Section 4.4.2. 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 Purchaser 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 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 | The Purchaser/Third party Auditor | <ol style="list-style-type: none"> 1. The Purchaser/Purchaser appointed third party auditor 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 Purchaser. 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 Purchaser/Purchaser appointed third party auditors before production deployment 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 outcome of the tests.
4. Successful/Selected Bidder shall share the test data and test results for each test case with the WDRA.
5. Post Go-Live, the Production environment should not be used for testing and training purpose. 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.

4.4.2 Third Party Audit (Security and Performance Audit)

The Purchaser shall appoint a third-party auditor who shall be responsible for performing the Performance and Security Audit of the Portal. The Successful/Selected Bidder needs to ensure that the Portal follows the Security Policy and Guidelines released by MeitY.

The third-party agency shall conduct audit on minimum below mentioned parameters. The audit shall be carried out by Cert-in empaneled auditor. The vendor is required to disclose the name of the finalize Auditor before on-boarding. The final decision will be taken by the Purchaser for appointment of auditor. The cost of audit shall be borne by the Bidder; also, the cost of rectification of non-compliances by the Successful/Selected Bidder shall be borne by the Bidder. The audit shall be performed at least on the below mentioned aspects.

1. Accessibility Testing
2. Performance Testing
3. Application Security Audit
4. Penetration Testing
5. Vulnerability Testing

The illustrative deliverables for this activity are mentioned below.

1. First Round Audit Report (by Auditor)
2. Rectified solution and submission of next round of audit (by Bidder)
3. Next Round Audit Report (by Auditor)
4. If required, Rectified solution and submission of next round of audit (by Bidder)
5. Compliance Confirmation by the Auditor. The audit will be performed periodically i.e., at least once in a year.

4.4.3 Go-Live of WDRA Portal (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 WDRA 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 WDRA nominated personnel where UAT document shall be shared by MSP and will be evaluated by nominated personnel of WDRA.
5. Successful/Selected Bidder shall ensure that Go –Live criteria as mentioned in User acceptance testing of WDRA Portal 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

4.5 Quality Review

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

4.6 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 WDRA Portal 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 modules.
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 minimum 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.

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 WDRA Portal.

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

Based on the approved System Requirement Specification, the Successful/Selected Bidder will undertake the system configuration and customization. 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 WDRA Portal with other applications / solutions and new plug in modules or third party devices etc. to meet the requirements of Purchaser.

5 Section 5: Training and Capacity Building

5.1 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 3 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 WDRA Portal | | |
|--|----------------------------|---------|
| Group | Officials | Mode |
| Group 1 | Officials (Approx. 50) | Offline |
| Group 2 | Other Staff (Approx. 1000) | Online |

Table 4: Categories of Users for Training

3. 'Training Needs Assessment' needs exercise to be conducted and accordingly impart Training to Users Groups defined above according to their individual needs and requirements. The following template may be used for capturing Training needs assessment:

| Format for Training Needs Assessment | | | | | |
|--------------------------------------|-----------------|---------------------------|-------|---|-----------|
| S. No | Training Module | Indicative number of Days | Group | | Frequency |
| | | | 1 | 2 | |
| | | | | | |
| | | | | | |

Table 5: Format for Training Needs Assessment

4. Videos for employees and warehouse owners shall be developed by MSP
 - Video based user manual of Application registration of warehouse
 - Video based user manual for Inspection of warehouse

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.

5.2 Change Management

Over the period the changing dynamics may ignite the need of changes from traditional/ old/ complex processes of WDRA Portal to more simplified and advanced WDRA Portal. The migration to WDRA Portal shall be a systematic approach to deal with the transition or transformation of goals, processes, and technologies proposed for WDRA Portal 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 WDRA Portal. The phases for a successful change would be based on the following framework:



Figure 3: Change Management Framework

Initiate: Understand the need for change for WDRA

- 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 WDRA to manage the effective change management. The committee is responsible to develop a change strategy for development and review of the training plans, communication plan spanning over the WDRA and employment and Agencies.
- c) **Reinforce:**
 - **Communication for understanding and buy-in:** The process entails supportive actions for fear, anger, and resistance by the WDRA employees, encouraging culture of discussion, dissent, disagreement, and debate for the better understanding among officials
 - **Empower others:** Train identified Official staff of the WDRA, to equip with the desired skills for smooth functioning of WDRA
- 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 WDRA vision, acknowledge what people have left behind and prepare people for adapt WDRA Portal.

A critical success factor for the implementation of WDRA Portal is to get the buy-in of the WDRA officials and employers, by ensuring that they are aware about the need, value addition/ advantages of WDRA Portal. 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 WDRA Portal project will aim to engender an environment which is required for its successful implementation. Capacity Building for WDRA Portal The Framework would primarily include:

Types of capacity: Developing human capacity includes both the intellectual capacity (e.g., knowledge, skills for WDRA Portal) and the will (e.g., interest, patience, and persistence) to implement needed changes. This would involve interaction, collaboration, and communication among approximately 50 officials of the WDRA.

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

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 WDRA, 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 50 WDRA and officials participate in activities (2) the officials build new knowledge, update technological, increase resources and (3) the 50 officials apply their new knowledge and utilize WDRA Portal and cascade the knowledge among fellow colleagues of WDRA.
- **Full Implementation:** This stage involves the integration of the new processes, functionalities of WDRA Portal, 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 WDRA Portal impact.
- **Sustainability Exploration:** This final stage involves “pervasive and consistent” use of the refined skills and practices. Also, WDRA Portal and agencies demonstrates the capacity and ability to analyze and modify practices for continuous improvement and for any needed refinement to evolve WDRA Portal

Outcomes of capacity building: Finally, as WDRA go 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

5.3 Preparation of Training Calendar

The Purchaser to nominate approx. 50 officials 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

6 Section 6: User Support and Maintenance for the Integrated IT application for 3 Years

The Successful/Selected Bidder shall be appointed for a period of three (3) years from the date of successful Go-Live of WDRA Portal (i.e., completion of the WDRA application).

Application support includes, but 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 including modifications and integration with future systems
3. Bugs/Fixes Management
4. Software Change and Version Control
5. Maintenance of Configuration and System Documentation

6.1 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 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 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.
3. The SLAs shall be revisited by the Technical Coordination Committee during the WDRA Portal 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. WDRA Portal 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.

6.2 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 of 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

6.3 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. 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 done 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. Monthly report on problem identified and resolved would be submitted to the Purchaser's team along with the recommended resolution

6.4 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 WDRA Portal 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 WDRA Portal 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 (Section 9 of Volume of this RFP)
6. Only those major functional customization changes (requiring more than 3-man months effort) in the solution which have neither been mentioned in the FRS, nor included in the To-be functional solution and have not been proposed within six (6) months from "Go Live", shall be carried out through a separate Change Control Note/Notice (CCN) prepared by the Successful/Selected Bidder (format has been provided in Annexure 6 of Volume I of this RFP). 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 WDRA Portal application in the commercial quote (Annexure 4 of Volume I of this RFP). 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 latest industry standards and should incorporate necessary version control mechanism.

6.5 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.

6.6 Help Desk Services

Successful/Selected Bidder will be responsible for setting up Centralized Call Centre (hereafter referred to as Helpdesk), for the Purchaser, for handling queries from department users, employers, and officials. The shift would be of eight hours, seven days a week. Successful/Selected Bidder will also:

1. Liaison with Application developer
2. Provide resolution to the issues being reported by the end users.
3. Creation and regular updating of the Known Error Database (KEDB)/ FAQs. Such documentation will be accessed by the L1 & L2 support to expedite known issue resolution for users
4. Regular updating of the software documentation

The broad definition of L1 and L2 support is defined as below, which would include the following but not limited to:

| | |
|---|--|
| Level 1(L1) Helpdesk | This is the initial support level responsible for basic user issues. <ul style="list-style-type: none"> • First point of interaction for registered end users • Addressing technical queries and providing required guidance to users • Interface for end users for incident reporting • Handling User access related requests |
| Level 2 (L2) Technical Support | This is a more in-depth technical support than L1 and therefore requires technicians who are more experienced and knowledgeable on the service. <ul style="list-style-type: none"> • Accepting escalations from L1. • Conducting detailed investigation using tools, scripts, configuration changes, data fixes. • Guiding L1/end users on technical problem. • Continuously coaching L1 Team for any change/update as a part of their Change Management process |

Table 6: Helpdesk Personnel Requirements

The Successful/Selected Bidder will depute staff who will be contactable via phone and mail to aid the Users and address their queries and concerns. This assistance will be provided during the service hours as per the location classification and responsibility matrix, which will be covered in the operations manual to be provided by Successful/Selected Bidder and duly approved by Purchaser. During all other hours, users can leave their message via email. The requests received on email will be taken during the next working day.

A proper escalation procedure, as mentioned in the duly approved operational manual, will be followed if the problem cannot be resolved. Shared resources of operational and technical support group will provide this service at all locations. The help desk service will serve as a single point of contact for all

incidents and service requests. The service will provide a Single Point of Contact (SPOC) and escalation / closure of incidents for the user departments. The Help desk services would be for:

- Application support across all identified users across offices
- Handling employer's queries regarding the revised procedures
- Any other support identified by the purchaser.

The Successful/Selected Bidder will provide application support and any other support identified by the Purchaser across all offices of Purchaser. The activities shall include:

1. Provide Help Desk facility during agreed service period window for reporting user department incidents / issues / problems with the Infrastructure & WDRA Portal application related issues
2. Provide necessary channels for reporting issues to the help desk. The incident reporting channels could be the following:
 - i. Specific E-Mail account
 - ii. Telephone
3. Implement a call logging system in line with the severity levels as per the SLAs. The Help desk shall log user and assign an incident/ call ID number. Severity shall be assigned to each call as per the SLAs.
4. Creation of a knowledge base on frequently asked questions to assist users in resolving basic issues themselves
5. Track each incident / call to resolution
6. Provide feedback to callers including through SMS integration
7. Analyze the call statistics
8. Monitoring shall be done with the help of and EMS monitoring tools and system logs/counters and therefore the reports and alerts can be auto generated
9. Escalate the calls, to the appropriate levels, if necessary, as per the escalation matrix agreed between the Successful/Selected Bidder and the user department. The escalation matrix shall be developed by the Successful/Selected Bidder in discussion with Purchaser
10. Analyze the incident / call statistics and provide monthly reports including but not limited to:
 - i. Type of incidents / calls logged
 - ii. Incidents / calls resolved
 - iii. Incidents / calls open
 - iv. Root Cause analysis for frequently occurring incidents
11. The Successful/Selected Bidder shall provide Help Desk facility during the working hours for reporting issues / problems with the IT infrastructure as well as non-IT components. The Successful/Selected Bidder shall provide a service desk facility and set up all necessary channels for reporting issues to help desk
12. Initiate a "Problem Management Record" or "PMR" to document service outages using a Problem Management System as stated in the approved Operational Manual
13. Update concerned Authority of Purchaser with complete and accurate system status
14. Notify Purchaser's designated personnel of systems or equipment failures, or of an emergency, according to the Operational Documentation
15. Maintain an updated on-line help-desk telephone number listing in the Escalation Matrix
16. Call tracking and closure

17. Problem escalation in case of service levels not adhered to
18. Provide detailed contact list of Help Desk Support to Purchaser
19. Receive log and dispatch or transfer calls
20. Make the guidelines for prioritization of calls and escalation procedure for approval by Purchaser
21. Prioritize problem calls as per the defined Severity Codes
22. Perform problem analysis and identify the problems
23. Arrange for on-site/off-site support for resolution of problem
24. Intimate concerned Purchaser Authority of all the emergencies and equipment failures.
25. Resolve performance issues of third-party vendors if any
26. Maintain the escalation procedure and notify the concerned person(s) as per the contact list provided by Purchaser
27. Shall be primarily responsible for resolving third party service provider (if any) performance issues
28. Provide monthly reports to Purchaser on calls handled by Help desk

Purchaser will:

- Provide the contact list of all Purchaser's personnel who will be intimated for the problem determination assistance and escalation and ensure their availability.
- Ensure that the users are aware of the Help Desk Services and its functions.
- Assist System Integrator in resolving performance issues of third-party vendors, if so required.

6.7 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.

6.8 Security Administration

The security service will cover the user profile management, authentication, and authorization aspects of the security control. This service run across all the layers since service components from different layers will interact with the security components. All public contents 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 channel should be prevented.
9. Industry good practice for coding of application to ensure sustenance to the Application Vulnerability Assessment

6.8.1 Single Sign-on, Authentication and Authorization

It is recommended to adopt an enterprise level centralized authentication model that is secured and ensures that user has a single credential to access the all the services. In this model, there will a centralized authentication services 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 against the central LDAP user repository. 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.

6.8.1.1 Single Sign-on

Users shall be provided 'single sign on' functionality for the entire WDRA Portal 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.

6.8.1.2 Authentication

The solution should support multiple authentication methods such as Username password, two factor authentication, digital certificate and Aadhaar based authentication. 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 as well we access rights within the system. 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 WDRA Portal 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 WDRA Portal 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.

6.8.1.3 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 user 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 privilege.
- Identify the owner of each group
- Establish the degree of access to be provided to each group

6.8.1.4 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

6.8.1.5 SSL & Digital Certification

There should be a provision of logging into the system through 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.

6.8.1.6 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 said time frame.

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

- SQL Injection
- Broken Authentication and Session Management
- Cross-Site Scripting (XSS)
- Insecure Direct Object References
- Security misconfiguration
- Insecure Cryptographic Storage
- Sensitive Data Exposure
- Missing Function Level Access Control
- Cross-Site Request Forgery (CSRF)
- Using Known Vulnerable Components
- Un-validated Redirects and Forwards
- Failure to Restrict URL Access
- Insufficient Transport Layer Protection
- 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**
 - Decompose or deconstruct the binary codes, if accessible

- Determine the protocol specification of the server/client application
- Guess program logic from the error/debug messages in the application outputs and program behavior/performance.
- **Authentication**
 - Find possible brute force password-guessing access points in the applications
 - Find valid login credentials with password grinding, if possible
 - Bypass authentication system with spoofed tokens
 - Bypass authentication system using Injection attacks
 - Bypass authentication system with replay authentication information
 - Determine the application logic to maintain the authentication sessions - number of (consecutive) failure logins allowed, login timeout, etc.
 - Determine the limitations of access control in the applications – access permissions, login session duration, idle duration
 - Determine the transmission of authentication credentials in clear text/encrypted/ hash form
- **Session Management**
 - 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.
 - Guess the session ID sequence and format
 - 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
 - Determine the session management limitations - bandwidth usage, file download/upload limitations, transaction limitations, etc.
 - Gather excessive information with direct URL, direct instruction, action sequence jumping, and/or page skipping
 - Gather sensitive information with Man-In-the-Middle attacks
 - Inject excess/bogus information with Session-Hijacking techniques
 - Replay gathered information to bypass session authentication
- **Input Manipulation**
 - Verify if input validation is happening at the client or server or at both ends.
 - Find the limitations of the defined variables and protocol payload - data length, data type, construct format, etc.
 - Use exceptionally long character strings to find buffer overflow vulnerabilities in the applications.
 - Concatenate commands in the input strings of the applications.
 - Inject SQL language in the input strings of database-tiered web applications.
 - Examine "Cross-Site Scripting" in the web applications of the system
 - Examine unauthorized directory/file access with path/directory traversal in the input strings of the applications
 - Use specific URL-encoded strings and/or Unicode-encoded strings to bypass input validation mechanisms of the applications
 - Execute remote commands through "Server Side Include"
 - Manipulate the session/persistent cookies to modify the logic in the server-side web applications

- Manipulate the (hidden) field variable in the HTML forms to modify the logic in the server-side web applications
- Manipulate the "Referrer", "Host", etc. HTTP Protocol variables to modify the logic in the server-side web applications
- Use illogical/illegal input to test the application error-handling routines and to find useful debug/error messages from the applications
- **Output Manipulation**
 - Retrieve valuable information stored in the cookies.
 - Retrieve valuable information from the client application cache.
 - Retrieve valuable information stored in the serialized objects.
 - Retrieve valuable information stored in the temporary files and objects.
 - Retrieve bulk information/ multiple rows from the database.
- **Information Leakage**
 - Find useful information in hidden field variables of the HTML forms and comments in the HTML documents
 - Find valuable information stored in the HTML source code on a browser like Unencrypted View State
 - Examine the information contained in the application banners, usage instructions, welcome messages, log-out messages, application help messages, debug/error messages, etc.
- **Penetration Testing**
 - 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**
 - 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**
 - 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 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)**
 - 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 WDRA. 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.

6.8.2 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 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.

Details of Compliance Criteria's is added in Annexure F

6.9 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 Cloud. Providing of Cloud 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 WDRA (Purchaser).

It can be accessed locally or using VPN.

The sizing and cloud infrastructure requirement shall be provided by Successful/Selected Bidder with justification/ calculation.

The detail of proposed envisaged solution is as below:

- a) The envisaged new solution should be capable of handling a minimum of 50,000 warehouses.
- b) As of the current date, two repositories are registered with WDRA, and this number is expected to increase by one per year. The proposed solution should be scalable to accommodate this growth.
- c) The solution should be capable of handling minimum of 50 concurrent users within WDRA and 1000 concurrent users outside of WDRA.
- d) There are currently nine inspection agencies engaged in inspecting warehouses, and this number is expected to increase by at least two per year. The proposed solution should be able to handle this increased capacity.
- e) The solution should be capable of handling at least 10,00,000 e-NWRs, with the ability to accommodate a 10% annual increase in volume.

