



REQUEST FOR PROPOSAL
SELECTION OF SYSTEM INTEGRATOR FOR DESIGN, DEVELOPMENT, IMPLEMENTATION, HOSTING
AND MAINTENANCE OF SINGLE WINDOW SYSTEM FOR CENTRAL DATABASE FOR INLAND VESSELS

Tender Number: IWAI/MD/406/2022-23

Last Date for Submission of Tender:

Client: Inland Waterways Authority of India,
Ministry of Ports, Shipping and Waterways,
Government of India

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4. This RFP includes certain statements, estimates, projections, targets and forecasts with respect to the Project Insight. Such statements estimate, projections, targets and forecasts reflect various assumptions made by the management, officers and employees of IWAI, which assumptions (and the base information on which they are made) may or may not prove to be correct. No representation or warranty is given as to the



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reasonableness of forecasts or the assumptions on which they may be based and nothing in this RFP is, or should be relied on as, a promise, representation or warranty.

Abbreviations

Abbreviation	Full Form
AMC	Annual Maintenance Contract
AOA	Article of Agreement
APAC	Automated Program Analysis for Cybersecurity
API	Application Program Interface
ASC	Annual Service Contract
ASI	Application Software and Interfaces
ATOM	Any Transport over MPLS
BOM	Bill of Material
BOQ	Bill of Quantity
CAD	Computer Aided design
CCA	Controller of Certifying authority
CCB	Change Control Board
CCN	Change Control Note
CDC	Continuous Discharge certificates
CGHS	Central Government Health Scheme
CMS	Content Management System
CMT	Change management, Migration and transitioning
COC	Certificate of Compliance
COE	Certificate of Endorsement
COP	Certificate of Proficiency
COS	Certificate of Service
COTS	Commercial off-the-shelf
CPWD	Central Public Works Department
CS	Commercial Score
CSC	Client Side Computing
CSE	Customer Service Executive
CVO	Chief Vigilance Officer
CVS	Concurrent Versions System
DBA	Database Administrator
DC	Data Centre
DD	Demand Draft
DDOS	Distributed Denial of Service
DGS	Directorate General of Shipping

Abbreviation	Full Form
DHTML	Dynamic Hyper Text Markup Language
DMZ	Demilitarized Zone
DOC	Document Of Compliance
DOM	Document object Model
DR	Disaster Recovery
DRC	Disaster Recovery Centre
DSC	Digitally Signed Certificates
DSD	Data Scanning and Digitization
EMD	Earnest Money Deposit
EMS	Enterprise management system
FOBOT	Fibre optic break out tray
FRS	Functional Requirement Specification
GMDSS	Global Maritime Distress and Safety System
GOI	Government of India
HTML	Hypertext Markup Language
HTTPS	Hypertext Transfer Protocol Secure
ICT	Information Communications Technology
IFM	IT facilities management
IIITB	International Institute of Information Technology, Bangalore
IME	Institute of Marine Engineer
IMO	International Maritime Organization
IMU	Indian Maritime University
INDOS	Indian National Database Of Seafarers
IOMOU	Indian Ocean Memorandum of Understanding
IPR	Intellectual Property Rights
ISO	ISO policies
IT	Information Technology
ITIL	Information technology Infrastructure Library
IVR	Interactive Voice Response
KPI	Key Performance Indicator

Abbreviation	Full Form
LLP Act	Limited Liability Partnership Act
LRIT	Long Range Identification Tracking
MathML	Mathematical Markup Language
MBA	Master of Business Administration
MCA	Master of Computer Application
MDM	Mobile Device Management
MHTML	MIME (Multipurpose Internet Mail Extensions) Hypertext Markup Language
MIS	Management Information System
MMD	Mercantile Marine Department
MMSI	Maritime Mobile Service Identity
MOU	Memorandum of Understanding
MPLS	Multiprotocol label switching
MS Act	Merchant Shipping Act
MSA	Master Service Agreement
MSL	Merchant Shipping Law
MSP	Managed Service Provider
MSV	mechanized sailing vessels
MTI	Maritime Training Institute
MTO	Multimodal Transport Operators
NDA	Non-Disclosure Agreement
NSIC	National Small Industries Corporation
NWI	Networking infrastructure
ODBC	Open Database Connectivity
ODF	Open Document Format
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturer
OFC	Optical Fibre Cable
OMA	Open Mobile Alliance
ONM	Operations and maintenance
OTDR	Optical Time Domain Reflectometer
OWASP	Open web application security project

Abbreviation	Full Form
PBG	Performance Bank Guarantee
PDC	Primary Data Centre
PGM	Project governance and management
PIU	Project Implementation Unit
PKI	Public Key Infrastructure
PMO	Project Management Office
POS	Point of Sale
PQ	Pre-Qualification Criteria
PSC	Port State Control
PSU	Public Sector Undertaking
PT	Performance Testing
QCBS	Quality and Cost Base Selection
REST	Representational State Transfer
RFP	Request for proposal
RPO	Recovery Point Objective
RPS	Recruitment and Placement Agencies for Seafarers
RSS	Rich Site Summary
RTF	Rich Text Format
RTI	Right to Information
RTO	Recovery Time Objective
SC	Subscriber Connector
SDLC	System Development Life cycle
SI	System Integrator
SIC	Surveyor in Charge
SMC	Safety Management Certificate
SMLC	System Maintenance Life cycle
SOA	Service Oriented Architecture
SOAP	Simple Object Access Protocol
SOLAS	Safety Of Life At Sea
SRS	Software Requirement Specifications
SSDG	State e-Governance Service Delivery Gateway
STCW	Standard Of Training Certificate And Watch Keeping Code

Abbreviation	Full Form
STQC	Standardization Testing and Quality Certification
SVG	Scalable Vector Graphics
TAT	Turnaround time
TCO	Total Cost of Ownership
TS	Technical Score
UAT	User Acceptance Testing
UDDI	Universal Description, Discovery, and Integration
URI	Uniform Resource Identifier
URN	Uniform Resource Name
UTP	Unshielded Twisted Pair
VCC	Vigilance Clearance Certificate
VLAN	Virtual Local Area Network
VM Attack	Virtual Machine Attack
VPN	Virtual Private Network
W3C	World Wide Web Consortium
WCAG	Web Content Accessibility Guidelines
WebDAV	World Wide Web Distributed Authoring and Versioning
WSDL	Web Services Description Language
WSRP	Web Services for Remote Portlets
XHTML	Extensible Hypertext Markup Language
XML	Extensible Markup Language
XPS	XML (Extensible Markup Language) Paper Specification
XSLT	Extensible Stylesheet Language Transformations
HTTP	Hyper Text Transfer Protocol
SMTP	Simple Mail Transfer Protocol
IIS	Internet Information Services
FTP	File Transfer Protocol

Abbreviation	Full Form
PAAS	Platform As A Service
NDPP	National Digital Preservation Programme
ICSA	International Computer Security association
EAL4	Evaluation Assurance Level
DNS	Domain Name Server
LDAP	Lightweight Directory Access Protocol
SSL	Secure Sockets Layer
TSL	Transport Layer Security
ARP	Address Resolution Protocol
UDP	USER Datagram Protocol
SHL	Secure Shell
DC	Data Center
DR	Disaster Recovery
VM	Virtual Machine
TCP	Transfer Control Protocol
SAN	Storage Area Network
DDOS	Distributed Denial of Service
MEITY	Ministry of Electronics and Information Technology

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1 Introduction

Inland Waterways Authority of India (IWAI) is a statutory body under the Ministry of Shipping, Government of India. IWAI was set up in 1986 with a mandate to develop and regulate the inland waterways of the country primarily declared as National Waterways.