6.10 Existing Infrastructure Details

| Sr. No. | Principle | Description |
|---------|---|--|
| 1 | WDRA Portal & Monitoring and Surveillance | Framework: Liferay DXP 7.0 with Tomcat Language: Java 8.0 Database: PostgreSQL 9.4 Web Server: Apache |
| 2 | Business Process Automation | Application Framework: Odoo Database: PostgreSQL 9.4 Language: Python Web Server: Apache |
| 3 | E-Learning | Application Framework: Moodle Database: PostgreSQL 9.4 Language: PHP Web Server: Apache |
| 4 | Help Desk | Application Framework: OSTicket Database: MariaDB Language: PHP Web Server: Apache |

Table 7: Existing Infrastructure Details

7 Section 7: 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”). These 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.

Three Developer/Resources shall be required for providing exclusive support for the existing Application until the Go Live of New Application.

If WDRA 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:

| Proposed Resources for WDRA Portal | | |
|---|---|-----------|
| # | Role | Unit |
| a. Resources deployment during Transition Phase | | |
| 1. | Project Manager * | 1 |
| 2. | Solution Architect | 1 |
| 3. | Domain Expert * | 1 |
| 4. | Business Analyst * | 2 |
| 5. | DBA * | 1 |
| 6. | Liferay Developer * | 1 |
| 7. | DevOps Expert | 1 |
| 8. | System Expert * | 1 |
| Sub Total for “a” | | 9 |
| b. Resources deployment during Development Phase | | |
| 1 | Project Manager * | 1 |
| 2 | Solution Architect | 1 |
| 3 | Domain Expert * | 1 |
| 4 | Business Analyst * | 2 |
| 5 | DBA * | 1 |
| 6 | Liferay Developer * | 1 |
| 7 | DevOps Expert | 1 |
| 8 | UI Designer | 1 |
| 9 | Quality Test Manager * | 1 |
| 10 | Quality Tester | 1 |
| 11 | Data Architect | 1 |
| 12 | Security Architect | 1 |
| 13 | BI Developer | 1 |
| 14 | Full Stack Developer | 4 |
| 15 | API Developer | 1 |
| 16 | CMS Expert | 1 |
| 17 | DMS Expert | 1 |
| 18 | System Expert | 1 |
| 19 | Analytics Expert | 1 |
| 20 | Developer (Exclusively support for Existing Application until Go Live of New Application) | 3 |
| Sub Total for “b” | | 26 |
| c. Resources deployment during O&M Phase | | |
| 1. | Project Manager * | 1 |
| 2. | Business Analyst * | 1 |
| 3. | DBA | 1 |
| 4. | Quality Tester * | 1 |
| 5. | Senior Developer * | 1 |
| 6. | Junior Developer * | 1 |
| 7. | System Expert | 1 |

| | | |
|---------------------------------|--------------------|-----------|
| 8. | Security Architect | 1 |
| 9. | Analytics Expert | 1 |
| 10. | DevOps Expert | 1 |
| Sub Total for “c” | | 10 |
| Sub Total for d= “a+b+c” | | 45 |

Note:

a) In addition to the resources mentioned above, the Successful/Selected Bidder is expected to deploy Business Analysts, Developers, Testers, Data Analysts, and any other personnel required to implement this program within the timelines specified as part of this RFP

b) Personnel marked in * shall be deployed onsite at the WDRA Office.

c) The duration of the Project will include implementation phase plus 3 (three) years of O&M phase. Based on the Bidder’s performance and requirement of the Purchaser, the O&M phase may be extended further by 2 (two) years basis the consensus of the Purchaser and the Successful/Selected Bidder at the same price of deployment phase.

Table 8: Proposed Resources for Portal

The Successful/Selected Bidder shall provide different CVs for each profile mentioned above. No person can be proposed in both development phase and operation and maintenance phase. 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. The key personnel deployed on this project shall be on the payroll of the Bidder, for key personnel refer Section 5.6. i.e., Technical Evaluation Criteria in Vol I of this RFP.

Helpdesk support team is required to be deployed during the assignment as per the deployment plan for the helpdesk support indicated below.

| | Help Desk Services Support Team | | | |
|---------------------|--|----------------------|---------------|---------------|
| | Development Phase | O&M Phase | | |
| Support Team | Six Months | Year 1 | Year 2 | Year 3 |
| L1 | | | | |
| L2 | | | | |

Table 9: Help Desk Services Support Team

Manpower deployed for the helpdesk support should comply with minimum qualifications mentioned in Annexure F of Volume II of this RFP.

8 Section 8: Deliverables, Timelines and Payment Schedules

| Deliverables, Timelines and Payment Schedules for Transition Phase | | | | |
|---|---|---|---------------------------------------|--|
| # | Stage | Activities | Time (In Months) | Payments |
| T= Signing of MSA | | | | |
| 1 | Transition and Management of Existing Application | Signing of MSA | T | |
| | | a) Mobilization of resources for Transition Phase b) Submission and Approval of Compliance and Required Documents | T ₁ =T+ 0.5 | |
| | | a) Approval of Implementation Plan for WDRA b) Project Transition and HOTO of existing WDRA Solution | T ₂ = T ₁ + 0.5 | 10 % of Price quoted for Application Development and Implementation of (A) |
| | | Submission & Approval a) FRS & SRS b) Prototype/wireframe and c) SoW for WDRA portal document | T ₃ = T ₁ + 1.5 | 10% of Price quoted for Application Development and Implementation |
| Deliverables, Timelines and Payment Schedules for Development Phase | | | | |
| # | Stage | Activities | Time (In Months) | Payments |
| 2 | Application Development and Implementation | Development of all Module Including Portal, M&S, Registration, Inspection, Insurance, Security Deposits Management, Training & Awareness etc. <ul style="list-style-type: none">• All support components• All common functionalities• Integration with Pan card, SMS Gateway, Email* | T ₄ =T ₃ +4 | 20% of Price quoted for Application Development and Implementation of (A) |
| | | Go Live of all Modules Including Portal, M&S, Registration, Inspection, Insurance, Security Deposits Management, Training & Awareness etc. <ul style="list-style-type: none">• All support components• All common functionalities | T ₅ =T ₃ +5 | 40% of Price quoted for Application Development and Implementation of (A) |

| | | | | |
|--|--|---|-------------|---|
| | | Integration with Pan card, SMS Gateway, Email* | | |
| | | Security (STQC) and Application Testing (UAT) for Release | $T_6=T_3+6$ | 20% of Price quoted for Application Development and Implementation of (A) |

Note:

T= Signing of MSA of Successful/Selected Bidder.

A is the Value Quoted by Successful/Selected Bidder for Application Development and Implementation for WDRA Portal in the Commercial Format provided in Annexure 4 Form 02 of Volume I of this RFP

***Identified applications to be integrated have been specified in Annexure G of this RFP.**

Deliverables, Timelines and Payment Schedules for Training and Capacity Building

| # | Stage | Activities | Time (In Months) | Payments |
|---|---------------------------------------|---|-----------------------------|---|
| Pre-Requisite: Post Go Live of WDRA Portal | | | | |
| 3 | Training and Capacity Building | Submission and Approval of training, plan, and strategy (for all stakeholders) the Project | $T_7=T_3+5$ | The bidder shall be paid 40 % of the price quoted for Training & Capacity building as defined in activities column in this Table after completion of the required activities (B) |
| | | Submission and Approval of training material (CBTs, Presentations, documents, Help modules, etc.) for all modules of WDRA Portal by the Purchaser | | |
| | | Submission and approval of Refresher Training (Minimum 6 in three years and Maximum 12 in 3 years) Post Go live of WDRA Portal application | During 3 years of O&M Phase | 60% (Divided equally into 12 Payment) (B) |

Note: B is the Value Quoted by Successful/Selected Bidder for Training and Capacity Building for WDRA Portal

Deliverables, Timelines and Payment Schedules for User Support, Helpdesk, Operation and Maintenance of the Integrated IT Application for 3 Years

| # | Stage | Activities | Time (In Months) | Payments |
|--|---|---|---|---|
| Pre-Requisite: Go Live of WDRA Portal | | | | |
| 4 | C1: Operation and Maintenance of the Integrated IT Application for 3 Years | Submission and Acceptance of SLA adherence and help desk reports on a quarterly basis | Go Live of all modules of WDRA Portal for the O&M period of 3 years | Quarterly Payment of the Price Quoted for (C1) |

| | | | | |
|--|--|---|--|---|
| | C2: User Support and helpdesk support | Submission of Quarterly reports to Purchaser on calls handled by Help desk personnel. | During the period of (T ₄ to T ₆) Development Phase and O&M period of 3 years | Quarterly Payment of Man months Rates Quoted for individual resources in respect of L1 and L2 Resources (C2) |
|--|--|---|--|---|

Table 10: 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 WDRA portal.
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.

9 Section 9: 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

10 Annexures

Annexure A: Functional Requirements

10.1 Core Modules (Existing and the new to be Developed)

The WDRA old software is currently operational, but it requires to be redeveloped to accommodate new requirements. The core functionalities of the software shall include:

10.1.1 Portal

| Module | Component | Requirement |
|--------|-----------|--|
| Portal | Warehouse | Form for Application for Registration of Warehouse should allow Warehouseman to enter the required information along with attachment |
| Portal | Warehouse | Form for Application for Registration of Warehouse should allow registration of multiple warehouses for same Warehouseman at the same time or at different times |
| Portal | Warehouse | Query different warehouses for a Warehouseman using their identifier |
| Portal | Warehouse | Application for Registration of Warehouse should allow Warehouseman to upload all required documents |
| Portal | Warehouse | Dashboard facility to Warehouseman with various reports and notifications |
| Portal | Warehouse | Application for Registration of Warehouse should allow Warehouseman to pay non-refundable application fee via payment gateway made available in Online Portal. |
| Portal | Warehouse | Payment Module should have reconciliation facility and Configuration of payment based on statutory requirements |
| Portal | Warehouse | Generate unique acknowledgement number on successful completion & submission of application for registration |
| Portal | Warehouse | Post submission application should check the filled data based on configurable rule engine and Automated exception report should be shown to WDRA officers. |
| Portal | Warehouse | WDRA User should have facility to raise inline query for every field and enable/disable editing of desired field of application form. |
| Portal | Warehouse | Warehouse User should have facility to rectify the errors and resubmit the application |
| Portal | Warehouse | Registration of Warehouse and Renewal of Registration of Warehouse should allow WDRA to allocate inspection (physical inspection of warehouse to be registered under WDRA) to Inspection Agency. Generate the letters for Warehouse and Inspection Officers to validate the identity |
| Portal | Warehouse | System should allow WDRA to enter required information at the time of allocating inspection to Inspection Agency for Registration of Warehouse and Renewal of Registration of Warehouse. |

| Module | Component | Requirement |
|--------|-----------|--|
| Portal | Warehouse | Generate unique warehouse registration number, for each warehouse, on approval of application for registration. The unique warehouse registration number should be alphanumeric of length 7 and with a check digit at the end created using the Luhn algorithm. Warehouseman ID should be alphanumeric of length 7 and with a check digit, created using the Luhn algorithm, at the end. |
| Portal | Warehouse | On approval of application for registration, it should allow WDRA to issue Certificate of Registration and User should be able to download it from their login. |
| Portal | Warehouse | Process application for registration, using the defined approval hierarchy, through integrated workflow. WDRA should receive a notification message on submission of application form for registration of warehouse by Warehouseman. Applicant / Warehouseman should receive a notification message on approval, rejection, and update of comments section of application form by WDRA. |
| Portal | Warehouse | Warehouseman should be able to see the status and details of the applications it submits for registration of warehouse. WDRA should be able to see the status and details of the applications submitted by all Warehousemen for registration of warehouses. |
| Portal | Warehouse | Allow edit of specific information for warehouse by warehouseman and approval through the workflow. |
| Portal | Warehouse | Renewal of Registration of Warehouse should allow warehouseman to query using their identifier and Registration Number. |
| Portal | Warehouse | System should not allow renewal of Registration of Warehouse by Warehouseman more than a (configurable) time interval prior to expiry of registration. |
| Portal | Warehouse | If application for Renewal of Registration of Warehouse is attempted by Warehouseman within the (configurable) time interval of expiry of registration of warehouse, system should display all the information entered during the registration of warehouse. |
| Portal | Warehouse | Application for Renewal of Registration of Warehouse should allow Warehouseman to edit/modify information in case there is a change in information between Registration of Warehouse and Renewal of Registration of Warehouse. |
| Portal | Warehouse | Application for Renewal of Registration of Warehouse should allow Warehouseman to upload required documents only in case there is a change in information between Registration of Warehouse and Renewal of Registration of Warehouse. |
| Portal | Warehouse | Application for Renewal of Registration of Warehouse should allow Warehouseman to pay non-refundable application fee via payment gateway made available in Online Portal. |
| Portal | Warehouse | Generate unique acknowledgement number on successful completion & submission of application for renewal of registration. |

| Module | Component | Requirement |
|--------|-----------|---|
| Portal | Warehouse | Renewal of Registration of Warehouse should provide option to WDRA to go through the online reports of past inspections conducted for the warehouse, once WSP submits application for Renewal of Registration of Warehouse. |
| Portal | Warehouse | Renewal of Registration of Warehouse should provide option to WDRA to go through the online grievance history for the warehouse once Warehouseman submits application for Renewal of Registration of Warehouse. |
| Portal | Warehouse | On approval of application for renewal of registration, Renewal of Registration of Warehouse should allow WDRA to issue Certificate of Renewal of Registration. |
| Portal | Warehouse | Process application for renewal of registration, using the defined approval hierarchy, through integrated workflow. WDRA should receive a notification message on submission of application form for renewal of registration of warehouse by Warehouseman. Applicant / Warehouseman should receive a notification message on approval, rejection, and update of comments section of application form by WDRA. |
| Portal | Warehouse | Warehouseman should be able to see the status and details of the applications it submits for renewal of registration of warehouse. WDRA should be able to see the status and details of the applications submitted by all Warehousemen for renewal of registration of warehouses. |
| Portal | Warehouse | Application for Surrender of Registration of Warehouse should allow Warehouseman to query using their identifier and Warehouse Registration Number. |
| Portal | Warehouse | Generate unique acknowledgement number on successful completion & submission of application for surrender of registration of warehouse |
| Portal | Warehouse | Application for suspension of warehouse should allow WDRA official to enter information with show-cause notice in pre-defined format |
| Portal | Warehouse | Process application for suspension using integrated workflow |
| Portal | Warehouse | Application for cancellation of warehouse should allow enquiry officer (WDRA official or outsider) to enter information with relevant documents |
| Portal | Warehouse | Process application for cancellation using integrated workflow |
| Portal | Warehouse | Process application for surrender of registration, using the defined approval hierarchy, through integrated workflow. |
| | | WDRA should receive a notification message on submission of application form for surrender of registration of warehouse by Warehouseman. Applicant/ Warehouseman should receive a notification message on approval, rejection, and update of comments section of application form by WDRA. |
| Portal | Warehouse | Warehouseman should be able to see the status and details of the applications it submits for surrender of registration of warehouse. WDRA should be able to see the status and details of the applications submitted by all Warehouseman for surrender of registration of warehouses. |

| Module | Component | Requirement |
|--------|-------------------|---|
| Portal | Warehouse | Calculate security deposit for warehouse based on defined parameters e.g., value of WDRA Portal issued, etc. |
| Portal | Warehouse | Warehouse Module should be integrated with payment gateway. |
| Portal | Inspection Agency | Application for Registration of Inspection Agency should allow applicant to enter the required information |
| Portal | Inspection Agency | Application for Registration of Inspection Agency should allow applicant to upload the required documents |
| Portal | Inspection Agency | Application for Registration of Inspection Agency should allow applicant to pay non-refundable application fee via payment gateway made available in Online Portal. |
| Portal | Inspection Agency | Generate unique acknowledgement number on successful completion & submission of application for registration of Inspection Agency. |
| Portal | Inspection Agency | Generate unique inspection agency registration number, for each inspection agency, on approval of application for registration. The unique inspection agency registration number should be alphanumeric and with a check digit at the end. |
| Portal | Inspection Agency | On approval of application for registration, allow WDRA to issue Certificate of Registration and generate a login for the Inspection Agency in the WDRA online portal. |
| Portal | Inspection Agency | Process application for registration of Inspection Agency using integrated workflow. WDRA should receive a notification message on submission of application form for registration of inspection agency by WSP. Applicant should receive a notification message on approval, rejection, and update of comments section of application form by WDRA. |
| Portal | Inspection Agency | Inspection Agency should be able to see the status and details of the applications it submits for registration. |
| Portal | Inspection Agency | Submission of all Inspection Report (24 Reports having 200+ fields on an average) of Warehouse function should provide option for Inspecting Officer to submit the Inspection Checklist in online mode. |
| Portal | Inspection Agency | Submission of Inspection Report of Warehouse function should allow Inspecting Officer to fill up information against the parameters in Inspection Checklist |
| Portal | Inspection Agency | Submission of Inspection Report of Warehouse should allow Inspecting Officer to upload scanned copy of supporting documents against the information entered in Inspection Checklist. |
| Portal | Inspection Agency | Submission of Inspection Report of Warehouse should allow Inspecting Officer to enter the required information at the time of uploading Inspection Checklist along with supporting documents |
| Portal | Inspection Agency | Submission of Inspection Report of Warehouse should allow Inspecting Officer to digitally sign the Inspection Report before uploading it in Online Web Portal. |

| Module | Component | Requirement |
|--------|----------------------|--|
| Portal | Inspection Agency | Process submission of Inspection Report of Warehouse using integrated workflow WDRA should receive a notification message on submission of Inspection Report of warehouse by Inspection Agency. |
| Portal | Inspection Agency | On approval of Inspection Report of warehouse submitted by Inspecting Officer, System should allow Inspection Agency to raise invoice to WDRA against which WDRA can make payment of the inspection fee to the Inspection Agency. |
| Portal | Inspection Agency | Inspection Agency should be able to see the status and details of the inspection report it submits to WDRA post inspection of warehouse. WDRA should be able to see the status and details of the inspection reports submitted by all Inspection Agencies to WDRA post inspection of warehouses. |
| Portal | Insurance Management | Post login Warehouse User should be able to add required Insurances. |
| Portal | Insurance Management | User should be able to add, edit, renew the insurance policies through defined workflow approval by WDRA |
| Portal | Insurance Management | User should be able to link/delink the warehouses with insurances with approval workflow |
| Portal | Insurance Management | Ledger for the insurances should be maintained warehouse wise / warehouseman wise |
| Portal | Insurance Management | System should be able check the sufficiency level of required insurances based on configurable parameters. |
| Portal | Insurance Management | System should be able to perform the action i.e., activation/deactivation/suspension of warehouse automatically. Notification through various modes should be generated to notify the designated users. |
| Portal | Insurance Management | System should be able to share the information to various stakeholders through various modes i.e., MIS, File Transfer, Push/Pull API etc. |
| Portal | SD Management | System should be able to capture the metadata of security deposits and management of the physical (original) document through system |
| Portal | SD Management | System should be able to raise period SD Requirement based on configurable parameters |
| Portal | SD Management | System should be able to maintain the ledger of available SD to manage the sufficiency of the SD. |
| Portal | SD Management | System should be able to integrate with various Banks to verify the SD on real-time basis |
| Portal | SD Management | System should be able to manage the return of SD after all due diligences defined time to time |
| Portal | SD Management | System should be able to maintain the tracking of Physical SD. |
| Portal | SD Management | System should be able to share the information with external stakeholders through various modes i.e., Mail, API etc. |

| Module | Component | Requirement |
|--------|------------|--|
| Portal | General | Portal should allow stakeholders to create guest account after entering required information. Account should be created only after Verification through mobile OTP or email activation link. |
| Portal | General | WDRA portal should allow online payment services through integration with a standard Payment Gateway |
| Portal | General | Upon completion of registration process for warehouses, inspection agencies the system should generate a login id for the WDRA portal and appropriately notify the stakeholders. |
| Portal | General | Portal should facilitate secure login by stakeholders |
| Portal | General | Portal should provide allow stakeholders to reset their password. |
| Portal | General | WDRA portal should allow standard online notification services through integration with a standard SMS gateway |
| Portal | General | Portal should provide search facility that enables the end user to search structured and unstructured data entered in Portal. |
| Portal | General | Translation of Portal Content: Portal Content should be available in both English and Hindi. All the PDF and Word documents available in WDRA existing Portal (Such as Warehouse Registration Form, WDRA Annual Report, Warehouse Manual etc.) should be available both in English and Hindi. It should also support further Indian regional languages |
| Portal | General | Portal should define role-based access control for all application functions secured by a login. |
| Portal | General | Portal should provide Web Content Management functionality for creating & managing content and integrate with a Content Management Framework |
| Portal | General | Portal should support access through multiple channels such as web-based access through the latest versions of the leading internet browsers on desktops, laptops & notebooks and on mobile. Different functions that should be accessible on mobile shall be defined |
| Portal | General | Portal should be GIGW 3.0 compliant. |
| Portal | General | Portal should be designed using reusable components, such as portlets, that communicate using standard protocols such as Web Services for Remote Portlets (WSRP). |
| Portal | General | Portal should have an intuitive layout for easy access to content with no loss of fidelity across different renderers for the web & mobile. |
| Portal | General | Portal should enable access only through secure protocols such as SSL/TLS. |
| Portal | General | Portal should provide a unified application interface for all application functions with a centralized directory for authentication of user credentials |
| Portal | E-learning | Allow access to e-learning and e-certification content online through the Portal including facility to download the content. |

Table 11: FRS for Portal Module

10.1.2 Monitoring & Surveillance (M&S)

| Module | Component | Requirement |
|--------|-----------------|--|
| M & S | User & Access | Every presentation view and business process should be defined as an application function which can be secured. |
| M & S | User & Access | Role based access control should be enforced for every application function as per the User Management framework for the Portal |
| M & S | User & Access | All activities of user shall be logged in System. The log among other shall include the user id, access date and time, transaction and type of accesses made. The log shall be linked to the Monitoring & Surveillance application record and available for access |
| M & S | Data Collection | The system should have the ability to consolidate & correlate data from multiple sources into a consolidated schema in the Monitoring & Surveillance database |
| M & S | Data Collection | The system should have the ability to perform data processing tasks such as data validation/ transformation/ standardization/ enrichment, etc. using defined business rules |
| M & S | Data Collection | The system should enable basic transformations, such as data type conversions, string manipulations, column transformations and simple calculations based on user defined rules. |
| M & S | Data Collection | The system should have the ability to interact with standard file formats such as XML |
| M & S | Data Collection | The system should enable bulk acquisition or loading and processing of large sized data |
| M & S | Data Collection | The system should enable reconciliation of data between source systems and Monitoring & Surveillance database using captured metadata |
| M & S | Data Collection | The system should be able to check incoming data for quality, consistency, and validity |
| M & S | Data Collection | The system should perform schema level validation of XML file and generate error in case of failures |
| M & S | Data Collection | Data in transit (from external systems or between internal systems) or data at rest shall be protected from tampering. |
| M & S | Data Collection | The system should be able to encrypt part and all of data |
| M & S | Data Collection | The system should provide a high-performance computing for processing large data sets with a parallel, distributed algorithm |
| M & S | Data Collection | The system should ensure that the raw data aggregated from other systems is not modified in any way, and all derived values, enrichment etc. are in addition to the raw data. |
| M & S | Data Collection | The system should maintain audit trail of all data files processed and make this information available to the corresponding repositories and warehouses for reconciliation |
| M & S | Data Collection | The system should have an asynchronous event mechanism to detect new data files in the staging area for subsequent processing using data integration tools |

| Module | Component | Requirement |
|--------|------------------|---|
| M & S | Data Collection | The system should use standard data integration tools for the data collection process |
| M & S | Data Collection | The system should enable a staging area for repositories & warehouses to push regulatory reporting data at a pre-determined frequency. Data in the staging area will be stored in encrypted form. |
| M & S | Data Analysis | The system should support multiple types of schemas for reporting & data analysis – this includes dimensional & multi-dimensional schemas |
| M & S | Data Analysis | The system should generate and maintain aggregate data for different metrics |
| M & S | Data Analysis | The system should allow definition of metadata for different schema & view elements to facilitate metadata-based reporting & analysis |
| M & S | Data Analysis | The system should allow definition of derived or computed columns for storing data that is derived or computed from data source elements |
| M & S | Data Analysis | The system should have a de-normalized schema to make generation of reports easy & performant |
| M & S | Data Analysis | The system should facilitate drilldowns within and across reports & alerts to facilitate seamless analysis |
| M & S | Data Analysis | The system should use advanced technology components, such as tables, pivot tables, graphs to facilitate visual & non-visual analytics |
| M & S | Data Analysis | The system should intuitively display large data sets, e.g., by paging or other appropriate mechanisms |
| M & S | Data Analysis | The system should seamlessly synchronize between the different types of schemas |
| M & S | Data Analysis | The system should allow dynamic changing of views e.g., from table to pivot table or graph without refresh of the page |
| M & S | Metadata Catalog | The system should provide a metadata editor for definition of metadata |
| M & S | Metadata Catalog | The system should support different types of metadata based on logical schema or presentation elements |
| M & S | Metadata Catalog | The system should provide a catalog or repository for storing all metadata and facilitate version control in the catalog |
| M & S | Metadata Catalog | The system should index all artefacts, such as alerts, MIS & Exception reports, by the different metadata defined |
| M & S | Metadata Catalog | The system should provide a private API to fetch all artefacts for a specific metadata subject to certain criteria such as date range, severity, etc. |
| M & S | Metadata Catalog | The system should allow searching of the metadata catalog, using metadata or part of report name, to find the different metadata objects |
| M & S | Metadata Catalog | The system should allow seamless interaction between the search results from the catalogue and the individual metadata objects |
| M & S | Metadata Catalog | The system should seamlessly integrate the metadata catalog with the report editor to create & edit reports by selecting metadata from the catalog |

| Module | Component | Requirement |
|--------|---------------------|---|
| M & S | Information Sharing | System should enable streamlined process for request-based exchange with other regulatory bodies |
| M & S | Information Sharing | System should enable secure transmission of data through browser upload, web services and secure FTP mode |
| M & S | Information Sharing | System should enable cooperation and coordination with different data sources |
| M & S | Information Sharing | System should ensure both data and pathway encryption. |
| M & S | Information Sharing | System should have the capability to generate user defined alerts in case of non-receipt of data |
| M & S | Information Sharing | System should destroy a file or part of a file that is received if there is a transmission error. |
| M & S | Information Sharing | System should allow generation of automated requests based on predefined rules |
| M & S | Information Sharing | System should allow generation of requests for additional information related to a previously submitted data point |
| M & S | Information Sharing | System should support major protocols FTP/S, SFTP, HTTP/S, etc. |
| M & S | Information Sharing | System should be able to receive all types of content and formats |
| M & S | Information Sharing | APIs for information sharing should be closed |
| M & S | Executive Dashboard | The system should present prescribed reports related to the performance of various process owners, and the authorized users |
| M & S | Executive Dashboard | The system should present key reports as dashboards using intuitive visualization, including charts, dials, gauges and "traffic lights" that indicate the progress of selected/key performance indicators |
| M & S | Executive Dashboard | The system should enable designated users to develop a customized dashboard. |
| M & S | Executive Dashboard | The system should enable authorized users to generate reports which are beyond the standard reports |
| M & S | Executive Dashboard | Dashboard should be user friendly with ability to design graphs / charts as desired by the user |
| M & S | Executive Dashboard | User should be able to send the reports over email through the dashboard itself |
| M & S | Executive Dashboard | System should have ability to download the consolidated reports in formats such as PDF / Word processing / spreadsheets etc. as required |
| M & S | Executive Dashboard | Dashboard should alert any critical event defined by the user and send SMS / email to the concerned process owner |
| M & S | MIS Reports | System shall be able to automatically generate the MIS reports to the concerned authorities at regular time interval |

| Module | Component | Requirement |
|--------|------------------|---|
| M & S | MIS Reports | The Reporting tool should have robust visualizations such as graphs, charts, and histograms |
| M & S | MIS Reports | The reporting tool should have sliced and dicing features facilitating ad-hoc management reporting on the fly |
| M & S | MIS Reports | The system should present performance indicators and dashboards to authorized users only |
| M & S | MIS Reports | The system should publish prescribed standard reports (summary reports, cross tab reports, top WDRA Portal issuance reports, pledge reports etc.) in all the key functions like issuance, transfer, pledge, e-auction, delivery, etc. |
| M & S | MIS Reports | The standard reports and MIS should be parameterized to enable users to choose the filters and ranges of their choice |
| M & S | MIS Reports | The system should provide capabilities to drill up and down through hierarchies, or expand and collapse entire levels |
| M & S | MIS Reports | The system should provide the ability to authorized users for creation of new reports |
| M & S | MIS Reports | The platform shall be accessible via a browser using internet protocols. The intention is to enable 'anytime, anywhere' access and to include different types of users as appropriate. |
| M & S | Exception Report | System should be capable of generating alerts based on exceptions as defined by the Authority from time to time |
| M & S | Exception Report | System should be capable of aggregation and assessment of data to identify exceptions |
| M & S | Exception Report | System should be capable of monitoring alerts and high-risk scenarios |
| M & S | Exception Report | System should be capable of assessment of events, feedback, and results to assist in fine-tuning the models |
| M & S | Exception Report | System should provide for reconciliation dashboard from different sources and highlight the inconsistencies |
| M & S | Exception Report | System should allow for data aggregation in the form of XML from different sources |
| M & S | Exception Report | System should have the capability of alert suppression to suppress certain types of alerts |
| M & S | Exception Report | System should allow authorized users to search and filter exception records within list. |
| M & S | Exception Report | System should allow allocation of exception reports to different assigned users |
| M & S | Exception Report | System should provide capabilities to drill up and down through hierarchies, or expand and collapse entire levels |
| M & S | Exception Report | System should present prescribed exceptional indicators in either graphical or tabular format as specified by the Authority |

| Module | Component | Requirement |
|--------|-----------|--|
| M & S | Alerts | System should be capable of generating alerts based on defined business rules. |
| M & S | Alerts | System should allow definition of business rules using standard event languages and supported by standard complex event processing engines |
| M & S | Alerts | System should provide a visual editor for defining business event rules which can also include different risks that need to be monitored |
| M & S | Alerts | System should display alerts using intuitive visual metaphors in a non-invasive way |
| M & S | Alerts | System should allow seamless interaction between alerts, different MIS & Exception reports to facilitate actionable intelligence |
| M & S | Alerts | System should allow suppression of alerts |
| M & S | Alerts | System should allow adding notes to alerts and facilitate seamless sharing of alerts with other system users |
| M & S | Alerts | System should provide online reporting of different alerts raised, action taken and status |

Table 12: FRS for Monitoring & Surveillance (M&S) Module

10.2 Core Modules – New Requirement

The new requirements of the Core Modules for the WDRA Portal are outlined as below:

10.2.1 Registration

The registration module is envisioned to provide single registration for all establishments. This shall enable the removal of duplicity in registration and reduction of physical visits to offices.

This module shall consist of but is not limited to below functionalities:

- **Warehouseman Registration (WHM)**
- **Warehouse Registration (WH)**

Warehouseman Registration (WHM)

Warehouse Manager Registration is compulsory for anyone seeking to operate as a warehouse manager in India. It entails a rigorous assessment of the candidate's credentials, financial standing, and conformity to the WDRA's regulations.

| Requirement No. | Module / Functionality | Requirement Description |
|-------------------|----------------------------------|---|
| WHM.REQ.01 | Warehouseman Registration | During Warehouseman Registration process, the Warehouseman / AR / AAR shall need to enter the PAN number in the registration application. WDRA portal shall need to be integrated with PAN database to extract the name of the entity, date of incorporation from the PAN database. |
| WHM.REQ.02 | | System (Warehouseman Registration module) shall need to be modified to separate the insurance module from the |

| Requirement No. | Module / Functionality | Requirement Description |
|-------------------|------------------------|---|
| | | Warehouseman Registration module. Upload of Insurance Policy(s) shall be done through separate module. |
| WHM.REQ.03 | | System shall allow Warehouseman / AR / AAR to upload necessary supporting documents (other than Net-worth) which may be required to provide justification / clarification during the resubmission process. |
| WHM.REQ.04 | | System shall be able to retain the old version of the uploaded supporting documents. The old version shall not be replaced with the new version. |
| WHM.REQ.05 | | System shall allow concerned WDRA officer (From Technical Division) to forward the application (through portal) to the concerned WDRA officer (Finance Division) and concerned WDRA officer (Legal Section) in case any help is required to evaluate the Balance Sheet or Lease / Rent Agreement. |
| WHM.REQ.06 | | System shall allow the concerned WDRA officer (From Technical Division) to mark the fields which are incorrect (as found during examination) so that during resubmission of the application, the Warehouseman / AR / AAR can modify only the incorrect fields and submit the application. |
| WHM.REQ.07 | | System shall reject the application in case the clarifications (as requested by WDRA) are not provided / additional asks are not submitted by the Warehouseman / AR / AAR within prescribed timeline. |
| WHM.REQ.08 | | The approval workflow shall need to be modified so that the examination / scrutiny of application is done either by L1 / L2 officer, not by both the officers. |
| WHM.REQ.09 | | System shall allow the concerned WDRA officer (From Technical Division) to generate the deficiency letter / clarification letter using system. System shall allow the concerned WDRA officer to select the reason for resubmission / deficiency form the list of options available in drop down. System will provide flexibility to the concerned WDRA officer to write any other specific comment in the 'Any Other Comments / Remarks' section. |
| WHM.REQ.10 | | In 'Modification of Registration' process, system shall allow the Warehouseman / AR / AAR to select 'Reason for Modification' from the drop-down list, or system shall highlight the fields which are modified by the Warehouseman / AR / AAR. |
| WHM.REQ.11 | | During examination of application, if the concerned WDRA officer feels that the attached supporting documents are forged, system will allow the concerned WDRA officer to assign the application to the section who will be responsible for investigation. |

Table 13: FRS for Warehouseman Registration Module

Warehouse Registration

Warehouse Registration is crucial for warehouse operators in India, involving rigorous evaluation of compliance with set norms. Warehouse Registration can be for storing of Agri as well as Non Agri commodities in the warehouses. The process assesses storage capacity, safety measures, and quality control protocols to ensure secure, efficient, and eco-friendly operations.