Inland Water Transport (IWT) has the potential to form the most economic, reliable, safe and environment friendly mode of transport. When developed for use by modern inland waterway vessels, it can reduce investment needs in rail and road infrastructure, promote greater complementarities in the riparian states, enhance intra-regional trade and, through increased economies of scale, significantly reduce transport costs for the benefit of the entire economy and India's global trade competitiveness.

To realise the potential of inland water transport and promote it as a supplementary and eco-friendly mode of transport to the congested road and rail network for movement of cargo and passenger, the Government had taken several initiatives and had declared 111 waterways as national waterways.

The IWT movement across these NWs through Inland Vessels was regulated earlier by IV Act 1917 had provisions for restrictive movement of mechanically propelled vessels within the jurisdiction of the State Government, requirement of endorsements, limited applicability and validity of certificates, non-uniform standards and regulations that varied from one State to another led to hindrances and hurdles in seamless navigation across States and development of the sector. The act was further amended in 1977 & 2007.

The Parliament of India passed the Inland Vessels Act, 2021 (24 of 2021) catering to modern and contemporary needs and development of the maritime sector which aims to replace over 100 years old Inland Vessels Act, 1917 (1 of 1917). The Act entails the uniform applicability of rules and regulations and will ensure seamless, safe and economical trade and transportation by inland vessels using the inland waterways.

Among the various provisions, the Act provides for creation of a Central Data Base /E-Portal for registration/crew database thereby imbibing the spirit of Digital India Campaign.

Inland Waterways Authority of India (IWAI) (The Client") invites RFP for Appointment of a System Integrator for providing a comprehensive solution for development of a world class application for central database for seamless integration of information and migration of data of vessel registration, survey and manning as per scope of work. A database which would serve as a central repository of information across States and UT's.

1.1 Request for Proposal Datasheet

Interested bidders may download the Tender Document from the site <https://eprocure.gov.in/eprocure/app> and on IWAI's website. The Bidder along with the Bid shall pay to IWAI a sum of INR 5,000/- plus 18% GST i.e. INR 5000/- + 900/- = INR 5,900/- as the cost of Tender Document / Tender fee deposited to IWAI fund through RTGS/ NEFT. The Bidder shall sign and stamp each page of this tender document as taken of having read, understood

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and comply with tender, the terms and conditions contained herein. However, Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or Start-ups as recognized by Department for Promotion of Industrial and Internal Trade (DPIIT) are exempt from submitting the Tender Fee/ cost of Tender document, on submission of documents as per Government of India rules.

Sr No.	Bid Information	Details
1.	RFP Issuing Authority	INLAND WATERWAYS AUTHORITY OF INDIA (IWAI) referred as "Client".
2.	RFP reference No and Date	IWAI/MD/406/2022-23 DATED
3.	RFP Submission Mode	Online
4.	Nature of Project Work	Selection of System Integrator for Design, Development, Implementation, Hosting and Maintenance of Single Window System for Central Database for Inland Vessels
5.	Non-Refundable Tender Cost	INR 5000/- + 18% GST= Rs 5900/- in form of Demand Draft issued by a Indian Nationalized / Scheduled Bank, in favour of Inland Waterways Authority of India .
6.	Earnest Money Deposit (EMD)	INR 40,00,000 /-
7.	Solvency	All Bidders shall submit Bank Solvency certificate from a nationalized / scheduled bank in India for a minimum amount INR 80,000,000.
8.	Availability of documents	The tender is available and downloadable on e-Tendering Website: https://eprocure.gov.in/eprocure/app All Subsequent changes to the Bidding document shall be published on the above-mentioned website.
9.	Last date and time for submission of queries for clarifications	All the queries/clarification requests should be received on or before 12-10-2023 by 5:00 pm, through email only with subject line as follows: "Pre-Bid queries -<Bidder's Name>_IWAI". The queries shall be submitted in an excel file as per the format prescribed the RFP

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10.	Date, time and venue of pre-bid conference	<p>16-10-2023 at 11:00 am</p> <p>A preproposal conference shall be held through Video Conferencing and Zoom link for Video Conferencing is as under: -</p> <p>Join Zoom Meeting</p> <p>***** *****</p> <p>Meeting ID: *****</p> <p>Passcode: *****</p> <p>Date of pre-proposal conference: *****</p> <p>Time: 1500 Hours</p> <p>Address: A-13, Sector – 1, Noida – 201301, Uttar Pradesh, India</p> <p>Telephone: +91 1202544007, Facsimile: +91 1202543976</p> <p>E-mail: vcdialani@iwai.gov.in</p> <p>Contact person / Conference coordinator: Shri VC Dialani Director (Marine).</p>
11.	Guidelines of submission of bids	<p>The Consultants “shall” have the option of submitting their Proposals electronically on CPP Portal https://eprocure.gov.in/eprocure/app</p> <p>The electronic submission procedures shall be:</p> <p>The Bidder shall upload the bid on the e-Procurement Portal https://eprocure.gov.in/eprocure/app following the system described below.</p> <ol style="list-style-type: none"> 1. Possession of valid Digital Signature Certificate (DSC) and enrolment / registration of the contractors / bidders on the e-procurement / e-tender portal is a prerequisite for e-tendering. 2. Bidder should do the enrolment in the eProcurement site using the https://eprocure.gov.in/eprocure/app option available on the home page. Portal enrolment is generally free of charge. During enrolment /