| Requirement No. | Module / Functionality | Requirement Description |
|------------------|-------------------------------|---|
| WH.REQ.01 | Warehouse Registration | System shall allow concerned WDRA officer (From Technical Division) to forward the application (through portal) to the concerned WDRA officer (Finance Division) and concerned WDRA officer (Legal Section) in case any help is required to evaluate the Balance Sheet or Lease / Rent Agreement. |
| WH.REQ.02 | | System shall allow the concerned WDRA officer (From Technical Division) to mark the fields which are incorrect (as found during examination) so that during resubmission of the application, the Warehouseman / AR / AAR can modify only the incorrect fields and submit the application. |
| WH.REQ.03 | | System shall reject the application in case the clarifications (as requested by WDRA) are not provided / additional asks are not submitted by the Warehouseman / AR / AAR within prescribed timeline. |
| WH.REQ.04 | | The approval workflow shall need to be modified so that the examination / scrutiny of application is done either by L1 / L2 officer, not by both the officers. |
| WH.REQ.05 | | System shall allow the concerned WDRA officer (From Technical Division) to generate the deficiency letter / clarification letter using system. System shall allow the concerned WDRA officer to select the reason for resubmission / deficiency form the list of options available in drop down. System will provide flexibility to the concerned WDRA officer to write any other specific comment in the 'Any Other Comments / Remarks' section. |
| WH.REQ.06 | | In 'Modification of Registration' process, system shall allow the Warehouseman / AR / AAR to select 'Reason for Modification' from the drop-down list, or system shall highlight the fields which are modified by the Warehouseman / AR / AAR. |
| WH.REQ.07 | | Warehouse Registration Application online form shall need to be relooked at. Redundant fields shall need to be removed. |
| WH.REQ.08 | | During examination of application, if the concerned WDRA officer feels that the attached supporting documents are forged, system will allow the concerned WDRA officer to assign the application to the section who will be responsible for investigation. |
| WH.REQ.09 | Physical Inspection | System shall allow Authorized Representative of the Inspection Agency to reject / surrender the inspection request on valid reasons. |

| Requirement No. | Module / Functionality | Requirement Description |
|------------------|------------------------|---|
| WH.REQ.10 | | In case of rejection / surrender of inspection request by the Inspection Agency, system shall allow the concerned WDRA officer to assign the inspection to a different Inspection Agency. |
| WH.REQ.11 | | System shall allow the AR of the Inspection Agency to change the nominated Inspecting Officer in case the one selected earlier is not available. |
| WH.REQ.12 | | In case of any discrepancy(s) observed in Inspection Report, system shall allow the concerned WDRA officer (after obtaining the approval from A2) to generate online Discrepancy Letter in case of minor discrepancy(s) or Show Cause Notice (SCN) in case of major discrepancy(s). |
| WH.REQ.13 | | System shall have provision for the concerned WDRA officer to take approval from the higher-level officers before issuing the online Discrepancy Letter / Show Cause Notice (through portal) to the Warehouseman / Inspecting Officer. |
| WH.REQ.14 | | System shall allow the concerned WDRA officer (From Technical Division) to generate the Discrepancy Letter using system. System shall allow the concerned WDRA officer to select the reason of deficiency from the list of options available in drop down. System will provide flexibility to the concerned WDRA officer to write any other specific comment in the 'Any Other Comments / Remarks' section. |
| WH.REQ.15 | | System shall allow the concerned WDRA officer to initiate follow-up inspection. |
| WH.REQ.16 | | System shall allow the concerned WDRA officer to select the same Inspection Agency or different Inspection Agency for follow-up inspection. |
| WH.REQ.17 | | System shall allow the concerned Warehouseman to make payment (through portal) for the follow-up inspection |
| WH.REQ.18 | | System needs to be modified so that examination / scrutiny currently undertaken by L1 and L2 officer in the Physical Inspection workflow shall need to be undertaken either by L1 / L2 officer. |
| WH.REQ.19 | | The physical inspection report shall need to be relooked at. The subjective contents may need to be converted into objective contents so that the insights can be derived out of the captured information. |
| WH.REQ.20 | | Geo-Tagging facility shall need to be provisioned. |

Table 14: FRS for Warehouse Registration Module

10.2.2 Inspection

This module inspection enables authorized officials from the Warehousing Development and Regulatory Authority to conduct regular inspections of warehouses and storage facilities. The module will include features such as scheduling inspections, tracking inspector assignments, recording inspection results, and

generating reports on compliance with regulations and allows for the tracking of corrective actions taken in response to non-compliances identified during inspections.

The requirement specification for the new modules to be designed is as follows:

- **General Inspection (GI)**
- **Stock Inspection (SI)**
- **Payment to Inspection Agency (PIA)**
- **Digital Stock Inspection Report (DSIR)**

General Inspection (GI)

General Inspection is conducted periodically to provide a comprehensive view of compliance with WDRA Portal integrity, infrastructure, regulatory requirements, and standard operating procedures.

| Requirement No | Requirement Description |
|------------------|--|
| GI.REQ.01 | System shall be able to extract the list of the warehouses to be selected for General Inspection based on the defined search criteria |
| GI.REQ.02 | System shall be able to maintain records of the warehouses which have been selected for General Inspection. |
| GI.REQ.03 | System shall allow concerned WDRA officer to initiate General Inspection against the selected warehouse. |
| GI.REQ.04 | System shall allow concerned WDRA officer to assign inspection either to WDRA internal officer or to the empaneled Inspection Agency. The Inspection Agency will be determined by the system based on the algorithm. |
| GI.REQ.05 | System shall allow Authorized Representative of the Inspection Agency to send the name of the nominated Inspecting Officer (through portal) to WDRA. |
| GI.REQ.06 | System shall allow concerned WDRA officer to approve the inspection assigned to WDRA Internal Officer / Inspecting Officer nominated by the Inspection Agency |
| GI.REQ.07 | System shall allow the concerned WDRA officer to generate the Inspection / Authorization Letter through system and send the same to the Inspecting Officer |
| GI.REQ.08 | System shall notify Warehouseman and Inspecting Officer about the commencement of inspection through email, SMS. |
| GI.REQ.09 | System shall allow Authorized Representative of the Inspection Agency to reject / surrender the inspection request on valid reasons. |
| GI.REQ.10 | In case of rejection / surrender of inspection request by the Inspection Agency, system shall allow the concerned WDRA officer to assign the inspection to a different Inspection Agency. |
| GI.REQ.11 | System shall allow the Inspecting Officer to fill up the Inspection Report online. |
| GI.REQ.12 | System shall allow the Inspecting Officer to upload the necessary supporting document and submit the same during submission of Inspection Report. |
| GI.REQ.13 | System shall notify the concerned WDRA officer (through dashboard notification, email, SMS) on submission of Inspection Report. |
| GI.REQ.14 | System shall allow concerned WDRA officers (L1/ L2, A1) to examine the submitted Inspection Report and record observations in the portal. |

| Requirement No | Requirement Description |
|------------------|--|
| GI.REQ.15 | On successful examination, system shall allow the concerned WDRA officer (A2) to approve the Inspection Report. |
| GI.REQ.16 | In case of any discrepancy(s) observed, system shall allow the concerned WDRA officer (after obtaining the approval from A2) to generate online Discrepancy Letter in case of minor discrepancy(s) or Show Cause Notice (SCN) in case of major discrepancy(s). |
| GI.REQ.17 | System shall have provision for the concerned WDRA officer to take approval from the higher-level officers before issuing the online Discrepancy Letter / Show Cause Notice (through portal) to the Warehouseman / Inspecting Officer. |
| GI.REQ.18 | System shall allow the Warehouseman / Inspecting Officer to reply to the Discrepancy Letter / Show Cause Notice online. At the time of reply, system shall allow the Warehouseman / Show Cause Notice to upload necessary supporting documents in support of the information provided to WDRA. |
| GI.REQ.19 | System shall allow the concerned WDRA officer to examine the reply to the Discrepancy Letter / Show Cause Notice as provided by the Warehouseman / Inspecting Officer. |
| GI.REQ.20 | System shall allow Inspecting Officer to rectify and resubmit Inspection Report. |
| GI.REQ.21 | System shall allow the concerned WDRA officer to initiate follow-up inspection. |
| GI.REQ.22 | System shall allow the concerned WDRA officer to select the same Inspection Agency or different Inspection Agency for follow-up inspection. |
| GI.REQ.23 | System shall allow the concerned Warehouseman to make payment (through portal) for the follow-up inspection. |
| GI.REQ.24 | System shall allow the Inspecting Officer to fill up Inspection Report online. The Report shall have objective questions (instead of subjective questions) so that system can generate insight out of the captured information. |
| GI.REQ.25 | System shall allow the WDRA officers to generate different MIS reports related to General Inspection data. |
| GI.REQ.26 | System shall display the key information (Summary Reports) in the Dashboard of WDRA officers. |

Table 15: FRS_1 for Inspection Module

Stock Inspection (SI)

Stock Inspection assist the officials to verify the quantity and quality of goods reflected in NWRs/eNWRs/eNNWRs, offering insight into the risk profile of registered warehouses.

| Requirement No | Requirement Description |
|------------------|---|
| SI.REQ.01 | System shall be able to extract the list of the warehouses to be selected for General Inspection based on the defined search criteria |
| SI.REQ.02 | System shall be able to maintain records of the warehouses which have been selected for General Inspection |
| SI.REQ.03 | System shall allow concerned WDRA officer to initiate General Inspection against the selected warehouse |

| Requirement No | Requirement Description |
|-------------------|--|
| SI.REQ.04 | System shall allow concerned WDRA officer to assign inspection either to WDRA internal officer or to the empaneled Inspection Agency. The Inspection Agency will be determined by the system based on the algorithm. |
| SI.REQ.05 | System shall allow Authorized Representative of the Inspection Agency to send the name of the nominated Inspecting Officer (through portal) to WDRA |
| SI.REQ.06 | System shall allow concerned WDRA officer to approve the inspection assigned to WDRA Internal Officer / Inspecting Officer nominated by the Inspection Agency |
| SI.REQ.07 | System shall allow the concerned WDRA officer to generate the Inspection / Authorization Letter through system and send the same to the Inspecting Officer |
| SI.REQ.08 | System shall notify Warehouseman and Inspecting Officer about the commencement of inspection through email, SMS |
| SI.REQ.09 | System shall allow Authorized Representative of the Inspection Agency to reject / surrender the inspection request on valid reasons. |
| SI.REQ.10 | In case of rejection / surrender of inspection request by the Inspection Agency, system shall allow the concerned WDRA officer to assign the inspection to a different Inspection Agency |
| SI. REQ.11 | System shall allow the Inspecting Officer to fill up the Inspection Report online. |
| SI.REQ.12 | System shall allow the Inspecting Officer to upload the necessary supporting document and submit the same during submission of Inspection Report. |
| SI.REQ.13 | System shall notify the concerned WDRA officer (through dashboard notification, email, SMS) on submission of Inspection Report. |
| SI.REQ.14 | System shall allow concerned WDRA officers (L1/ L2, A1) to examine the submitted Inspection Report and record observations in the portal. |
| SI.REQ.15 | On successful examination, system shall allow the concerned WDRA officer (A2) to approve the Inspection Report. |
| SI.REQ.16 | In case of any discrepancy(s) observed, system shall allow the concerned WDRA officer (after obtaining the approval from A2) to generate online Discrepancy Letter in case of minor discrepancy(s) or Show Cause Notice (SCN) in case of major discrepancy(s). |
| SI.REQ.17 | System shall have provision for the concerned WDRA officer to take approval from the higher-level officers before issuing the online Discrepancy Letter / Show Cause Notice (through portal) to the Warehouseman / Inspecting Officer. |
| SI.REQ.18 | System shall allow the Warehouseman / Inspecting Officer to reply to the Discrepancy Letter / Show Cause Notice online. At the time of reply, system shall allow the Warehouseman / Show Cause Notice to upload necessary supporting documents in support of the information provided to WDRA. |
| SI.REQ.19 | System shall allow the concerned WDRA officer to examine the reply to the Discrepancy Letter / Show Cause Notice as provided by the Warehouseman / Inspecting Officer. |
| SI.REQ.20 | System shall allow Inspecting Officer to rectify and resubmit Inspection Report. |
| SI.REQ.21 | System shall allow the concerned WDRA officer to initiate follow-up inspection. |
| SI.REQ.22 | System shall allow the concerned WDRA officer to select the same Inspection Agency or different Inspection Agency for follow-up inspection. |

| Requirement No | Requirement Description |
|------------------|---|
| SI.REQ.23 | System shall allow the concerned Warehouseman to make payment (through portal) for the follow-up inspection |
| SI.REQ.24 | System shall allow the Inspecting Officer to fill up Inspection Report online. The Report shall have objective questions (instead of subjective questions) so that system can generate insight out of the captured information. |
| SI.REQ.25 | System shall allow the WDRA officers to generate different MIS reports related to General Inspection data. |
| SI.REQ.26 | System shall display the key information (Summary Reports) in the Dashboard of WDRA officers. |

Table 16: FRS_2 for Inspection Module

Payment to Inspection Agency (PIA)

The module will be designed to manage the process of general inspections for warehouses registered with the WDRA and will allow WDRA officers to select warehouses for inspection based on defined criteria, assign inspections to internal officers or empaneled inspection agencies, and track the status of inspections. The module will also facilitate follow-up inspections and payments for the same. Additionally, it provides various MIS reports and summary reports to help WDRA officers monitor the inspection process.

| Requirement No | Requirement Description |
|-------------------|--|
| SI.REQ.01 | System shall be able to extract the list of the warehouses to be selected for General Inspection based on the defined search criteria |
| SI.REQ.02 | System shall be able to maintain records of the warehouses which have been selected for General Inspection |
| SI.REQ.03 | System shall allow concerned WDRA officer to initiate General Inspection against the selected warehouse |
| SI.REQ.04 | System shall allow concerned WDRA officer to assign inspection either to WDRA internal officer or to the empaneled Inspection Agency. The Inspection Agency will be determined by the system based on the algorithm. |
| SI.REQ.05 | System shall allow Authorized Representative of the Inspection Agency to send the name of the nominated Inspecting Officer (through portal) to WDRA |
| SI.REQ.06 | System shall allow concerned WDRA officer to approve the inspection assigned to WDRA Internal Officer / Inspecting Officer nominated by the Inspection Agency |
| SI.REQ.07 | System shall allow the concerned WDRA officer to generate the Inspection / Authorization Letter through system and send the same to the Inspecting Officer |
| SI.REQ.08 | System shall notify Warehouseman and Inspecting Officer about the commencement of inspection through email, SMS |
| SI.REQ.09 | System shall allow Authorized Representative of the Inspection Agency to reject / surrender the inspection request on valid reasons. |
| SI.REQ.10 | In case of rejection / surrender of inspection request by the Inspection Agency, system shall allow the concerned WDRA officer to assign the inspection to a different Inspection Agency |
| SI. REQ.11 | System shall allow the Inspecting Officer to fill up the Inspection Report online. |

| Requirement No | Requirement Description |
|------------------|--|
| SI.REQ.12 | System shall allow the Inspecting Officer to upload the necessary supporting document and submit the same during submission of Inspection Report. |
| SI.REQ.13 | System shall notify the concerned WDRA officer (through dashboard notification, email, SMS) on submission of Inspection Report. |
| SI.REQ.14 | System shall allow concerned WDRA officers (L1/ L2, A1) to examine the submitted Inspection Report and record observations in the portal. |
| SI.REQ.15 | On successful examination, system shall allow the concerned WDRA officer (A2) to approve the Inspection Report. |
| SI.REQ.16 | In case of any discrepancy(s) observed, system shall allow the concerned WDRA officer (after obtaining the approval from A2) to generate online Discrepancy Letter in case of minor discrepancy(s) or Show Cause Notice (SCN) in case of major discrepancy(s). |
| SI.REQ.17 | System shall have provision for the concerned WDRA officer to take approval from the higher-level officers before issuing the online Discrepancy Letter / Show Cause Notice (through portal) to the Warehouseman / Inspecting Officer. |
| SI.REQ.18 | System shall allow the Warehouseman / Inspecting Officer to reply to the Discrepancy Letter / Show Cause Notice online. At the time of reply, system shall allow the Warehouseman / Show Cause Notice to upload necessary supporting documents in support of the information provided to WDRA. |
| SI.REQ.19 | System shall allow the concerned WDRA officer to examine the reply to the Discrepancy Letter / Show Cause Notice as provided by the Warehouseman / Inspecting Officer. |
| SI.REQ.20 | System shall allow Inspecting Officer to rectify and resubmit Inspection Report. |
| SI.REQ.21 | System shall allow the concerned WDRA officer to initiate follow-up inspection. |
| SI.REQ.22 | System shall allow the concerned WDRA officer to select the same Inspection Agency or different Inspection Agency for follow-up inspection. |
| SI.REQ.23 | System shall allow the concerned Warehouseman to make payment (through portal) for the follow-up inspection |
| SI.REQ.24 | System shall allow the Inspecting Officer to fill up Inspection Report online. The Report shall have objective questions (instead of subjective questions) so that system can generate insight out of the captured information. |
| SI.REQ.25 | System shall allow the WDRA officers to generate different MIS reports related to General Inspection data. |
| SI.REQ.26 | System shall display the key information (Summary Reports) in the Dashboard of WDRA officers. |

Table 17: FRS_3 for Inspection Module

Digital Stock Inspection Report (DSIR)

| Requirement No | Requirement Description |
|--------------------|---|
| DSIR.REQ.01 | The system shall allow Inspecting Officer (IO) to fill up the inspection report using tablet, laptop. |
| DSIR.REQ.02 | All data shall be entered online. |

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|--------------------|---|
| DSIR.REQ.03 | The system shall allow IO to upload supporting documents. |
| DSIR.REQ.04 | The system shall allow IO to verify the inspection report using AADHAAR based OTP authentication. |
| DSIR.REQ.05 | The system shall allow the IO to upload the Warehouseman undertakings. |
| DSIR.REQ.06 | The system will allow IO to save the information using 'Save as Draft' feature. |
| DSIR.REQ.07 | A Mobile App shall be provisioned. |

Table 18: FRS_4 for Inspection Module

10.2.3 Insurance

The system will automate the process of insurance policy management for warehouses registered under WDRA. The application shall enable warehousemen to register and manage their insurance policies, allow WDRA officers to verify and approve/reject the policies, and generate various MIS reports.