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		<p>registration, the bidders should provide the correct / true information including valid email_id. All the correspondence shall be made directly with the contractors/bidders through email_id provided.</p> <p>3. Bidder need to login to the site thro' their user ID / password chosen during enrolment / registration.</p> <p>4. Then the Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by SIFY / TCS / nCode / e-Mudra or any Certifying Employer recognized by CCA India on e-Token / Smart Card, should be registered.</p> <p>5. The DSC that is registered only, should be used by the bidder and should ensure safety of the same.</p> <p>6. Contractor / Bidder may go through the tenders published on the site and download the required tender documents / schedules for the tenders he / she is interested.</p> <p>7. After downloading / getting the tender document / schedules, the Bidder should go through' them carefully and then submit the documents as asked.</p> <p>8. If there are any clarifications, this may be obtained online through' the tender site, or thro' the contact details. Bidder should take into account of the corrigendum published before submitting the bids online.</p> <p>9. Bidder then logs in to the site through the secured log in by giving the user id/ password chosen during enrolment / registration and then by giving the password of the eToken / SmartCard to access DSC.</p> <p>10. Bidder selects the tender which he/she is interested in by using the search option & then moves it to the 'my favourites' folder.</p> <p>11. From my favourites folder, bidder can select the tender to view all the details indicated.</p> <p>12. It is construed that the bidder has read all the terms and conditions before submitting their offer. Bidder should go through the tender schedules carefully and upload the documents as asked, otherwise, the bid will be rejected.</p>
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		<p>13. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / xls / rar / jpg / dwf formats. If there is more than one document, they can be clubbed together and can be provided in the requested format. Each document to be uploaded through online for the tenders should be less than 2 MB. If any document is more than 2MB, it can be reduced through zip / rar and the same can be uploaded, if permitted.</p> <p>14. If there are any clarifications, this may be obtained through the site, or during the pre-bid meeting if any. Bidder should take into account the corrigendum published from time to time before submitting the online bids.</p> <p>15. The Bidders can update well in advance, the documents such as certificates, annual report details etc., under My Space option and these can be selected as per tender requirements and then send along with bid documents during bid submission. This will facilitate the bid submission process faster by reducing upload time of bids.</p> <p>16. Bidder should submit the Tender document Fee/ EMD as specified in the tender. The original payment instruments should be posted/couriered/given in person to the Tender Inviting Employer within the due date as mentioned in this tender document. Scanned copy of the instrument should be uploaded as part of the offer, if asked for.</p> <p>17. While submitting the bids online, the bidder reads the terms & conditions and accepts the same to proceed further to submit the bid packets.</p> <p>18. The bidder has to select the payment option as offline to pay the TFEE / EMD as applicable and enter details of the instruments.</p> <p>19. The details of the DD / any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise submitted bid will not be acceptable.</p> <p>20. The bidder has to digitally sign and upload the required bid documents one by one as</p>
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		<p>indicated. Bidders to note that the very act of using DSC for downloading the bids and uploading their offers shall be deemed to be a confirmation that they have read all sections and pages of the bid document including General conditions of contract without any exception and have understood the entire document and are clear about the requirements of the tender requirements.</p> <p>21. The bidder has to upload the relevant files required as indicated in the cover content. In case of any irrelevant files, the bid will be rejected.</p> <p>22. If the price bid format is provided in a spread sheet file like BoQ_xxxx.xls, the rates offered should be entered in the allotted space only and uploaded after filling the relevant columns. The Price Bid/BOQ template must not be modified / replaced by the bidder, else the bid submitted is liable to be rejected for this tender.</p> <p>23. The bidders are requested to submit the bids through online e-tendering system to the Tender Inviting Employer (TIA) well before the bid submission end date & time (as per Server System Clock). The TIA will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders at the eleventh hour.</p> <p>24. After the bid submission, the acknowledgement number, given by the e-tendering system should be printed by the bidder and kept as a record of evidence for online submission of bid for the particular tender and will also act as an entry pass to participate in the bid opening date.</p> <p>25. The bidder should ensure / see that the bid documents submitted should be free from virus and if the documents could not be opened, due to virus, during tender opening, the bid is likely / liable to be rejected.</p> <p>26. The time settings fixed in the server side & displayed at the top of the tender site, will be valid for all actions of requesting, bid submission, bid opening etc., in the e-tender system. The bidders should follow this time during bid submission.</p> <p>27. All the data being entered by the bidders</p>
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		<p>would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered will not be viewable by unauthorized persons during bid submission & not be viewable by any one until the time of bid opening.</p> <p>28. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.</p> <p>29. The confidentiality of the bids is maintained since the secured Socket Layer 128 bit encryption technology is used. Data storage encryption of sensitive fields is done.</p> <p>30. The bidder should logout of the tendering system using the normal logout option available at the top right hand corner and not by selecting the (X) exit option in the browser.</p> <p>31. For any queries regarding e-tendering process, the bidders are requested to contact through the modes given below: E mail:- vcdialani@iwai.gov.in Web Site:- www.iwai.gov.in Tel. No. : 0120- 2544004, Fax No. – 0120-2543976 In case of non-receipt of the original documents, the bid will be declared non responsive.</p>
12.	Last date, time (deadline) and venue for receipt of proposals in response to RFP notice	<p>30-10-2023 at 5:00 pm</p> <p>Submission of proposal will happen through Central Public Procurement Portal : https://eprocure.gov.in/eprocure/app</p>
13.	Last date and time (deadline) for receipt of Bid fees and EMD in response to RFP notice	<p>30-10-2023 at 5:00 pm</p> <p>Submission of scanned copies will happen through Central Public Procurement Portal: www.eprocure.gov.in</p> <p>Address : Inland Waterways Authority of India, Government of India, Jalmarg Bhavan. A-13, Sector 1 Noida Uttar Pradesh 201301</p>

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14.	Date, time and venue of opening of Technical Proposals received in response to the RFP notice	03/11/2023 at 11:00 am Inland Waterways Authority of India, Government of India, Jalmarg Bhavan. A-13, Sector 1 Noida Uttar Pradesh 201301
15.	Place, time and date of Technical Presentations by the bidders	To be communicated later Inland Waterways Authority of India, Government of India, Jalmarg Bhavan. A-13, Sector 1 Noida Uttar Pradesh 201301
16.	Place, time and date of opening of Financial Proposals received in response to the RFP notice	To be communicated later Inland Waterways Authority of India, Government of India, Jalmarg Bhavan. A-13, Sector 1 Noida Uttar Pradesh 201301
17.	Contact person for queries	Contact person / Conference coordinator: Shri VC Dialani, Director (Marine) , Inland Waterways Authority of India, Jalmarg Bhavan, A-13, Sector 1 , Noida , Uttar Pradesh 201301 vcdialani@iwai.gov.in
18.	Language of bid submission	Proposals should be submitted in English language only
19.	Late Bids	Late bids i.e. bids received after the specified date and time of receipt will not be considered
20.	Method of Selection	The method of selection is Quality and Cost Base Selection (QCBS). The weights given to the Technical and Financial bids are: Technical = 70% and Commercial = 30%

1.2 Structure of RFP

Inland Waterways Authority of India (The "Client") invites bids from eligible parties (hereafter referred as "Bidder") for appointment as System Integrator and provide a comprehensive solution as specified in the Scope of Work Section of this RFP.

1.2.1 This Request for Proposal (RFP) document for Appointment of the System Integrator for Design, Development, Implementation, Hosting and Maintenance of Single Window System for Central Database for Inland Vessels (The "Assignment") comprises of the following:

1.2.1.1 **Part I: Instructions on the Bid process** for the purpose of responding to this RFP (Instruction to Bidders- ITB). This broadly covers:

- General instructions for bidding process
- Bid evaluation process including the parameters for Technical evaluation and commercial evaluation to facilitate IWAI in determining bidder's suitability as the implementation partner
- Payment schedule
- Project Schedule
- Technical Bid Formats
- Financial bid format

1.2.1.2 **Part II: Functional and Technical Requirements of the project.** The contents of the document broadly cover the following areas:

- About the project and its objectives
- Scope of work for the bidder
- Functional and Technical requirements

The bidder is expected to respond to the requirements as completely and in as much relevant detail as possible, and focus on demonstrating bidder's suitability to become the system integrator of IWAI.

1.2.1.3 **Part III: Master Service Agreement (MSA)**, including general conditions of contract, Service Level Agreement ('SLA') and Non-Disclosure Agreement ('NDA').