This module shall consist of but is not listed to below functionalities:

- **Addition of Insurance Policy**
- **Modification of Insurance Policy**
- **Integration Requirements**
- **Other Key Requirements**

| Requirement No | Module / Functionality | Requirement Description |
|-------------------|-------------------------------------|---|
| INS.REQ.01 | Addition of Insurance Policy | System will allow the Warehouseman to enter the Insurance Policy (IP) details / select from drop down list (such as Insurance Company Name, Insurance Policy Name, Type of Policy, Sum Insured, Expiry Date, Name of Warehouse, Warehouse Capacity, Mode of Procurement) in the portal. |
| INS.REQ.02 | | System will calculate the quantum of the stock insurance based on the mode of procurement, type of policy and the capacity to be registered and the commodity. |
| INS.REQ.03 | | System will allow Warehouseman to add different types of policies (SFSP, Fidelity, Burglary, DOS (Cold Storage) and MBP (Cold Storage) at one go. |
| INS.REQ.04 | | System will allow the Warehouseman to upload soft copy of necessary supporting documents and submit the same. |
| INS.REQ.05 | | On successful submission, concerned WDRA officer will be notified through dashboard notification. |
| INS.REQ.06 | | System will allow concerned WDRA officers to examine, verify the application. Maker-Checker mechanism is to be implemented. |
| INS.REQ.07 | | System will allow concerned WDRA officers to write their observations in the portal. |
| INS.REQ.08 | | In case any discrepancy is observed in the application, system will allow the concerned WDRA officer to send back the application to the Warehouseman through portal for necessary correction and re-submission. |

| | | |
|-------------------|---|--|
| INS.REQ.09 | | On successful verification, the insurance amount will be added for the warehouse in the system. |
| INS.REQ.10 | Modification of Insurance Policy | System will allow the Warehouseman to modify the Insurance Policy (IP) details) in the portal. As a part of modification, the Warehouseman will be able to change the Sum Insured of Policy (s) or can add additional warehouse(s) to the Policy. |
| INS.REQ.11 | | System will allow the Warehouseman to upload soft copy of necessary supporting documents and submit the same. |
| INS.REQ.12 | | On successful submission, concerned WDRA officer will be notified through dashboard notification. |
| INS.REQ.13 | | System will allow concerned WDRA officers to examine, verify the application. Maker-Checker mechanism is to be implemented. |
| INS.REQ.14 | | System will allow concerned WDRA officers to write their observations in the portal. |
| INS.REQ.15 | | In case any discrepancy is observed in the application, system will allow the concerned WDRA officer to send back the application to the Warehouseman through portal for necessary correction and re-submission. |
| INS.REQ.16 | | On successful verification, the policy details will be updated in the system. |
| INS.REQ.17 | Other Key Requirements | System will allow Warehouseman to view the details of the submitted Insurance Policy(s). |
| INS.REQ.18 | | System will send notification messages (in the form of email, SMS, dashboard notification) to the Warehouseman prior expiry of Insurance Policy (s). |
| INS.REQ.19 | | Once the Insurance Policy(s) is expired and the new Insurance Policy(s) is not submitted by the Warehouseman and not approved by WDRA (before the expiry of old Insurance Policy(s)), the system will change the warehouse status to Inactive. |
| INS.REQ.20 | | In case, the Warehouse is made Inactive, the system will send email, SMS to the Banks, Depositors / WDRA Portal holders, Repositories. |
| INS.REQ.21 | | Once the Insurance Policy(s) with new expiry date is submitted by the Warehouseman and subsequently approved by WDRA, system will change the status of warehouse back to 'Active'. |
| INS.REQ.22 | | System will generate various MIS reports for the WDRA officers. The key metrics shall be made available in the Dashboard (in the form of Summary Reports) of WDRA officers. |
| INS.REQ.23 | | System will generate alert to the Warehouseman in case insurance policy is exhausted up to a limit of 75%. The alert shall be issued to Depositors / WDRA Portal holders, Banks etc. as well, |
| INS.REQ.24 | | System will allow WDRA Officers to generate various MIS Reports. The key metrics shall be made available in the Dashboard (in the form of Summary Reports) of WDRA officers. |
| INS.REQ.25 | Integration Requirements | WDRA Portal shall need to be integrated with IRDA repository. This will eliminate the need for Warehouseman / AR /AAR to enter the details of IPs manually. Also, this will reduce the level of verification by the concerned WDRA officers to a great extent. |

| | | |
|-------------------|--|---|
| INS.REQ.26 | | The online procurement of Insurance Policy(s) shall be made available in WDRA portal. System will provide both the options to the Warehouseman – Offline procurement of Insurance Policy(s) and upload in the portal and Online procurement of Insurance Policy(s). |
| INS.REQ.27 | | Information exchange (related to the Insurance Policy) with the Repository shall need to happen on near real-time basis to eliminate instances like underinsurance. |

Table 19: FRS for Insurance Module

10.2.4 Security Deposits Management

The Security Deposit Management Module is a vital component of the Overall WDRA system, tailored to oversee Security Deposit Receipt Applications (SDRAs) for WDRA-registered warehouses. It provides Warehousemen with an intuitive platform to submit FSD details and supporting documents. The module enables Reception Officials to maintain electronic Dispatch/Receipt records and aids WDRA officers in verifying and providing feedback on requests. Integrated with Repositories, it ensures seamless WDRA Portal information retrieval, and its reporting capabilities offer WDRA officers' valuable insights for compliance monitoring.

This module shall consist of but not limited to below functionalities:

- **FSD Submission**
- **FSD Return**
- **DSD Submission**
- **DSD Return**
- **Sufficiency of DSD**
- **SD Verification**
- **Other Key Requirements**

| Requirement No | Module / Functionality | Requirement Description |
|------------------|------------------------|---|
| SD.REQ.01 | FSD Submission | System will allow the Warehouseman to enter the FSD details in the portal. System will allow the Warehouseman to upload scanned copy of the necessary supporting documents and submit the application / request. |
| SD.REQ.02 | | System will allow Reception Official to make an entry (containing the details of FSD) in the electronic Dispatch / Receipt Register. |
| SD.REQ.03 | | System will allow Reception Official to find out the L1 officer (who has examined the registration application / to whom the application has been assigned for examination) using acknowledgement number of the application / request number. |
| SD.REQ.04 | | System will allow the concerned WDRA officers to examine, verify the request and enter observations in portal. |
| SD.REQ.05 | | In case the online entries are incorrect, system will allow concerned WDRA officer to send back the application to the Warehouseman for necessary correction and resubmission. |

| Requirement No | Module / Functionality | Requirement Description |
|----------------|------------------------|--|
| SD.REQ.06 | | On approval of warehouse registration application by A3, system will make an entry (containing the details of FSD) in the electronic SD Register. |
| SD.REQ.07 | | System will allow concerned WDRA officers to enter additional details (such as Location details where the SD is kept, Issuer email ID etc.) in the electronic SD Register and save the details |
| SD.REQ.08 | | System will allow Warehouseman to submit endorsement of existing SD. System will allow Warehouseman to attach necessary supporting documents. |
| SD.REQ.09 | FSD Return | System will allow the Warehouseman to raise FSD return request through the portal. |
| SD.REQ.10 | | System will allow the concerned WDRA officers to examine, verify the request and enter observations in portal. |
| SD.REQ.11 | | In case of rejection of request, system will allow the concerned WDRA officer to reject the FSD return request. System will allow the concerned WDRA officer to write the reason for rejection. |
| SD.REQ.12 | | In case of valid return request, system will allow the concerned WDRA officer to update the details of FSD in the electronic SD Register. |
| SD.REQ.13 | | In case of valid return request, system will allow the concerned WDRA officer to generate the Return Letter using system and send the same to Warehouseman through portal. |
| SD.REQ.14 | | At the time of retuning the physical FSD, the system will allow the Reception Official to update the return details in electronic Dispatch / Receipt register. |
| SD.REQ.15 | | System will notify the Warehouseman through dashboard notification, email, SMS once the request is rejected / completed by the WDRA. |
| SD.REQ.16 | DSD Submission | System will allow the Warehouseman to enter the DSD details in the portal. System will allow the Warehouseman to upload scanned copy of the necessary supporting documents and submit the application / request. |
| SD.REQ.17 | | System will allow Reception Official to make an entry (containing the details of DSD) in the electronic Dispatch / Receipt Register. |
| SD.REQ.18 | | System will allow the concerned WDRA officers to examine, verify the request and enter observations in portal. |
| SD.REQ.19 | | In case the online entries are incorrect, system will allow concerned WDRA officer to make the necessary changes in the application and submit the same. |
| SD.REQ.20 | | On successful examination of the request, system will save the DSD details in the electronic SD register. |
| SD.REQ.21 | | System will allow concerned WDRA officers to enter additional details (such as Location details where the SD is kept, Issuer email ID etc.) in the electronic SD Register and save the details. |

| Requirement No | Module / Functionality | Requirement Description |
|----------------|---------------------------|---|
| SD.REQ.22 | | In case, Warehouseman does not enter the DSD details, system will allow concerned WDRA officer to enter the details of DSD in the portal. |
| SD.REQ.23 | | System will allow Warehouseman to submit endorsement of existing SD. System will allow Warehouseman to attach necessary supporting documents. |
| SD.REQ.24 | DSD Return | System will allow the Warehouseman to raise DSD return request through the portal. |
| SD.REQ.25 | | System will allow the concerned WDRA officers to examine, verify the request and enter observations in portal. |
| SD.REQ.26 | | In case of rejection of request, system will allow the concerned WDRA officer to reject the DSD return request. System will allow the concerned WDRA officer to write the reason for rejection. |
| SD.REQ.27 | | In case of valid return request, system will allow the concerned WDRA officer to update the details of DSD in the electronic SD Register. |
| SD.REQ.28 | | In case of valid return request, system will allow the concerned WDRA officer to generate the Return Letter using system and send the same to Warehouseman through portal. |
| SD.REQ.29 | | At the time of retuning the physical DSD, the system will allow the Reception Official to update the return details in electronic Dispatch / Receipt register. |
| SD.REQ.30 | | System will notify the Warehouseman through dashboard notification, email, SMS once the request is rejected / completed by the WDRA. |
| SD.REQ.31 | Sufficiency of DSD | WDRA IT system will be able to receive WDRA Portal information from the Repositories (NERL & CCRL) through API on daily basis. |
| SD.REQ.32 | | System will be able to calculate the DSD required to be maintained by Warehouseman (as per the defined business rules). |
| SD.REQ.33 | | System will generate a report containing the Warehousemen who fail to comply with the DSD requirement prescribed by WDRA. |
| SD.REQ.34 | | The report shall be made available in the system for WDRA officers to view. |
| SD.REQ.35 | | System will send email, SMS, dashboard notification to those Warehousemen who fail to comply with the DSD requirement |
| SD.REQ.36 | | System will send reminder mails (at defined intervals) to the Warehouseman for submission of additional DSD. |
| SD.REQ.37 | SD Verification | System will provide option to the concerned WDRA officer to update the email ID of the SD issuer in the electronic SD register. |
| SD.REQ.38 | | System will be able to send email with scan copy of SD attached to the SD issuer. |
| SD.REQ.39 | | Upon receipt of SD confirmation email from the issuer, system will allow the concerned WDRA officer to update the SD confirmation details (such as Confirmation Received (Y/N), Date of Confirmation etc.) in the electronic SD register. |

| Requirement No | Module / Functionality | Requirement Description |
|----------------|-------------------------------|--|
| SD.REQ.40 | | In case of delivery failure, system will allow the concerned WDRA officer to update the email ID of the SD issuer in the electronic SD register. |
| SD.REQ.41 | | Once the email ID of the SD issuer is updated, system will be able to resend the email to the SD issuer. |
| SD.REQ.42 | | The Structured Financial Messaging System (SFMS) mechanism needs to be implemented for online real time verification of SD. |
| SD.REQ.43 | Other Key Requirements | System will allow Warehouseman to view the details of the submitted FSD / DSD |
| SD.REQ.44 | | System will send notification messages (in the form of email, SMS, dashboard notification) to the Warehouseman prior expiry of SD. |
| SD.REQ.45 | | Once the SD is expired and the new SD is not submitted by the Warehouseman and subsequently not approved by WDRA (before the expiry of old SD), the system will change the warehouse status to Inactive. System shall capture the reason of making the status of warehouse 'Inactive'. |
| SD.REQ.46 | | In case, sufficient DSD is not maintained by the Warehouseman, system will change the status of the Warehouse(s) to Inactive. |
| SD.REQ.47 | | In case, the Warehouse is made Inactive, the system will send email, SMS to the Banks, Depositors / WDRA Portal holders, Repositories. |
| SD.REQ.48 | | Once the required SD is submitted by the Warehouseman and subsequently approved by WDRA, system will change the status of warehouse back to 'Active'. |
| SD.REQ.49 | | System will generate various MIS reports for the WDRA officers. The key metrics shall be made available in the Dashboard of WDRA officers. |

Table 20: FRS for Security Deposits Management Module

10.2.5 Training & Awareness

| Requirement No. | Module/Functionality | Role | Requirement Description |
|-----------------|----------------------|-----------------------|---|
| TAP.REQ.01 | WDRA Officer | Allocation of Program | The system shall allow WDRA officer to allocate the training /awareness program to the empaneled training institute / partner. At the time of allocation, the system shall allow WDRA 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 |

| Requirement No. | Module/Functionality | Role | Requirement Description |
|-------------------|-----------------------------------|---|---|
| TAP.REQ.02 | | Verification of the information submitted by the Training Institute/partner | The system will allow WDRA to verify the information submitted by the training institute/ partner and write necessary observations. The 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 WDRA 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 WDRA 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 WDRA officer to generate various MIS reports. Dashboard will allow WDRA officer to monitor the key metrics and take necessary action. |
| TAP.REQ.06 | | Checking of status of Requests | The system shall allow WDRA 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 WDRA). The same will be submitted online to WDRA for verification. |

| Requirement No. | Module/Functionality | Role | Requirement Description |
|-------------------|----------------------|---------------------------------------|---|
| TAP.REQ.10 | | Filling up Online Survey Report | The proposed T system shall allow AR of the training institute / partner to fill up the Analytical Program Report online (this will be done at the time of submitting the details of program to WDRA). 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 WDRA for verification. This needs to be done post completion of the program and within the timeline as prescribed by the WDRA. 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 21: FRS for Security Training & Awareness Module

10.3 Support Component

10.3.1 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 serves as a reference on the activity. The system to have manuals for activities identified in all modules. Each module shall also have

the downloadable component. Video (Registration & Inspection Modules) 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.

10.3.2 Grievance Redressal

Grievances shall be registered by the concerned stakeholders w.r.t. modules of the portal. Timely redressal of the same shall be a crucial KPI for measuring the success and compliance of the portal. Hence, it is pivotal to design a module to manage, periodic collect and record complaints and disseminate it to appropriate authority.

| FRS Number | Functional Requirement Description |
|-------------|---|
| SCO_GRD_001 | Allow Complainant to register complaints while providing the necessary details. Upon successful validation, system should generate a unique complaint number (UCN) |
| SCO_GRD_002 | System should send a notification message to the assignee of every complaint on registration of complaint |
| SCO_GRD_003 | System should send a notification message to the complainant on update of information /resolution. |
| SCO_GRD_004 | System should integrate with SMS gateway for sending the notifications |
| SCO_GRD_005 | Complainant should have option to escalate complaint to WDRA by clicking on a check box 'Escalate to WDRA' in case complainant is not satisfied with the resolution provided by the assignee or in case complainant does not get any response from assignee within stipulated period. |
| SCO_GRD_006 | Redressal System should have ability to provide the desired support and technical information to get resolved the issues of User. |

Table 22: FRS for Grievance Redressal

10.3.3 Helpdesk

Help desk shall assist the incoming traffic on the portal to resolve any query based on day to day working like issue faced while registering or obtaining licensing, who will be the concerned person in the enforcement agencies to contact.

| FRS Number | Functional Requirement Description |
|-------------|---|
| SCO_HPD_001 | System to provide options of areas of help required like assistance in registration |
| SCO_HPD_002 | System to provide an option to raise a new request and check the status of request raised |
| SCO_HPD_003 | System to allow upload option to capture relevant information |
| SCO_HPD_004 | System to segregate the queries and assign to relevant help desk person |
| SCO_HPD_005 | System to provision to prepare and submit daily/weekly/monthly report to concerned authority |
| SCO_HPD_006 | System to allow to assign the incident/ ticket to L2 agent for resolution |
| SCO_HPD_007 | System to allow to update the incident/ ticket resolution, keeping the history about the previous assignees |
| SCO_HPD_008 | System to allow to track the status of a submitted request using the associated ticket number |

| FRS Number | Functional Requirement Description |
|-------------|---|
| SCO_HPD_009 | System to allow to close an incident updating the status of the ticket to “CLOSE” and status of the incident to “SOLVED” or “NOT SOLVED”. |
| SCO_HPD_010 | System should be able to provide with detailed mechanism for effective monitoring of the Helpdesk: <ol style="list-style-type: none"> Number of queries received Number of resolved cases and % Average time to respond / Resolve Help desk personnel who solved the incidents Cases resolved w/o responses Number of cases reopened and % Number of cases deleted Top 10 request types Number of cases rejected as out of scope for the helpdesk Number of repetitive problems or problem management |
| SCO_HPD_011 | System to allow to follow up on the additional queries raised within the same incident |

Table 23: FRS for Helpdesk

It is envisaged in the future that the WDRA Portal will also be accessible through Mobile devices and smart phones with the help of WDRA Mobile Application. The Successful/Selected Bidder shall be responsible for end-to-end development of such Mobile App.

10.4 Common Functionality

10.4.1 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.