The bidders are expected to examine all instructions, forms, terms, Project requirements and other information in the RFP documents. Failure to furnish all information required as mentioned in the RFP documents or submission of a proposal not substantially responsive to the RFP documents in every respect will be at the System Integrator's (Bidder's) risk and may result in rejection of the proposal.

2 Background Information

2.1 Basic Information

- I. IWAI invites proposals ("Bids") to this Request for Proposal ("RFP") from System Integrator Agencies ("Bidders") for the "Design, Development, Implementation, Hosting and Maintenance

of Single Window System for Central Database for Inland Vessels” as described in Part II of this RFP, “Scope of Work”.

- II. The tenure of the contract of the successful bidder shall be for a term of twelve (12) months (“the Term”)
- III. IWAI reserves the right to extend the contract by 6 months on the same terms & conditions.
- IV. Proposals must be received not later than time, date and venue mentioned in the Fact Sheet. Proposals that are received late WILL NOT be considered in this procurement process.
- V. Bidders are advised to study the tender document carefully. Submission of bid shall be deemed to have been done after careful study and examination of the tender document with full understanding of its implications.

2.2 Key Information

2.2.1 Objectives

The primary objectives of this envisaged project are to develop a comprehensive single window solution & development of a world class application for central database for seamless integration of information's and migration of data through implementation of central database. The system objectives are:

- To move towards a paperless regime
- Improve transparency and provide speedy service delivery through adoption of web-based communication, e-commerce, and latest technology advances
- Computerize and automate all its functions and processes related to Ship building, shipping and IV Crew operations and maintenance, maintenance of central data base of vessel registration, surveys, crew examination and certification.

Upon implementation of the solution, it is expected that the system will establish proper information flow to help and support decision making. The implementation will result in increased customer satisfaction, better results, transparency and consistency in business operation and processes.

I. Vision for this Project:

Create a sustainable IT environment with Major IT transformation for IWAI / STATES /UT's that integrates technology into the framework of the IWT Business, Services and an emphasis on complete automation and governance and footfall free office.

Part-I

3 Instruction to the Bidders

3.1 General

- I. While every effort has been made to provide comprehensive and accurate background information and requirements and specifications, Bidders must form their own conclusions about the solution needed to meet the requirements. Bidders and recipients of this RFP may wish to consult their own legal advisers in relation to this RFP. In case of any doubts, Bidder should raise their query at the time of submission of pre-bid queries.
- II. All information supplied by Bidders may be treated as contractually binding on the Bidders, on successful award of the assignment by the IWAI on the basis of this RFP.
- III. No commitment of any kind, contractual or otherwise shall exist unless and until a formal written contract has been executed by or on behalf of the IWAI. Any notification of preferred bidder status by the IWAI shall not give rise to any enforceable rights by the Bidder.
- IV. The IWAI may cancel this public procurement at any time prior to a formal written contract being executed by or on behalf of the IWAI.
- V. This RFP supersedes and replaces any previous public documentation & communications, and Bidders should place no reliance on such communications.
- VI. Interested eligible Bidders may obtain further information and inspect the tender documents from the CPP portal i.e <https://eprocure.gov.in/eprocure/app> & IWAI official website.

3.2 Compliant Proposals / Completeness of Response

- I. Bidders are advised to study all instructions, forms, terms, requirements and other information in the RFP documents carefully. Submission of the bid shall be deemed to have been done after careful study and examination of the RFP document with full understanding of its implications.
- II. Failure to comply with the requirements of this paragraph may render the Proposal noncompliant and the Proposal may be rejected. Bidders must:
 - a) Include all documentation specified in this RFP;
 - b) Follow the format of this RFP and respond to each element in the order as set out in this RFP.
 - c) Comply with all requirements as set out within this RFP

IWAI shall at its sole discretion be entitled to determine the adequacy / sufficiency of the information provided by the bidder.

3.3 Code of Integrity

No official of a procuring entity or a Bidder shall act in contravention of the codes which includes

3.3.1 Prohibition of

- i.making offer, solicitation or acceptance of bribe, reward or gift or any material benefit, either directly or indirectly, in exchange for an unfair advantage in the procurement process or to otherwise influence the procurement process.
- ii.Any omission, or misrepresentation that may mislead or attempt to mislead so that financial or other benefit may be obtained, or an obligation avoided.
- iii.any collusion bid rigging or anticompetitive behaviour that may impair the transparency, fairness and the progress of the procurement process.
- iv.improper use of information provided by the procuring entity to the Bidder with an intent to gain unfair advantage in the procurement process or for personal
- v.any financial or business transactions between the Bidder and any official of the procuring entity related to tender or execution process of contract; which can affect the decision of the procuring entity directly or indirectly.
- vi.any coercion or any threat to impair or harm, directly or indirectly, any party or its property to influence the procurement process.
- vii.obstruction of any investigation or auditing of a procurement process.
- viii.making false declaration or providing false information for participation in a tender process or to secure a contract;

3.3.2 Disclosure of conflict of interest.

3.3.3 Disclosure by the Bidder of any previous transgressions made in respect of the provisions of sub-clause (a) with any entity in any country during the last three years or of being debarred by any other procuring entity.

In case of any reported violations, the procuring entity, after giving a reasonable opportunity of being heard, concludes that a Bidder or prospective Bidder, as the case may be, has contravened the code of integrity, may take appropriate measures.

3.4 Proposal Preparation Cost

The Bidder shall be responsible for all costs incurred in connection with participation in the RFP process, including, but not limited to, costs incurred in conduct of informative and other diligence activities, participation in meetings/discussions/presentations, preparation of proposal, in providing any additional information required by Purchaser to facilitate the evaluation process, and in negotiating a definitive contract or all such activities related to the bid process. Purchaser will in no event be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

3.5 Pre-Bid Meeting & Clarifications

3.5.1 Pre-Bid Conference

- I. IWAI shall hold a pre-bid meeting with the prospective bidders on **16-10-2023 at 11:00 am** at Inland Waterways Authority of India, Government of India, Jalmarg Bhavan, A-13, Sector 1, Noida, Uttar Pradesh 201301
- II. The Bidders will have to ensure that their queries for Pre-Bid meeting should reach to Inland Waterways Authority of India, Government of India, Jalmarg Bhavan, A-13, Sector 1, Noida, Uttar Pradesh 201301 by email on or before **12-10-2023 by 5:00 pm.**

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III. Name of Person(s) Representing the Company/ Firm:

Name of Person	Designation	Email-ID(s)	Tel. Nos. & Fax Nos.

IV. A prospective Bidder requiring any clarification on the RFP Document may submit the queries as per schedule indicated in Section: I (Bid Data Sheet) of this RFP. The queries must be submitted in the following format in editable form (Excel format):

S.no.	RFP Part Reference	Page no.	Section Reference	Clause Reference	Points of Clarification

- I. IWAI shall not be responsible for ensuring that the bidders' queries have been received by them. Any requests for clarifications after the indicated date and time may not be entertained by the IWAI.
- II. Queries must be strictly submitted only in the prescribed format (.XLS/.XLSX/.doc/.docx). Queries not submitted in the prescribed format will not be considered/ responded at all by the procuring entity.
- III. The Bidder's authorized representatives are invited to attend the Pre-bid meeting which would take place at the venue mentioned in the Bid Data sheet of this RFP.
- IV. The purpose of the meeting would be to clarify queries on any matter related to the RFP and the project.
- V. The Bidders are requested to submit their Pre-Bid queries in excel (.xlsx or .xls) to **vcdialani@iwai.gov.in** on or before the date indicated in bid data sheet of the RFP in the format provided above. Any queries received after the indicated date and time or in any other format may not be entertained.
- VI. Only authorized representatives (maximum two persons) of the Bidders will be allowed to participate in the pre-bid meeting.
- VII. Not attending the pre-bid meeting will not be a cause for disqualification.

3.5.2 Responses to Pre-Bid Queries and Issue of Corrigendum

- I. The Nodal Officer notified by the IWAI will endeavour to provide timely response to all queries. However, IWAI makes no representation or warranty as to the completeness or accuracy of any response; neither response nor does IWAI undertake to answer all the queries that have been posed by the bidders. The responses to the queries from all bidders will be distributed to all.
- II. At any time prior to the deadline for submission of Bids, IWAI may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the Bid document by amendments. Such amendments shall be uploaded on the portal through corrigendum and shall form an integral part of Bid document. The relevant clauses of the Bid document shall be treated as amended accordingly.
- III. It shall be the sole responsibility of the prospective Bidders to check the Central Public Procurement portal from time to time for any amendment in this RFP. In case of failure to get the amendments, if any, the Purchaser shall not be responsible for it.
- IV. At any time prior to the last date for receipt of bids, IWAI may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the RFP Document by a corrigendum.
- V. The Corrigendum (if any) & clarifications to the queries from all bidders will be posted on the website mentioned in the Proposal Data Sheet and emailed to all participants of the pre-bid conference.
- VI. Any such corrigendum shall be deemed to be incorporated into this RFP.
- VII. In order to provide prospective Bidders reasonable time for taking the corrigendum into account, IWAI may, at its discretion, extend the last date for the receipt of Proposals. Notifications regarding extensions, corrigendum, will be published on the website mentioned in the tender schedule and there shall be no paper advertisement.

3.5.3 Firm Prices

- I. Prices quoted must be firm and final and shall remain constant throughout the period of the contract and shall not be subject to any upward modifications, on any account whatsoever. The Bid Prices shall be indicated in Indian Rupees (INR) only.
- II. The Financial bid should clearly indicate the price to be charged without any qualifications whatsoever and should include all taxes, duties, fees, levies, works contract tax and other charges as may be applicable in relation to the activities proposed to be carried out.
- III. The taxes quoted in the offer should be as per the prevailing tax rates. Any subsequent increase in the tax rates or introduction of new tax will be paid by IWAI. Similarly, any benefits arising due to downward revision in tax rates, or any exemptions availed by the Bidder organization should be passed on to IWAI.
- IV. A proposal submitted with an adjustable price quotation or conditional proposal shall be treated as non-responsive and the bid may be rejected.

3.5.4 Bid Prices

- I. The Bidder shall indicate in the Proforma prescribed (in this Section), the unit rates and total

Bid Prices of the equipment / services, it proposes to provide under the Contract. Prices should be shown separately for each item as detailed in Tender Documents.

- II. The Bidder shall prepare the bid based on details provided in the tender documents. It must be clearly understood that the Scope of Work is intended to give the Bidder an idea about the order and magnitude of the work and is not in any way exhaustive and guaranteed by IWAI. The Bidder shall carry out all the tasks in accordance with the requirement of the tender documents and it shall be the responsibility of the Bidder to fully meet all the requirements of the tender documents.
- III. If at any stage during the currency of the contract, the solution proposed does not meet the functional requirements, conceptual design, performance requirements/SLA, and other requirements of Tender, the Bidder shall revise the required specifications and/or quantities as proposed by the Bidder in his bid in order to meet the said objectives/targets. This is applicable for upward revisions only with the consent of IWAI; downward revisions will not be allowed for the bidder. All such provisions shall be made by the Bidder within the lump sum contract price, at no extra cost to IWAI and without any impact to IWAI whatsoever.
- IV. Bid prices shall remain valid for the period of 120 days from the opening of Technical bids.

3.5.5 Discount

The Bidder is advised not to indicate any separate discount. Discount, if any, should be merged with the quoted prices. Discount of any type, indicated separately, will not be taken into account for evaluation purpose.

4 Key Requirements of the Bid

4.1 Right to Terminate the Process

- I. IWAI may terminate the RFP process at any time and without assigning any reason. IWAI makes no commitments, express or implied, that this process will result in a business transaction with anyone.
- II. This RFP does not constitute an offer by IWAI. The bidder's participation in this process may result IWAI selecting the bidder to engage towards execution of the contract. Right to Vary Scope of Contract
 - i. IWAI may at any time, by a written order given to the bidder, make changes within the quantities, specifications, services or scope of the Contract as specified.
 - ii. If any such change causes an increase or decrease in the cost of, or the time required for the bidder's performance of any part of the work under the Contract, whether changed or not changed by the order, an equitable adjustment on mutually agreed terms shall be made in the Contract Price or time schedule, or both, and the Contract shall accordingly be amended. Any claims by the bidder for adjustment under this Clause must be asserted within thirty (30) days from the date of the bidder's receipt of the IWAI's changed order.

4.2 RFP Document Fees and Purchase

- I. The Bidders shall download the tender document from the e-Tendering website as

mentioned in the Proposal Data Sheet.

- II. The Bidders have to upload the scanned image of the demand draft towards cost of tender document (mentioned in the Proposal Data Sheet) along with the online bid submission. The actual DD will be submitted at the address, date and time mentioned in Data Sheet.
- III. The downloading of the tender documents shall be carried out strictly as provided on the web site.
- IV. The tender document fee is non-refundable and not exempted.

4.3 Earnest Money Deposit (EMD)/ Bid security

- I. Bidder shall submit bid security / EMD of **Rs 40,00,000/- (Forty lakhs' Rupees Only)** in the form of Bank Guarantee ('BG') including E-bank guarantees drawn in favour of "Inland Waterways Authority of India" from any Nationalized / Scheduled Bank having its branch at Noida and en-cashable at Noida. The BG validity period shall be beyond 45 days of the period of tender validity. BG shall be verified independently by the IWAI with the bank before finalisation of technical offers; In the event of lack of confirmation of issue of the BG by the bank, the bid shall stand disqualified. The details of the bank account of IWAI are as follows:
 - (a) Name of Bank Account: IWAI Fund
 - (b) Bank Name and Address: Union Bank of India, Sector 15, Noida
 - (c) Bank Account Number: 513202050000007
 - (d) IFSC: UBIN0551325
- ii The EMD is required to protect the IWAI against the risk of Bidder's conduct, which would warrant the EMD forfeiture.
- iii Unsuccessful Bidder's EMD will be returned as promptly as possible after the award of the contract to the successful bidder. The EMD, for the amount mentioned above, of successful bidder would be returned upon submission of Performance Bank Guarantee/ Security Deposit.
- iv The EMD amount is interest free and will be refundable to the unsuccessful bidders without any accrued interest on it.
- v The bid / proposal submitted without EMD, mentioned above, will be summarily rejected.
- vi The Bidder has to upload the scanned image of the BG towards EMD (mentioned in the Proposal Data Sheet) along with the online bid submission. The actual BG shall be submitted at the address, time and date as mentioned in Data Sheet.
- vii The EMD may be forfeited:
 - a. If a bidder withdraws its bid during the period of bid validity.
 - b. In case of a successful bidder, if the bidder fails to sign the contract in accordance with this RFP.