10.4.2 Executive Dashboard

Customized role-based dashboards need to be designed and developed for all registered users. The dashboard will provide information such as summary, status of activities pending, etc. as relevant to different user categories.

List of executive dashboards is detailed below:

1 Status and Operational Dashboard Reports

- Pending Applications for New Warehouse Registration
- Pending Applications for Renewal Warehouse Registration
- Total Warehouses Registered and Monthly/Yearly Comparison
- Monthly or Quarterly Report of aggregate count of RPs registered with different repositories
- Monthly report of Depositor Accounts across RP and Warehouses and Monthly/Yearly Comparison
- Total Capacity Registered and Monthly/Yearly Comparison
- Capacity Utilization of Warehouses – Monthly Aggregated Report

- Monthly Inspections Conducted (General Inspections, Surprise Inspections, etc.)
- Aggregated Monthly eNWR Issuance (by Value and Volume) and Monthly/Yearly Comparison
- Aggregated Monthly eNWR Pledge Financing (by Value and Volume) and Monthly/Yearly Comparison
- Aggregated eNWR Issuances to Pledge Ratio (or Percentage) and Monthly/Yearly Comparison
- Aggregated Monthly eNWR Loan Default (by Value and Volume) and Monthly/Yearly Comparison
- Aggregated Monthly eNWR Auctions (by Value and Volume) and Monthly/Yearly Comparison. The data may also be segregated repository wise in case multiple repositories are operating in the market.
- Aggregated eNWR (by Value and Volume) Expired but no delivery taken
- Cumulative Extinguished eNWR – Monthly Report
- Top 10 Commodity with highest issuance of eNWR
- Monthly Status of Grievances – (Received, In Process, Resolved)

2 Financial Dashboard Reports

- Grants Received from Government
- Registration Fees from Repositories
- Registration Fees from Warehouses
- Renewal Fees from Warehouses
- Revenue Sharing from Repositories
- Different categories of Expenses of WDRA
- Ticker of commodity prices aggregated from Agmark.net

3 Regulatory Collaboration Dashboard Reports

- eNWR traded on exchanges (by Value and Volume) and Monthly/Yearly Comparison, and Status of Settlements
- eNWR Pledged with Banks (by Value and Volume) and Monthly/Yearly Comparison
- Default on eNWR pledged (by Value and Volume) and Monthly/Yearly Comparison
- eNWR Auctions (by Value and Volume) and Monthly/Yearly Comparison.
- Customized dashboards need to be designed and developed for registered users (Roles specific view). The dashboard will provide information summary, status of activities pending, etc. as relevant to each user category.

10.4.3 Reports

The system should be able to generate more reports for each of the modules of the WDRA solution. Reports should be configurable, and all reports should have 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 in to reports. Below is tentative list of reports to be generated

1. MIS Reports:

| Report Type | Description | MIS Report |
|------------------------|--|--|
| RP Related MIS Reports | | |
| RP | <ul style="list-style-type: none"> • Aggregate count of RPs licensed or registered, | <ul style="list-style-type: none"> • Consolidated Monthly Report showing aggregate count of Active RP's repository-wise |

| | | |
|-------------------------------|---|--|
| | renewed, cancelled, etc. repository-wise within a specified time along with relevant details such as similar counts of warehouses acting as limited RPs and comparison to similar counts in the previous time; | and location- wise with similar count for the corresponding previous period <ul style="list-style-type: none"> Consolidated Monthly Report showing aggregate count of Warehouses as RPs repository- wise and location-wise with similar count for the corresponding previous period Consolidated Quarterly Report showing aggregate count repository-wise and location-wise with similar count for the corresponding previous period Consolidated Monthly Report showing aggregate count of Warehouses as RPs, repository- wise and location-wise with similar count for the corresponding previous period |
| Depositor Account | <ul style="list-style-type: none"> Aggregate count of depositor accounts created, suspended, blocked, cancelled, etc. created RP-wise within a specified time and comparison to similar counts in the previous time; | <ul style="list-style-type: none"> Consolidated Monthly Report showing aggregate count of Active/Suspended/Under Scrutiny Depositors repository-wise with similar count for the corresponding previous period Consolidated Quarterly Report showing aggregate count of Active/Suspended/Under Scrutiny Depositors repository-wise with similar count for the corresponding previous period |
| Warehouse Related MIS Reports | | |
| Warehouse Registration | <ul style="list-style-type: none"> Applications submitted but pending approval including warehouseman and warehouse name, date of submission, documentation status and inspection details. Warehouses registered within a specified time along with relevant details such as location, capacity, status of inspection, registration fees, etc., | <ul style="list-style-type: none"> Consolidated Monthly Report of Number of Warehouses Registered location-wise and aggregate capacity with similar count for the corresponding previous period Consolidated Monthly Report of Number of Warehouses Pending Approval by different Status (such as Inspection Pending) with similar count for the corresponding previous period Consolidated Quarterly Report of Number of Warehouses Registered location-wise and aggregate capacity with similar count for the corresponding previous period Consolidated Quarterly Report of Number of Warehouses Pending Approval by different Status (such as Inspection Pending) with similar count for the corresponding previous period |
| Warehouse Renewal | <ul style="list-style-type: none"> List of warehouses whose registration is expiring within a specified time, e.g., 90 days; | <ul style="list-style-type: none"> Monthly Report of aggregate count of Warehouses whose Registration has Expired with similar count for the corresponding previous period |

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| | <p>Renewal applications submitted by warehouses but pending approval.</p> <ul style="list-style-type: none"> List of warehouses whose registration is expiring within a specified time (e.g., 90 days) but have not submitted renewal application | <ul style="list-style-type: none"> Quarterly Report of aggregate count of Warehouses whose Registration has Expired with similar count for the corresponding previous period Monthly Report of list of Warehouses Pending Renewal in 90 Days with information on whether renewal application has been submitted |
| Cancellation of Registration | <ul style="list-style-type: none"> Cancellation applications submitted by warehouses but pending approval including status, location of warehouse, reason for cancellation, date of submission, outstanding or open e- NWRs or WRs. List of warehouses whose registration has been cancelled within a specified time | <ul style="list-style-type: none"> Monthly report of aggregate count of warehouses that have cancelled or in the process of cancelling registration with similar count for the corresponding previous period Quarterly report of aggregate count of warehouses that have cancelled or in the process of cancelling registration with similar count for the corresponding previous period |
| Inspections | <ul style="list-style-type: none"> List of inspection agencies empaneled along with relevant details such as validity, etc. List of inspections pending within a specified time (e.g., 90 days) along with relevant details such as warehouse to be inspected, inspection agency allocated, inspector name, etc. List of inspections completed within a specified time along with relevant details such as warehouse inspected, inspection agency name, inspector | <ul style="list-style-type: none"> Consolidated Monthly Report of aggregate count of inspections conducted location-wise with similar count for the corresponding previous period Monthly Report of details of Inspection by all agencies Consolidated Quarterly Report of aggregate count of inspections conducted location-wise with similar count for the corresponding previous period Quarterly Report of details of Inspection by all agencies |
| Complaints & Disputes | <ul style="list-style-type: none"> Complaints & Disputes filed against warehouses | <ul style="list-style-type: none"> Consolidated Monthly report showing aggregate count of complaints filed, resolved, pending Consolidated quarterly report showing aggregate count of complaints filed, resolved, pending by complainant type with similar count for the corresponding previous period |

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| Warehouse Commodity Stock Position | <ul style="list-style-type: none"> Annual & Monthly Commodity Stock Position warehouse-wise along with relevant details such as change in stock position from the previous time (month or year) | <ul style="list-style-type: none"> Consolidated Monthly Report showing commodities deposited & withdrawn across different warehouses with quantity and total market value with similar count for the corresponding previous period (sorted by quantity and total market value) Consolidated Quarterly Report showing commodities deposited & withdrawn across different warehouses with quantity and total market value with similar count for the corresponding previous period (sorted by quantity and total market value) |
| Repository Related MIS Reports | | |
| eNWR Issuance | <ul style="list-style-type: none"> Daily & Monthly aggregate count of eNWRs issued warehouse-wise, total value. Daily & Monthly commodity-wise aggregate count of eNWRs issued with details such as commodity code & grade, total quantity, total value, etc. Daily & Monthly location-wise aggregate count of eNWRs issued, total value, etc. Daily & Monthly aggregate count of eNWRs issued repository-wise; | <ul style="list-style-type: none"> Consolidated Monthly Report showing aggregate count of e- NWRs issued, transferred, pledged, de-pledged, delivered, expired with total value and with similar count for the corresponding previous period Consolidated Quarterly Report showing aggregate count of e- NWRs issued, transferred, pledged, de-pledged, delivered, expired with total value and with similar count for the corresponding previous period |
| eNWR Transfer | <ul style="list-style-type: none"> Daily & Monthly aggregate count of eNWR transfers depositor account-wise along with comparison to aggregate counts in the previous time. Daily & Monthly aggregate count of eNWR transfers commodity-wise along with comparison to aggregate counts in previous time. Daily & Monthly aggregate count of eNWR transfers repository-wise along with comparison to aggregate counts in previous time; | |

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| eNWR Pledge | <ul style="list-style-type: none"> • Daily & Monthly aggregate count of eNWR pledges pledgee-wise along with relevant details such as total value, etc. • Daily & Monthly aggregate count of eNWR pledges warehouse-wise along with relevant details such as total value, etc. • Daily & Monthly aggregate count of eNWR pledges pledgor-wise along with relevant details such as total value, etc. • Daily & Monthly aggregate count of eNWR pledges repository-wise along with relevant details such as total value, etc.; | |
| eNWR Delivery | <ul style="list-style-type: none"> • Daily & Monthly Aggregate count of eNWR deliveries warehouse-wise along with relevant details and comparison to similar counts in the previous time. • Daily & Monthly Aggregate count of eNWR deliveries repository-wise along with relevant details and comparison to similar counts in the previous time. • Daily & Monthly Aggregate count of eNWR deliveries depositor account-wise along with relevant details and comparison to similar counts in the previous time; | |
| eNWR Expiry | <ul style="list-style-type: none"> • Daily & Monthly Aggregate count of eNWR expiry warehouse-wise along with relevant details and comparison to similar counts in the previous time. • Daily & Monthly Aggregate count of eNWR expiry repository-wise along with relevant details and | |

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|-----------------------|---|--|
| | comparison to similar counts in the previous time. <ul style="list-style-type: none"> Daily & Monthly Aggregate count of eNWR expiry depositor account-wise along with relevant details and comparison to similar counts in the previous time; | |
| eNWR Auction | <ul style="list-style-type: none"> Daily & Monthly Aggregate count of eNWR auctions warehouse-wise along with relevant details such as total value and comparison to similar counts in the previous time. Daily & Monthly Aggregate count of eNWR auctions repository-wise along with relevant details such as total value and comparison to similar counts in the previous time. Daily & Monthly Aggregate count of eNWR auctions pledgee-wise along with relevant details such as total value and comparison to similar counts in the previous time; | |
| Complaints & Disputes | <ul style="list-style-type: none"> Complaints & Disputes filed against repositories by depositors, other repositories, or warehouses | <ul style="list-style-type: none"> Consolidated Monthly report showing aggregate count of complaints filed, resolved, pending by complainant type with similar count for the corresponding previous period Consolidated quarterly report showing aggregate count of complaints filed, resolved, pending by complainant type with similar count for the corresponding previous period |

Table 24: FRS for Reports

2. Exception Reports:

List of Exception Reports for Monitoring & Surveillance is detailed below

- Depositor doing transactions more than 1 crore per month (value is configurable).
- Warehouses issuing eNWRs greater than 1 crore or 10 crore per month (value is configurable).
- eNWR expired but goods not collected from warehouse.
- Non-compliance of periodic reporting by the repository.
- Non-compliance of periodic reporting by the warehouse.
- Inspection Agency reported discrepancies for warehouses.

- Inspection not conducted as per the specified date.
- Deposit of goods greater than a certain quantity.
- List of complaints not resolved within the stipulated time.
- Monthly Report for Warehouses non-compliant with QC processes (not reporting or partially reporting QC data or not following QC processes).

10.4.4 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 WDRA 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 |
|-------------|--|
| CFU_CMN_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. |
| CFU_CMN_002 | System to allow removal of duplicate content and automatically handle updates to key areas |
| CFU_CMN_003 | System to manage website content portal, URLs for all the landing pages of WDRA Portal, links for reports/forms, web pages, complaint redressal, etc. |
| CFU_CMN_004 | System to allow creation for new pages, format them easily, insert media, edit of new link / URL / page by an authority appointed by WDRA |
| CFU_CMN_005 | System to allow approval of page content from the role-based administration |
| CFU_CMN_006 | System to publish every page content post approval of the authority |
| CFU_CMN_007 | System should have ability of checker-maker. |
| CFU_CMN_008 | System to allow access to remote users through a secure Web interface |
| CFU_CMN_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). |
| CFU_CMN_010 | System to allow multilingual content capabilities/ multiple language support for all the documents |

Table 25: FRS for Content Management for Website

10.4.5 Workflow Management

Workflow Management System to facilitate different workflows for modules pertaining to these are some of the key functions like registration, inspection, insurance, security deposit management 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 |
|-------------|---|
| CFU_WMN_001 | System to enable individuals to streamline tasks and processes |
| CFU_WMN_002 | System to allow authority to create and assign tasks to respective officials. |

| FRS Number | Functional Requirement Description |
|-------------|--|
| CFU_WMN_003 | System to provide a facility where respective officials can view / update tasks |
| CFU_WMN_004 | System to allow administrative user to define the tasks involved in each step of the processes for all the modules |
| CFU_WMN_005 | System to automatically follow up on unfinished tasks in the process like appealing for the cancellation/revocation of registration, inspection etc. |
| CFU_WMN_006 | System to synchronize tasks in every stage of the process flows chain |
| CFU_WMN_007 | System to set up, execute, monitor workflows, and adapt to changes along the way |
| CFU_WMN_008 | System to provide overall visibility of the workflow along with performance metrics |
| CFU_WMN_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 |
| CFU_WMN_010 | System to provide individuals the needed information to perform tasks effectively |
| CFU_WMN_011 | System to allow custom email notifications regarding workflow status to concerned individuals |

Table 26: FRS for Workflow Management

10.4.6 Forms Management

The WDRA has a form pertaining to each of the core modules. The filled forms should be managed and maintained properly within WDRA Portal. This system should allow the users to input the form 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 |
|-------------|--|
| CFU_FMN_001 | System to capture forms pertaining to each of the core modules (Registration, Inspection, Insurance) and support components |
| CFU_FMN_002 | System to capture meta data of establishments registration, Inspection, Insurance in an organized format |
| CFU_FMN_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 27: FRS for Forms Management

10.4.7 Alerts and Notifications

The WDRA portal should be empowered by an alert and notification management system like SMS, and an Email system. The integrated communication services will be used for activities i.e., the status of any application like registration/Inspection/Insurance the requirement of additional/relevant documents for inspection, compliance reports, etc.

List of Event-based Alerts for Monitoring & Surveillance is detailed below.

| Criteria | Description |
|-------------------------|--|
| High Value Transactions | Transactions above a certain quantity, for specific commodities, will be flagged and an instantaneous alert will be sent to WDRA. |
| Delivery of eNWR | <ul style="list-style-type: none"> Delivery taken by any other person than the authorized person No delivery taken even after expiry of eNWR |

| | |
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| Pledge of eNWR | The information flow of pledge of eNWR will be real time and the repository and warehouse will be immediately informed about the pledge for appropriate necessary action. |
| e-Auction | <ul style="list-style-type: none"> When e-auction is conducted, WDRA will receive real time updates on the process right till the clearing and settlement is done and the transfer has been made to the winning bidder WDRA will receive the details of the e-auction including: <ul style="list-style-type: none"> Quantity of Goods auctioned Rate at which auction takes place Excess/Deficit of Amount Owed to the Bank Amount deposited by the bidders eNWR details such as issuance, expiry, last holder, etc. |
| Exceeding capacity limit | In case the issue of Warehouse receipts and eNWRs exceeds the total registered capacity of warehouse, an immediate alert will be sent to WDRA. |
| e-NWR issuance by warehouse under observation | All e-NWRs issued, transferred, pledged, etc. by warehouses under observation |
| Notification to warehouses | Notification to warehouse to renew insurance 90 days (configurable) prior to expiry |

Table 28: FRS for Alerts & Notifications

10.4.8 User and Role Management

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

10.4.9 Payment Gateway

Payments made on the portal by Warehouse Operators, including registration fees, penalties, composition, and fines shall be done through a system-integrated, API-driven payment gateway.

Annexure B: Training Requirements

10.5.1 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

10.5.2 Training Techniques and Tools

It is likely that the Key Stakeholders would on-board the WDRA Portal 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 WDRA platform within their organization. Train the trainer approach shall be used for provision of trainings. 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 WDRA 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 1 year. In addition to this, refresher trainings (Two Virtual Training Sessions per Year) for a period of 3 years.
4. Successful/Selected Bidder should nominate personnel who have the right mix of technical and domain experience to impart the trainings.
5. Based on targets identified, initial training session for all WDRA Employees is expected to be completed within 2 months from the date of Release of Go-Live.

10.5.3 Scope of Work

1. 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 case 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. Trainings 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 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 WDRA 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.

10.5.4 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.

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.

10.5.5 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 WDRA Portal 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

10.6.1 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 are providing overall direction and guidance to the WDRA staff.

Group II: This group comprises of key officers from WDRA. 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 WDRA 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.