4.4 Submission of Proposal

1. The bidders should submit their responses as per the format given in this RFP in the following manner:
 - a. Pre-Qualification Proposal and Technical Proposal
 - b. Commercial Proposal
2. Please Note that prices should not be indicated in the Technical Proposal but should only be indicated in the Commercial Proposal. Also, a bidder cannot submit more than 1 bid or alternative offers with more than one Standard Integrated solution.
3. Submission of proposal will happen through Central Public Procurement Portal.

4.5 Authentication of Bids

The Proposal should be accompanied by a power-of-attorney in the name of the signatory of the Proposal.

4.6 Bidder Authorization

- I. The "Bidder" as used in the tender documents shall mean the one who has signed the Tender Forms. The Bidder may be either the Principal Officer or his duly Authorized Representative, in either case, he/she shall submit a power of attorney. All certificates and documents (including any clarifications sought and any subsequent correspondences) received hereby, shall be furnished and signed by the Principal Officer / authorized signatory.
- II. It is further clarified that the individual signing the tender or other documents in connection with the tender must certify whether he/she signs as the Constituted attorney of the firm, or a company.
- III. The authorization shall be indicated by written power-of-attorney accompanying the bid.
- IV. Any change in the Principal Officer / authorized signatory shall be intimated to IWAI in advance.

4.7 Consortium/ Joint venture Conditions

- I. The Consortium/ joint ventures shall have not more than 3 members / partners.
- II. The share of the lead member shall not be less than 26% in the Consortium. The equity of each partner of the consortium shall be stated clearly in the MoU submitted by the bidder.
- III. The lead member shall be responsible for participating in the tender, execution, signing all the documents related therewith up to signing of agreement and execution of all the contractual obligations there after (in case of award of contract) i.e. responsible for establishing and operating the total access control solution to IWAI including warranty and Comprehensive AMC obligations on a turn-key basis.
- IV. In case of consortium the experience and financial criteria should be jointly fulfilled. Validity of the consortium agreement entered upon should continue for entire period of contract as specified in the tender or extended period and should be irrevocable for the above periods and should include clause nominating the Lead member to act on behalf

of all the Consortium members.

- V. The Lead member must be authorized to receive instruction / communications from IWAI, authorized to incur liabilities and shall deliver all the provisions of the contract on behalf of consortium members. The consortium should furnish MOU indicating the name of lead partner.
- VI. However, all the members of the consortium must also, jointly and severally, be responsible for satisfactory execution and performance of the contract. An irrevocable affidavit shall be furnished on suitable non-judicial stamp paper duly notarized giving undertaking for jointly and severally owning responsibility towards contractual obligations throughout the contract period.
- VII. The Prime Bidder shall be required to submit a joint agreement between the consortium members for the contract. The Prime Bidder participating with consortium approach shall define the role of each consortium member in the RFP response clearly indicating their scope of work or responsibilities and relationship.
- VIII. In case of consortium, consortium member should furnish a Power of Attorney in favour of the Prime Bidder, authorizing to submit and sign the RFP response.

4.8 Local Conditions

- I. It will be incumbent upon each Bidder to fully acquaint himself with the local conditions and other relevant factors which would have any effect on the performance of the contract and / or the cost.
- II. The Bidder is expected to obtain for himself on his own responsibility all information that may be necessary for preparing the bid and entering into contract. Obtaining such information shall be at Bidder's own cost.
- III. Failure to obtain the information necessary for preparing the bid and/or failure to perform activities that may be necessary for the providing services before entering into contract will in no way relieve the successful Bidder from performing any work in accordance with the Tender documents.
- IV. It will be imperative for each Bidder to fully inform themselves of all legal conditions and factors which may have any effect on the execution of the contract as described in the bidding documents. IWAI shall not entertain any request for clarification from the Bidder regarding such conditions.
- V. It is the responsibility of the Bidder that such factors have properly been investigated and considered while submitting the bid proposals and that no claim whatsoever including those for financial adjustment to the contract awarded under the bidding documents will be entertained by IWAI and that neither any change in the time schedule of the contract nor any financial adjustments arising thereof shall be permitted by the IWAI on account of failure of the Bidder to appraise themselves of local laws and site conditions.

4.9 Sub-Contracting

The bidder may use the services of a sub-contractor to leverage their specialized experience in respect of following tasks/areas:

- i. Cloud services
- ii. Helpdesk

iii. Data scanning and digitization services

Sub-contracting would be subject to the following conditions:

- i. All sub-contracting arrangements must form part of the bid.
- ii. All sub-contracting contracts must be entered into by the bidder / lead bidder.
- iii. Sub-contracting should not dilute the responsibility and liability of the bidder.
- iv. Any changes in sub-contractors must be approved by IWAI prior to conclusion of any contract between the bidder and the sub-contractor.
- v. IWAI retains the right to request discontinuation of sub-contracting of activities at any time during the contract period.

5 Preparation and Submission of Proposal

5.1 Proposal preparation Costs

- I. The bidder shall be responsible for all costs incurred in connection with participation in the RFP process, including, but not limited to, costs incurred in conduct of informative and other diligence activities, participation in meetings/discussions/ presentations, preparation of proposal, in providing any additional information required by IWAI to facilitate the evaluation process, and in negotiating a definitive contract or all such activities related to the bid process.
- II. IWAI will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

5.2 Language

The Bids prepared by the Bidder and all correspondence and documents relating to the bids exchanged by the Bidder and the IWAI, shall be written in English language, provided that any printed literature furnished by the Bidder may be written in another language so long the same is accompanied by an English translation in which case, for purposes of interpretation of the bid, the English translation shall govern.

5.3 Venue & Deadline for Submission of Proposals

Proposals, in its complete form in all respects as specified in the RFP, must be submitted to IWAI through Central Public Portal.

5.4 Late Bids

- I. Bids received after the due date and the specified time (including the extended period if any) for any reason whatsoever, shall not be entertained
- II. The bids submitted by telex/telegram/fax/e-mail etc. shall not be considered. No correspondence will be entertained on this matter.
- III. IWAI reserves the right to modify and amend any of the above-stipulated condition/ criterion depending upon project priorities vis-à-vis urgent commitments.

5.5 Modification and Withdrawal of Bids

- I. No bid may be altered / modified after submission to the IWAI. Unsolicited correspondences in this regard from Bidder will not be considered.

- II. No bid may be withdrawn in the interval between the last date for receipt of bids and the expiry of the bid validity period specified by the Bidder in the Bid.
- III. Prices in any form or by any reason before opening the Financial bid should not be revealed. If price change is envisaged due to any clarification, revised Bids can be called from all the bidders by IWAI.
- IV. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its EMD.

5.6 Address for Correspondence

The Bidder shall designate the official mailing/e-mail address, place and fax number to which all correspondence shall be sent by the IWAI.

5.7 Contacting the IWAI

- I. No Bidder shall contact the IWAI on any matter relating to its bid, from the time of the bid opening to the time the Contract is awarded.
- II. Any effort by a Bidder to influence the IWAI's bid evaluation, bid comparison or contract award decisions shall result in the rejection of the Bidder's bid.

5.8 Bid Submission

- I. Bidders are required to enroll on the e-Tendering website on the link provided in the Proposal Data sheet
- II. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- III. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the e-Tendering Portal.
- IV. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India with their profile.
- V. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- VI. Bidder shall then log in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.
- VII. The proposal should contain ATLEAST the following submission for on the e-Tendering Portal. However, this is not an exhaustive list, bidder is expected to go through the tender and provide documents as necessary
- VIII. During Online Bid Preparation stage, bidders are allowed to make any changes or modifications in the bid data uploaded by them in Technical as well as Commercial envelope. Once a bidder successfully completes the Bid Preparation stage (by generating the Hash Values), system won't allow him/her to make any further changes or modifications in the bid data.

Technical Bid: The list of Documents to be submitted as part of technical bid is provided below.

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Covering Letter – Technical Bid	Please refer Annexure 1
Bidder Profile	Please refer Annexure 2
Financial Information of the Bidder	Please refer Annexure 3
Format for Power of Attorney to Authorised Signatory	Please refer Annexure 4
Format for Power of Attorney for Partnership in charge / Lead bidder of Consortium	Please refer Annexure 5
Profile of Resource	Please refer Annexure 6
Manpower Details	Please refer Annexure 7
Technical Solution	Please refer Annexure 8
Approach and Methodology	Please refer Annexure 9
Project Plan and development	Please refer Annexure 10
Deployment of Personnel	Please refer Annexure 11
Details Of Experience of Bidder in Various Projects	Please refer Annexure 12
Manufacturer’s Authorization Form	Please refer Annexure 13
List Of Sub-Contractors and OEMs and their details	Please refer Annexure 14
Undertaking on Black-listing	Please refer Annexure 15
Format of Consortium Agreement	Please refer Annexure 16
Bank Guarantee for Earnest Money Deposit	Please refer Annexure 17
Performance Bank Guarantee	Please refer Annexure 18
Certificate Of Conformity/ No Deviation	Please refer Annexure 19
Declaration for No Conflict of Interest	Please refer Annexure 20
Prequalification compliance sheet	Please refer Annexure 21
Compliance sheet for Technical Requirements	Please refer Annexure 22
Financial Bid Format / Price Schedule	Please refer Annexure 23
Financial Bid Submission letter	Please refer Annexure 24

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Compliance sheet for Functional Requirements FRS – User Registration Module FRS – Log In Module FRS – System Software & Support Services FRS – Common Functional Requirement FRS – IV Crew FRS – Vessels and Allied Services FRS – Document Management System FRS – Cloud Network Security Services FRS – Cloud Application and Platform Services FRS – Enterprise Management Services FRS - Fireball Services FRS – Analytics, Report Generation and Dynamic Dashboard /MIS Report FRS – Presentation Layer FRS – SMS/Whatsapp Gateway FRS – API Manager FRS – Grievance Management System	Please refer Annexure 25
Compliance with Security Guidelines	Please Refer Annexure 26

Financial bid: The Financial bid format has been given as a standard format with the tender document. Bidders are required to provide details as per the format. If the format is found to be modified by the bidder, the bid will be rejected.

- I. Bidder is responsible to download Tender document and download Addendums / Amendments / Errata / Replies to the queries of the Party etc., if any, issued by IWAI, from the website before submission of the Tender. Any shortfall in submission of the said Addendums/ Amendments / Errata/ Replies to the queries of the Party etc. along with the downloaded documents while submitting the Tender may not be considered.
- II. Bid process will be over after the contract is signed with the selected bidder.
- III. IWAI shall not be responsible for non-receipt / non-delivery of the bid documents due to any reason whatsoever.

6 Evaluation of Bids

- I. IWAI will constitute a Committee (Technical Evaluation Committee) to evaluate the responses of the bidders
- II. The Technical Evaluation Committee shall evaluate the responses to the RFP and all supporting documents / documentary evidence. Inability of a Bidder to submit requisite supporting documents / documentary evidence within a reasonable time provided to it, may lead to the

Bidder's Proposal being declared non-responsive.

- III. The decision of the Technical Evaluation Committee in the evaluation of responses to the RFP shall be final. No correspondence will be entertained outside the process of negotiation/discussion with the Committee.
- IV. Presentation by the Bidder during the technical evaluation process is mandatory. The Technical Evaluation Committee may ask for meetings with the Bidders to seek clarifications on their proposals.
- V. The Technical Evaluation Committee reserves the right to reject any or all proposals on the basis of any deviations without assigning any reason thereof.
- VI. Each of the responses shall be evaluated as per the criteria and requirements specified in the RFP.

6.1 Tender Opening

- I. The Proposals submitted will be opened by officer authorized by IWAI in the presence of Bidders or their representatives who may be present at the time of opening.
- II. The representatives of the bidders should be advised to carry the identity card or a letter of authority from the tendering firms to identify their bonafide for attending the opening of the proposal.

6.2 Bid validity

The offer submitted by the Bidders should be valid for minimum period of 120 days from the date of submission of Tender.

6.3 Criteria for Evaluation

- I. The overall objective of this evaluation process is to select the capable and qualified firm in the business domain of developing and rolling out the integrated application, related hardware and other infrastructure, providing associated capacity building, training and handholding support as well as associated managed services and who will provide a comprehensive single window solution towards Design, Development, Implementation, Commissioning, and Hosting of the said system for Central Database.
- II. First the Pre-Qualification Proposal will be evaluated and only those bidders who qualify the requirements will be eligible for next set of evaluations. Technical Proposal and Commercial Proposal of Bidders who do not meet the Pre-Qualification criteria shall not be evaluated.
 - (i) If the response to "pre-qualification" is received as per requirements and prescribed format, then the IWAI shall evaluate the response to the Pre-Qualification requirements in accordance with the Pre-qualification requirements specified in this RFP
 - (ii) The Pre-Qualification bid must contain all the documents mentioned for Submission of the Pre-Qualification Bid. Each of the Pre-Qualification condition mentioned is mandatory. In case the Bidder does not meet any one of the conditions, the Bidder will be disqualified.
 - (iii) A checklist has to be created by the Bidder and be submitted along the proposal with proper page-wise indexing of all supporting documents

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- III. The technical score of all the bidders would be calculated as per the criteria mentioned below. All the bidders who achieve at least 70% marks in the technical evaluation would be eligible for the next stage, i.e. Financial Bid opening.
- IV. Proposals of bidders would be evaluated as per Technical Evaluation Criteria.