10.6.2 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. The purchaser shall ask the existing quoted price by Successful/Selected Bidder for any change management request of WDRA Portal and accordingly the WDRA committee will take the final decision on manpower and cost.
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

10.6.3 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 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

10.7.1 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

10.7.2 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 MSP.
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:

$$\{(\text{Scheduled Operation Time} - \text{System Downtime}) / (\text{Scheduled Operation Time})\} * 100\%$$
5. **“Helpdesk Support”** shall mean the 8x7 basis support center which shall handle Fault reporting, Trouble Ticketing, and related enquiries during this contract. Helpdesk support is to be provided from 9:30 AM to 6:00 PM
6. **“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.

10.7.3 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 WDRA suggested format and a review shall be conducted based on this report. Availability and Performance Report provided to the WDRA 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. WDRA 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

10.7.4 Service Level Agreement

Following outlines, the key performance requirements for the Project, which needs to be ensured by the Bidder. These performance requirements shall be strictly imposed, and a 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

10.7.5 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 WDRA Portal as defined below: <ul style="list-style-type: none"> • 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 |
| 2. | Server request dispatch time of all requests | 99.5% | Response time of Page loading and Business Transaction Response Time | 2 |

Table 29: Service Level Agreements for functional Availability

10.7.6 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 |
| Helpdesk | | | | |
| 7. | Problem Response time | >=99.5% within 15 minutes | Average Time taken to acknowledge and respond once an incident is logged through one of the agreed channels. This is calculated for all incidents reported within the Reporting quarter (16x7x365) | 6 |
| 8. | 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 |
| 9. | MTTR - Time to resolve | >=99.5% of Severity 2 within 8 hours of Problem reporting Severity 3 within 24 hours of problem reporting | Time taken to resolve the reported problem | 8 |
| 10. | Percentage of reopened incidents | <= 2% | For all incidents which are designated resolved | 9 |

| Service Level Agreements for Operations | | | | |
|--|---|--------------------|--|-------------|
| # | SLA Parameter | Target Performance | Description | Penalty Ref |
| | | | by the Successful/Selected Bidder but are re-opened by the client. This is calculated for all incidents reported within the quarter. | |
| 11 | 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 30: Service Level Agreement for Functional Availability

10.7.7 Project Implementation

| Service Level Agreements for Project Implementation for WDRA | | | | |
|--|---|--------------------|---|-------------|
| # | SLA Parameter | Target Performance | Description | Penalty Ref |
| Portal availability and performance | | | | |
| 1. | Delay in any of the project milestone as defined in Section 8 of Vol-II | < 15 days | Measured as the difference between the agreed planned date for the milestone defined in Section 8 of Vol-II and the actual date of its completion | 11 |

Table 31: Service Level Agreements for Project Implementation

10.7.8 Resource

| Service Level Agreements for Resource for WDRA | | | | |
|--|---------------------------------------|--------------------|--|-------------|
| # | 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 WDRA calendar | 13 |
| 3. | Replacement of Key Personnel Resource | 0 | In case of resource leaves the organization or WDRA asks to replace the resource due to lack of performance or required skillset or reason mentioned in module | 14 |

Table 32: Service Level Agreements for Resource

10.7.9 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 | |
| | | All online transactions (without document upload) | <=3 seconds | |
| | | All online queries | <=3 seconds | |
| | | All online transactions (with document upload) | <=30 seconds | |
| | | All downloads (documents, e-learning content) | <=30 seconds | |

Table 33: Service Level Agreements for Portal

10.7.10 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 34: Service Level Agreements for Monitoring & Surveillance

10.8.1 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 as per 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 WDRA | | | |
|---------------------------------------|---|---|--|
| # | SLA Parameter | Penalty Description | |
| 1. | Availability of all Critical functionalities of the new envisaged WDRA Portal | Penalty will be levied as per the following table: | |
| | | % Availability | Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance cost |
| | | <99.5% & >= 99% | 0.5% |
| | | < 99% & >= 98% | 1% |
| | | < 98% & >= 97% | 2% |
| | | For each additional drop of 1% in performance below 97%, 2% of EMI of Operations & Maintenance will be levied as additional penalty. | |
| 2. | Server request dispatch time of all requests | 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. Log shall be maintained by MSP for minimum of 6 months and shall be submitted to WDRA. | |
| 3. | Timeliness of availability or the | For each occurrence of unavailability, 1% of EMI of Operations & Maintenance cost will be levied as penalty | |

| Penalties for SLA Criteria's for WDRA | | | | | | | | | | |
|---|---|--|---|--|--------------|------|--------------|----|--------------|----|
| # | SLA Parameter | Penalty Description | | | | | | | | |
| | scheduled canned reports | | | | | | | | | |
| 4. | Average generation time for any customized report | <p>Penalty will be levied as per the following table:</p> <table><tr><th>Average elapsed time (In seconds)</th><th>Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance</th></tr><tr><td><17 & >=15</td><td>0.5%</td></tr><tr><td>< 19 & >= 17</td><td>1%</td></tr><tr><td>< 21 & >= 19</td><td>2%</td></tr></table> <p>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.</p> | 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% |
| 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% | | | | | | | | | |
| 5. | Rectification time for any reported violation of SLA with respect to Page response time | <p>Penalty will be levied as per the following table:</p> <table><tr><th>Average elapsed time (In hours)</th><th>Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance</th></tr><tr><td><60 & >=48</td><td>0.5%</td></tr><tr><td><72 & >= 60</td><td>1%</td></tr><tr><td><84 & >= 72</td><td>2%</td></tr></table> <p>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.</p> | 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% |
| 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% | | | | | | | | | |
| 6. | Problem Response time | <p>Penalty will be levied as per the following table:</p> <table><tr><th>% Transaction with >15 minutes response time</th><th>Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance</th></tr><tr><td><95% & >=93%</td><td>0.5%</td></tr><tr><td><93% & >=91%</td><td>1%</td></tr><tr><td><91% & >=89%</td><td>2%</td></tr></table> <p>For each additional drop of 1% in performance below 89%, 2% of EMI of Operation & Maintenance cost will be levied as additional penalty.</p> | % Transaction with >15 minutes response time | Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance | <95% & >=93% | 0.5% | <93% & >=91% | 1% | <91% & >=89% | 2% |
| % Transaction with >15 minutes response time | Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance | | | | | | | | | |
| <95% & >=93% | 0.5% | | | | | | | | | |
| <93% & >=91% | 1% | | | | | | | | | |
| <91% & >=89% | 2% | | | | | | | | | |
| 7. | Time to Resolve | <p>Penalty will be levied as per the following table:</p> <table><tr><th>% Transaction with more response time as mentioned in SLA table</th><th>Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance</th></tr></table> | % Transaction with more response time as mentioned in SLA table | Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance | | | | | | |
| % Transaction with more response time as mentioned in SLA table | Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance | | | | | | | | | |

| Penalties for SLA Criteria's for WDRA | | | |
|---------------------------------------|---|--|---|
| # | SLA Parameter | Penalty Description | |
| | | (Severity wise) | |
| | | <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. | |
| 8. | 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. | |
| 9. | 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. | |
| 10. | 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. | |
| 11. | Delay in any of the project milestone as defined in Section 8 of Vol-II | If the Successful/Selected Bidder fails to achieve the completion of any milestones within the defined duration in Section 8 of Vol-II, the payment to him will be liable for deduction @2.5% per week or part of the week for that milestone payment for any delay. | |
| 12. | Deployment of Resource | 5 % of the quarterly payment. Additional 1% penalty for each day beyond 7 days shall be levied. WDRA has right to forfeit the first quarterly payment completely beyond 15 days | |

| Penalties for SLA Criteria's for WDRA | | | | | | | | | | |
|---------------------------------------|---|--|-----------------------------------|--|------------|------|-------------|----|--------------|----|
| # | SLA Parameter | Penalty Description | | | | | | | | |
| 13. | Absence of Resource | INR 2000 per day + pro rata payable on each day per resource | | | | | | | | |
| 14. | Replacement of Key Personnel | Within one year of DOJ = INR 2,00,000. | | | | | | | | |
| 15. | 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 | <p>Penalty will be levied as per the following table:</p> <table><tr><th>Average elapsed time (In seconds)</th><th>Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance</th></tr><tr><td><4 & >=3</td><td>0.5%</td></tr><tr><td><6 & >= 5</td><td>1%</td></tr><tr><td>< 10 & >= 7</td><td>2%</td></tr></table> <p>For each additional drop of 2 second in performance above 21 seconds, 3% of respective Project phase cost will be levied as additional penalty.</p> | 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% |
| 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% | | | | | | | | | |
| 16. | Availability of all Critical 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 | <p>Penalty will be levied as per the following table:</p> <table><tr><th>Average elapsed time (In seconds)</th><th>Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance</th></tr><tr><td><6 & >=5</td><td>0.5%</td></tr><tr><td><8 & >= 7</td><td>1%</td></tr><tr><td>< 15 & >= 9</td><td>2%</td></tr></table> <p>For each additional drop of 2 second in performance above 21 seconds, 3% of respective Project phase cost will be levied as additional penalty.</p> | 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% |
| 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% | | | | | | | | | |
| 17. | Availability of all Critical functionalities of the Monitoring & Surveillance a) Rendering of MIS report b) Rendering of Exception report | <p>Penalty will be levied as per the following table:</p> <table><tr><th>Average elapsed time (In seconds)</th><th>Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance</th></tr><tr><td><11 & >=10</td><td>0.5%</td></tr><tr><td><13 & >= 12</td><td>1%</td></tr><tr><td>< 20 & >= 14</td><td>2%</td></tr></table> <p>For each additional drop of 2 second in performance above 21 seconds, 3% of respective Project phase cost will be levied as additional penalty.</p> | 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% |
| 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% | | | | | | | | | |

| Penalties for SLA Criteria's for WDRA | | | | | | | | | | |
|---|--|---|--|--|------------|------|-------------|----|--------------|----|
| # | SLA Parameter | Penalty Description | | | | | | | | |
| 18. | Availability of all Critical functionalities of the Portal a) All online transactions (with document upload) b) All downloads (documents, e-learning content) | Penalty will be levied as per the following table: | | | | | | | | |
| | | <table><tr><th>Average elapsed time (In seconds)</th><th>Penalty as % of the Equated Quarterly Instalment (EMI) of Operations & Maintenance</th></tr><tr><td><31 & >=30</td><td>0.5%</td></tr><tr><td><33 & >= 32</td><td>1%</td></tr><tr><td>< 40 & >= 34</td><td>2%</td></tr></table> | 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% |
| | | 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% | | | | | | | | |
| | For each additional drop of 2 second in performance above 21 seconds, 3% of respective Project phase cost will be levied as additional penalty. | | | | | | | | | |
| Availability of all Critical functionalities of the Monitoring & Surveillance a) Rendering of Executive dashboard | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Note: Overall Project penalty would not more than exceed 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. | | | | | | | | | | |

Table 35: Penalties for SLAs Criteria

Annexure E: Application Service Compliance Criteria

10.9.1 WDRA Architecture

| Application Architecture Service Compliance Criteria for WDRA | | | |
|---|---|---------------------|----------|
| # | Specifications | Compliance (Yes/No) | Comments |
| 1. | The solution should be compatible with both Windows and Linux operating systems | | |
| 2. | The solution should provide Scalability and High Performance leveraging cost-effective architecture | | |
| 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 | | |
| 4. | The solution shall be available in the Cloud Foundry environment for deploying, managing, orchestrating, and updating enterprise cloud applications | | |

Table 36: WDRA Architecture Compliance Specifications

10.9.2 Enterprise Portal & Content Management

| Enterprise Portal & Content Management Service Compliance Criteria for WDRA | | | |
|---|---|---------------------|----------|
| # | 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 | | |
| 2. | Should support Single sign-on | | |
| 3. | Should have versioning feature to allow track new versions as well as roll back to previous versions | | |
| 4. | Should provide support/interoperable with multiple databases. | | |
| 5. | Proposed tool should have facility of one click page creation & quick site creation | | |
| 6. | Proposed tool should allow to combine web content alongside web application portlet, widgets | | |

| Enterprise Portal & Content Management Service Compliance Criteria for WDRA | | | |
|---|---|---------------------|----------|
| # | Specifications | Compliance (Yes/No) | Comments |
| 7. | Proposed tool should have capability to administer user defined contents including content, videos, audios etc. | | |
| 8. | Should be able to address both structured and unstructured data | | |
| 9. | Proposed tool should have facility to automatically generate a hierarchical site map for the entire portal | | |
| 10. | The proposed tool should capability of dynamic keyword tagging to web content | | |
| 11. | The proposed tool should make content pages instantaneously searchable by external search engines. | | |
| 12. | The proposed tool should have internal workflow engine | | |
| 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 | | |
| 14. | The proposed tool should be capable of search, archiving and versioning of the content | | |
| 15. | The proposed tool should have capability of live page editing and scheduling without affecting published content | | |
| 16. | The proposed tool should provide all relevant functionalities to provide centralized knowledge base | | |

Table 37: Enterprise Portal Compliance Specifications

10.9.3 Data Dissemination and Acquisition

| Data Dissemination and Acquisition Compliance Specifications for WDRA | | | |
|---|---|---------------------|----------|
| # | Specifications | Compliance (Yes/No) | Comments |
| 1. | The solution should provide capabilities to Drill up and down through hierarchies, or expand and collapse entire levels | | |
| 2. | The solution should provide the capability to export data to Excel, PDF, Text and CSV/TSV document formats | | |
| 3. | The solution should be capable of read and write of comments in reports to aid in collaboration | | |

| Data Dissemination and Acquisition Compliance Specifications for WDRA | | | |
|---|--|---------------------|----------|
| # | Specifications | Compliance (Yes/No) | Comments |
| 4. | The solution should allow users to Capture screenshots | | |
| 5. | The solution should allow users to Receive Alerts | | |
| 6. | The solutions should have the capability to custom colors across reports and sessions | | |
| 7. | Self-service capability to import data from databases | | |
| 8. | The solution should be capable of applying filters on aggregated variables | | |
| 9. | The solution should be capable of Parameterized Calculations / Display Rules / Filters / Ranks | | |
| 10. | The solution should be capable to schedule & distribute reports/dashboards | | |
| 11. | The solution should have both simple & advance variable aggregation options | | |
| 12. | The solution should allow users to securely view reports on mobile devices while online or offline | | |
| 13. | The solution should support viewing Reports and Dashboards in Office solutions | | |
| 14. | The solution should have capability to monitor User sessions | | |
| 15. | The solution should provide ability to Refresh reports from the device | | |
| 16. | The solution should provide server-side logging for user actions like downloading of reports. | | |
| 17. | The solution should have 'out of the box' usage report | | |
| 18. | Interactively evaluate lift at different percentiles | | |

Table 38: Data Dissemination and Acquisition Compliance Specifications

10.9.4 Data Management Service

| Data Management Compliance Specifications for WDRA | | | |
|--|--|---------------------|----------|
| # | 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 | | |
| 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 | | |
| 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. | | |
| 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 | | |
| 5. | The solution should provide the capability to create customized transformations which can be reused across ETL process flows | | |
| 6. | The solution should provide a utility to check if a particular transformation can be executed inside the database | | |
| 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 | | |
| 8. | The solution should have the ability for Command-line job deployment options for deploying single and multiple jobs | | |
| 9. | The solution should provide the ability to execute external OS level commands such as call shell scripts as part of the ETL process | | |
| 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 | | |
| 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 | | |

| Data Management Compliance Specifications for WDRA | | | |
|--|---|---------------------|----------|
| # | Specifications | Compliance (Yes/No) | Comments |
| 12. | The solution should provide the capability to drill through to source level information in the data profiling report | | |
| 13. | The solution should perform the data quality functionalities without creating a copy of the data in a proprietary/external format | | |
| 14. | The solution should enable parsing of data into atomic level information for better matching | | |
| 15. | The solution should provide open-source code executions | | |
| 16. | The solution should have the capability to identify duplicates and cluster records | | |
| 17. | The solution should have intuitive, flexible rules to identify households | | |
| 18. | The solution should have the ability to have options for automatic merging of clustered records | | |
| 19. | The solution should have the capability to enrich data from external/third party data sources | | |
| 20. | Does the system provide audit trails? | | |
| 21. | Does the system have the capability to set alerts? | | |
| 22. | Does the system enable enforcing data governance rules? | | |
| 23. | Can we create customized rules to validate and audit operational processes? | | |
| 24. | The solution should be capable of handling positive and negative duplicates at real time | | |
| 25. | The solution should have an out-of-the-box Email. | | |

Table 39: Data Management Compliance Specifications

10.9.5 e-Learning Platform

| Learning Platform Compliance Specifications for WDRA | | | |
|--|--|---------------------|----------|
| # | Specifications | Compliance (Yes/No) | Comments |
| 1. | LMS should have search functionality allowing learners to find specific courses, materials based on keywords, title, delivery format, and other tagged identifiers | | |
| 2. | LMS should support Multilanguage | | |
| 3. | LMS Should have feature which allows Individualized learning plan, course catalogue seen on same screen | | |
| 4. | LMS Solution should have standard attributes regardless of delivery mechanism including: <ul style="list-style-type: none"> • Title • Description • Length/duration • Prerequisites (if applicable) | | |
| 5. | LMS should have built-in collaborative publishing features foster engagement and encourage content-driven collaboration | | |
| 6. | LMS Should have document management System built-in; includes forms, workflow documents/materials, etc. | | |
| 7. | LMS should have marking workflow that should assign different markers to assignments, manage grade moderation | | |
| 8. | LMS should have integrated badges to motivate learner and reward participation. | | |
| 9. | LMS should have Inline marking for easy review and for feedback | | |
| 10. | LMS should have following resources to support learning: <ul style="list-style-type: none"> • Multi page resources with a book like format • File such as PDF, spread sheet, sound, or video file • Folders that contain one or many types of files • Page - single scrollable web page with robust HTML editor • URL for external link | | |
| 11. | LMS should recommends content/documents/videos/etc. based on in progress/completed courses or content | | |

| Learning Platform Compliance Specifications for WDRA | | | |
|--|---|---------------------|----------|
| # | Specifications | Compliance (Yes/No) | Comments |
| 12. | Learner can share any content, including video, audio, etc. with a single learner, multiple learners, shared groups or in an area or section designated for curation | | |
| 13. | Learners can leave comments, make suggestions, rank/rate (if available) any content (regardless of format or delivery) | | |
| 14. | LMS should have capability when learners register for an event it appears via iCal in Outlook, Gmail, and other Internet e-mail platforms | | |
| 15. | LMS should have a capability to send the notifications: <ul style="list-style-type: none"> • Upon registration of courses, event • Automatic and customizable email notification • Ability to send SMS | | |
| 16. | LMS should be able to integrate with social media sites like Facebook, Twitter etc. | | |
| 17. | LMS should be able to embed videos from sites like You tube, Vimeo etc. | | |
| 18. | Learner can be able to upload their own content, course, videos etc. | | |
| 19. | LMS should have ability to create forum/discussion board | | |
| 20. | LMS should have all required administrative capabilities: <ul style="list-style-type: none"> • To create, modify and cancel a course • Can create a learning plan by region, department, group of scholars etc. • Allow administrator to set multiple level of approval • Tracking and Monitoring Dashboard | | |
| 21. | LMS should be compatible to Mobile View | | |
| 22. | LMS should have capability of creating questions for surveys /Quiz/ Quiz Bank | | |
| 23. | LMS should have capability of generating certificates, ability to edit certificate and ability to email certificate | | |

Table 40: Learning Platform Compliance Specifications

Annexure F: Profile requirements for the Proposed Manpower for WDRA

10.10.1 Minimum Qualification for Proposed Resources

| Minimum Qualification Requirements for Proposed Resources for WDRA Portal | | | |
|---|--------------------------------------|---|---------------------|
| # | Position & Unit | Minimum Qualifications | Number of Personnel |
| 1. | Position: Project Manager | <ul style="list-style-type: none"> Education: Full Time B. Tech/B.E./MCA and MBA from a recognized institute. Total Experience: Should possess at least 12 years of experience in IT domain. Should have more than 5 years of experience in handling large/similar IT application projects as a project/program manager Should have led at least three such project of comparable nature that shall include development, deployment, UAT & O&M phase Certification: PMP/Prince 2 (Desired) | One (1) |
| 2. | Position: Domain Expert | <ul style="list-style-type: none"> Education: Full time MBA or equivalent in the field of Warehouse Application, Supply Chain Management, Logistics, or a related field or IT domain. At least 10 years of experience in supply chain management, logistics, or a related field In-depth knowledge of warehouse operations, transportation management, and inventory control Understanding of regulatory compliance requirements in the logistics industry Familiarity with industry standards and best practices for warehousing and distribution Ability to analyze complex data sets and identify areas for improvement | One (1) |
| 3. | Position: Business Analyst -1 | <ul style="list-style-type: none"> Education: Minimum educational qualification of B. Tech (in Computer Science/IT/EC) or MCA or M.B.A or equivalent. Should have an overall experience of 8 years or above in the field of Software Development, software project implementation, of which, exclusively, at least the last 5 years should have been spent while working as Manager Application Development/Application Maintenance, Prototyping, Technical Documentation (FRS, SRS & Test Cases etc.). Certified in prevalent project methodologies e.g., Agile. Excellent writing, MIS, communication, time management and multi-tasking skills Previous experience of handling at least 3 e- Governance project or IT domain. | One (1) |

| Minimum Qualification Requirements for Proposed Resources for WDRA Portal | | | |
|---|---------------------------------------|--|---------------------|
| # | Position & Unit | Minimum Qualifications | Number of Personnel |
| 4. | Position: Business Analyst -2 | <ul style="list-style-type: none"> Education: Minimum educational qualification of B. Tech (in Computer Science/IT/EC) or MCA or M.B.A or equivalent. Should have an overall experience of 4 years or above in the field of Software Development, software project implementation, of which, exclusively, at least the last 3 years should have been spent while working as Manager Application Development/Application Maintenance Prototyping, Technical Documentation (FRS, SRS & Test Cases etc.). Certified in prevalent project methodologies e.g., Agile. Excellent writing, MIS, communication, time management and multi-tasking skills Previous experience of handling at least 3 e- Governance project or IT domain. | One (1) |
| 5. | Position: Solution Architect | <ul style="list-style-type: none"> Education: Full time MCA/B. Tech from a reputed institute Total Experience: At least 10 years in IT domain Should have experience of more than 7 years as Solution Architect in large projects of similar nature Should have designed IT solution architect for at least three large-scale projects Should possess Industry standard certifications like TOGAF. | One (1) |
| 6. | Position: Database DBA | <ul style="list-style-type: none"> Education: Full time MCA/B. tech/B.E./Certified DBA Total Experience: At least 8 years in IT domain Should have experience of more than 4 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. | One (1) |
| 7. | Position: Quality Test Manager | <ul style="list-style-type: none"> Education: Full time MCA/B. tech/B. E (Preferably Computer science and Information Technology) Minimum 8 years of relevant work experience Strong understanding of testing methodologies and processes, automation testing Well-rounded experience with multiple operating systems, virtualization technologies, and test environments Proficiency with database technology and scripting languages (e.g., SQL, Python, Bash) Should be a certified tester | One (1) |

| Minimum Qualification Requirements for Proposed Resources for WDRA Portal | | | |
|---|---|--|---------------------|
| # | Position & Unit | Minimum Qualifications | Number of Personnel |
| 8. | Position: Quality Tester | <ul style="list-style-type: none"> • Education: Full time MCA/B. tech/B. E (Preferably Computer science and Information Technology) • Minimum 5 years of relevant work experience • Strong understanding of testing methodologies and processes, automation testing • Well-rounded experience with multiple operating systems, virtualization technologies, and test environments • Proficiency with database technology and scripting languages (e.g., SQL, Python, Bash) • Ability to develop comprehensive test plans and execute tests effectively | One (1) |
| 9. | Position: Security Architect | <ul style="list-style-type: none"> • Education: Full time B. Tech/MCA/MBA or equivalent. • Total experience: Should have an overall experience of 10 years or above in the field of Information Technology. • Should have experience of at least 5 years in designing and maintaining security systems in large projects. • Should have OEM/Industry Standard certification like CISM, CISSP, ISO 27001 etc. | One (1) |
| 10. | Position: Full stack developer (A) | <ul style="list-style-type: none"> • Education: Full time MCA/B. Tech/BE or equivalent • Should have an overall experience of 10 years or above in the field of Software Development, software project implementation, of which, exclusively, at least the last 5 years should have been spent while working as Manager • Experience in prevalent project methodologies e.g., Agile. • Should have managed a team of 15+ software developers. • Previous experience of handling large e-governance projects would be an added advantage | One (2) |
| 11. | Position: Full stack developer (B) | <ul style="list-style-type: none"> • Education: Full time MCA/B. Tech/BE or equivalent • Should have an overall experience of 5 years or above in the field of Software Development, software project implementation • Experience in prevalent project methodologies e.g., Agile. • Should have managed a team of 10+ software developers. • Previous experience of handling large e-governance projects would be an added advantage | One (2) |
| 12. | Position: Analytics Expert | <ul style="list-style-type: none"> • Education: Full time MCA/B. Tech/BE or equivalent • Prior experience of 8 Years (with 5 years of experience in a position monitoring, managing, manipulating, and | One (1) |

| Minimum Qualification Requirements for Proposed Resources for WDRA Portal | | | |
|---|------------------------------------|---|---------------------|
| # | Position & Unit | Minimum Qualifications | Number of Personnel |
| | | drawing insights from data, and at least 3 years of experience leading a team) <ul style="list-style-type: none"> Working knowledge of data mining principles: predictive analytics, mapping, collecting data from multiple data systems on premises and cloud-based data sources. Strong SQL skills, ability to perform effective querying involving multiple tables and subqueries. Desired to have Industry standard certifications | |
| 13. | Position: Dev Ops | <ul style="list-style-type: none"> Education: Full time MCA/B. Tech/BE or equivalent Prior experience of 8 Years at all phases of the software product life cycle, from conception to extinction Familiarity with software security methods Demonstrated experience using a wide variety of coding languages | One (1) |
| 14. | Position: BI Developer | <ul style="list-style-type: none"> Education: Full time MCA/B. Tech/BE or equivalent Experience of 8 years as a BI Developer. Experience in data warehouse design Working knowledge of BI technologies | One (1) |
| 15. | Position: Liferay Developer | <ul style="list-style-type: none"> Education: Full time MCA/B. Tech/BE or equivalent. At least 8 years of experience in handling large scale development projects At least 5 years of experience in developing web applications using Liferay Portal Strong proficiency in Java and JavaScript or other relevant languages. Knowledge of Liferay's architecture and development /deployment framework Experience with Liferay's built-in features such as portlets, themes, and layouts Familiarity with SQL and database design | One (1) |
| 16. | Position: System Expert | <ul style="list-style-type: none"> Education: Full time MCA/M. Tech/B. Tech/BE or equivalent. At least 8 years of experience in system administration, network engineering, or a related field Shall have at least 5 years of experience working on ODOO Strong understanding of Windows and Linux operating systems Knowledge of network protocols and architectures such as TCP/IP, DNS, and HTTP | One (1) |
| 17. | Position: UI Designer | <ul style="list-style-type: none"> Education: Bachelor's degree in Graphic Design, User Experience Design, or a related field | One (1) |

| Minimum Qualification Requirements for Proposed Resources for WDRA Portal | | | |
|---|-----------------------------------|---|---------------------|
| # | Position & Unit | Minimum Qualifications | Number of Personnel |
| | | <ul style="list-style-type: none"> At least 4 years of experience in user interface design for web applications Proficiency in design tools such as Adobe Creative Suite, Sketch, or Figma Strong understanding of human-centered design principles and user experience best practices Familiarity with HTML, CSS, JavaScript, and related frameworks. Ability to create visually appealing designs that align with brand guidelines and improve user engagement | |
| 18. | Position: API Developer | <ul style="list-style-type: none"> Education: Full time MCA/B. Tech/BE or equivalent. At least 8 years of experience in developing APIs using RESTful architecture and JSON data format Strong understanding of HTTP protocol, API security, and authentication mechanisms Experience with API development frameworks such as Express.js, Flask, etc. Familiarity with SQL and NoSQL databases | One (1) |
| 19. | Position: CMS Expert | <ul style="list-style-type: none"> Education: Full time MCA/B. Tech/BE or equivalent. At least 5 years of experience in content management systems, specifically with Drupal or similar open-source platforms Experience with responsive design principles and mobile-first development Familiarity with Git version/SVN control system Understanding of accessibility standards and best practices Ability to work collaboratively with cross-functional teams | One (1) |
| 20. | Position: DMS Expert | <ul style="list-style-type: none"> Education: Full time MCA/B. Tech/BE or equivalent. At least 5 years of experience in document management systems Experience with document workflows, metadata management, and search functionality Understanding of information architecture and records management principles Ability to work collaboratively with cross-functional teams | One (1) |
| 21. | Position: Senior Developer | <ul style="list-style-type: none"> Education: Full time MCA/B. Tech/BE or equivalent. At least 8 years of experience in software development, with a focus on web applications Strong proficiency in server-side scripting languages such as Java or Python or other relevant languages. | One (1) |

| Minimum Qualification Requirements for Proposed Resources for WDRA Portal | | | |
|---|--|---|---------------------|
| # | Position & Unit | Minimum Qualifications | Number of Personnel |
| | | <ul style="list-style-type: none"> Experience with front-end technologies such as React, and Angular Strong understanding of software design patterns, algorithm development, and problem-solving skills Ability to lead and mentor junior developers | |
| 22. | Position: Junior Developer | <ul style="list-style-type: none"> Education: Full time MCA/B. Tech/BE or equivalent. At least 3 years of experience in software development, with a focus on web applications Basic proficiency in at least one server-side scripting language such as Java and Python or other relevant languages. Familiarity with front-end technologies such as React and Angular | One (1) |
| 23. | Position: Data Architect | <ul style="list-style-type: none"> Education: Full time MCA/B. Tech/BE or equivalent. At least 10 years of experience in data architecture and management. Proven track record of designing and implementing data architectures that meet business needs. In-depth knowledge of database design, data modeling, and data warehousing concepts. Proficient in data architecture tools. Knowledge of big data technologies such as Hadoop, Spark, NoSQL databases, etc. Understanding of ETL processes and data integration techniques. Strong analytical and problem-solving skills to identify and resolve complex data architecture issues. Certification in data architecture or a related field such as CDA (Certified Data Architect), or DAMA CDMP (Certified Data Management Professional) is desirable. | One (1) |
| 24. | Position: Developer (Exclusively support for Existing Application until Go Live of New Application) | <ul style="list-style-type: none"> Education: Full time MCA/B. Tech/BE or equivalent. At least 5 years of experience in software development, with a focus on web applications Strong proficiency in server-side scripting languages such as Java or Python or other relevant languages. Experience with front-end technologies such as React, and Angular Strong understanding of software design patterns, algorithm development, and problem-solving skills Ability to lead and mentor junior developers | Three (3) |

Table 41: Minimum Qualification Requirements for Proposed Key Personnel for WDRA Portal

10.10.2 Minimum Qualification for Helpdesk Support

Minimum Qualification for Helpdesk Support

| # | Position | Minimum Qualifications |
|--|--------------------------------|---|
| 1 | Level 1(L1) Helpdesk | Should be a graduate in any stream Able to speak, read and write in English and Hindi. Basic IT education like diploma in computer science or equivalent Experience of at least 12 months in a Helpdesk, related to IT Help desk operations |
| 2 | Level 2 (L2) Technical Support | Shall be a Graduate with Degree in BSc/B Tech in Computer Science/IT/Electronics or BCA Able to speak, read and write in English and Hindi Experience in basic networking, firewall and security Good troubleshooting skills Experience of at least 3 years in a Helpdesk, related to IT Help desk operations |
| Note: If the WDRA needs any additional Helpdesk resource in future, the same shall be provided by the bidder at the same cost being mentioned in his quoted bid proposal. | | |

Table 42: Minimum Qualification for Helpdesk Support

Annexure G: External Integration with Applications/Portals

| Integration with Identified Applications/Portals of the Purchaser, Associated Organizations, other Govt. Departments (Credentials will be provided by Purchaser) | | |
|--|--------------------------------------|--|
| # | Associated Organization | Description |
| 1 | PAN | It is proposed that WDRA be linked with the NSDL portal to validate the establishment /employer details for successful registration on WDRA. NSDL captures all employer data such as address, date of incorporation etc. which helps in the validation of the establishment. |
| 2 | UIDAI | It is proposed that WDRA be linked with UIDAI(Aadhar) to help in the e-signing of forms on WDRA For processes like registration, licensing and filing of returns it is mandatory for signing of applications and linking with UIDAI will help in the process. Additionally, during registration for validation of employer details Aadhar number would be used to register, and validation would be sought through the integration with UIDAI. |
| 4 | SMS Gateway, E-Mail, Payment Gateway | It is proposed that WDRA be linked with the Integration with SMS, E-Mail, Payment Gateway with WDRA Portal |
| 5 | Repository | It is proposed that WDRA be linked with the Integration with Repository for transmission of data from WDRA to Repositories and Repositories to WDRA Portal |
| 6 | IRDA | It is proposed that WDRA be linked with IRDA |
| 7 | Others | Integration with various Banks, Insurance Agencies, National single window system portal of investment, Internal Business Process Automation Application, commodity price along with any other desirable integration as per the requirement of WDRA. |

Table 43: External Integration with Applications/Portal

Annexure H: eLearning Module

E-learning Module: This module of the existing system aims to provide the e-learning content and courses in all possible media i.e., web content, PDF, JPG, Videos etc. with a facility to provide course completion status to the user and WDRA Online Examination/Grading and automated evaluation facility for the courses along with other key facilities like online certification for various courses, course creation facility for the WDRA Administrator users, Permission based/Role based access for courses to the users etc.

The above online training module shall be customized and managed by the Successful/Selected Bidder as per the changing needs of the purchaser from time to time. Adequate training material which includes training manuals, training videos, Demo videos, FAQ's etc. to be provided during the training sessions. However, the content will be prepared & provided by WDRA to the bidder.

The recommended training material may be in paper & electronic media with courses business process overview, job activity training, and delivery options being on-line, instructor led classrooms, etc. Online training modules shall be made available so that users can keep on taking these training in case of eventualities. Two refresher training per year to be provided to the Purchaser and other users whenever changes are made in the application and/or personnel for the entire O&M phase of 3 years.

Below is an indicative list of courses for which the Successful/Selected Bidder will deploy:

- a) E-learning courses for Warehouses:
 - Warehouse Registration Criteria
 - Warehouse Registration Process
 - Inspection of Warehouse
 - SOP for Warehouse
 - Creation and Storage of WDRA Portal
 - Withdrawal of Commodity
 - Printing of WDRA Portal
 - Conversion of Warehouse Receipt to WDRA Portal
 - Pledge Creation, Pledge Closure, Pledge Invocation
 - Transfer (off Market Transfer, Market Transfer)
 - Registering and Resolving Complaints & Disputes
 - Regulatory Reporting to WDRA
- b) E-learning courses for Inspection Agency
 - Inspection of Warehouse
 - SOP for Warehouse
- c) E-learning courses for Assayers
 - Assaying of Commodities
- d) E-learning courses for employees
 - Employee Induction & Orientation