6.4 Pre-Qualification Criteria

- I. The prospective Bidder shall have to enclose along with the Technical Bid, documentary evidences in support of Pre-Qualification Criteria. The technical evaluation of the bid will be considered only for the Bidders qualifying the pre-qualification criteria.
- II. An indicative format for the Pre-Qualification Proposal is as follows [Please customize this list on the basis of Pre-Qualification Criteria Finalized below]

S. No	Criteria	Pre-qualification Criteria description	Supporting Document	Response (Yes / No)	Reference in Response to Pre-Qualification Bid (Section # and Page #)

- III. The pre-qualification criteria for Bidder are as follows:

S.NO	PQ #	Condition	Criteria	Supporting Document
1.	PQ1	Incorporation of the Firm, Legal Entity	<p>The Bidder could be</p> <ul style="list-style-type: none"> • A company incorporated in India under the Companies Act, 1956 or Companies Act 2013 (as amended till date), and subsequent amendments thereto <p style="text-align: center;">Or</p> <ul style="list-style-type: none"> • An entity registered under LLP Act 2008 and subsequent amendments thereto. <p style="text-align: center;">Or</p>	<p>Copy of certificate for Registration</p> <p>To be submitted for -</p> <ul style="list-style-type: none"> • Single Bid - Bidder • Consortium Bid - Lead Bidder

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			<ul style="list-style-type: none"> Partnership firm registered under Indian Partnership Act, 1932 <p style="text-align: center;">Or</p> <ul style="list-style-type: none"> The firm should be incorporated outside India but should have a registered office in India before the submission of the bid. <p>The bidder must have been operating for the last 5 years as on the date of publishing of tender notice (including name change/ impact of mergers or acquisitions)</p>	
2.	PQ2	Annual Turnover	<p>The Bidder / lead bidder must have a minimum average turnover of INR 10 Crores for the last five financial years (FY 2018-19, FY 2019-20, FY 2020-21, FY 2021-22, FY 2022-23) as evidenced by the audited accounts of the company.</p>	<ul style="list-style-type: none"> Financial Information of the Bidder & Extracts from the audited Balance sheet and Profit & Loss statements & Certificate from the Statutory Auditor / Chartered Account. <p>In case of:</p> <ul style="list-style-type: none"> Single Bid – Bidder Lead bidder (in case of Consortium)
3.	PQ3	Financial: Positive Net worth	<p>The bidder (for single firm) should have a positive net worth for 5 consecutive Years (FY 2018-19, FY 2019-20, FY 2020-21, FY 2021-22, FY 2022-23)</p> <p>The Lead Member must have positive net worth, in case of a Consortium,</p> <p>The Bidder must have positive net worth as of</p>	<p>Duly certified statement from the statutory auditor for the year 2022-23 as per format</p>

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			<p>March 31, 2023 or later.</p> <p>For the purpose of this criterion, net-worth of only the bidding entity will be considered. Net-Worth of any parent, subsidiary, associated or other related entity will not be considered.</p> <p>Net Worth shall mean (Subscribed and Paid-up capital + Reserves) less (Revaluation reserves + miscellaneous expenditure not written off + reserves not available for distribution to equity shareholders).</p>	
4.	PQ4	Criteria related to Application Development/ Implementation	<p>The bidder / Lead Bidder in case of consortium must have been assessed for minimum CMMI Level 5 certification or higher certified organisation. An ISO 9001 certified organisation.</p>	<p>Copy of valid certificate</p> <p>In case of:</p> <ul style="list-style-type: none"> • Single Bid – Bidder • Consortium Bid – Lead Bidder

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5.	PQ5	Technical Capability	<p>The Bidder (Single firm or any member of the consortium) should have successfully completed "Similar Works" in previous 7 years before the last date of the Bid submission as per the criteria specified below:</p> <p>a) 3 similar completed services each costing not less than the amount equal to 40% of the estimated cost put to this tender, or</p> <p>b) 2 similar completed services each costing not less than the amount equal to 50% of the estimated cost put to this tender, or</p> <p>c) 1 similar completed service costing not less than the amount equal to 80% of the estimated cost put to this tender</p> <p>which includes Application Development, Software Support, training, support manpower & maintenance involving services to any state / central/ state government organization in India</p>	<p>Copy of work order and Completion Certificate from the client;</p> <p>OR</p> <p>Copy of work order and Self Certificate of Completion (Certified by CS/independent auditor of the bidding entity);</p> <p>OR</p> <p>Copy of work order and Phase Completion Certificate (Certified by Client OR CS/independent auditor of the bidding entity);</p> <p>In case of:</p> <ul style="list-style-type: none"> • Single Bid – Bidder <p>Consortium Bid – Any member</p>
6.	PQ6	Mandatory Undertaking	<p>The Bidder shall furnish an affirmative statement as to existence of, absence of, or potential for conflict of interest on the part of the bidder, due to prior, current, or proposed contracts, engagements, or affiliations with any of the clients – that may have an impact of the</p>	<p>Declaration by authorised signatory of the Bidder</p> <p>In case of:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Single Bid – Bidder <input type="checkbox"/> Consortium Bid – All member

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			contract with Purchaser	
7.	PQ7	Blacklisting by Govt.	The Bidder should not be blacklisted or banned or declared ineligible for corrupt & fraudulent practices either indefinitely or for a particular period by any Government/ PSU/ Autonomous Body (Under Any government law) in India or abroad as on last date of submission of the Bid..	An undertaking from Authorized Signatory In case of: <ul style="list-style-type: none"> • Single Bid – Bidder • Consortium Bid – All members
8.	PQ8	EMD	must submit EMD to IWAI as per tender format	Bank Guarantee against EMD shall be submitted by Bidder
9.	PQ9	Tender fees	The bidder / Lead Bidder in case of consortium must submit Tender fees in form of Demand Draft (DD)/ online payment to IWAI.	Demand Draft of Tender fees shall be submitted by Bidder

Note:

- The Bidders, who meet the Pre-Qualification criteria, shall be taken forward for technical evaluation.
- The Bidder is required to provide the information as per the formats provided along with the required supporting documents for each of the criteria.
- Please note that the relevant proofs submitted against the experience criteria should clearly reflect the scope of work.

6.5 Technical Bid Evaluation

- I. Technical Bids will then be evaluated for the following parameters. In case of consortium, all members will be evaluated against criteria jointly unless specified otherwise.

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S. No	Evaluation Criteria	Parameters	Maximum Marks	Sectional cut-off	Documentary Evidence and applicability	Applicability
1. Credentials			50	35		
TE1 1.1	<p><u>System Integration Experience</u> The Bidder/ any member of consortium must have experience of successful Go-Live/ completed of minimum value INR 10 Crores or its equivalent in foreign currency) during the last seven years (as on the last date of bid submission) of National level IT System Integration projects. The projects cited should contain all of the following components mandatorily:</p> <ul style="list-style-type: none"> - Study of the system & Optimization/ re-engineering -Design of the solution -Development / customization and Integration with other external parties - Training & 	<p>Maximum Marks</p> <p>More than 4 projects</p> <p>2-4 Projects</p> <p>1- 2 Project</p>	<p>15</p> <p>15</p> <p>10</p> <p>5</p>		<p>Completion Certificates from the client certifying the value and scope of the criterion; Or Work Order or engagement letter + Self Certificate of Completion (Certified by the Statutory Auditor/ Company Secretary / Chartered Accountant) certifying the value and scope of the criterion Or Work Order and Phase Completion (Certified by the Statutory Auditor/ Company</p>	<p>Single Bidder (in case of single Bidder) Or Lead Bidder/ Consortium Member in case of consortium</p>

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S. No	Evaluation Criteria	Parameters	Maximum Marks	Sectional cut-off	Documentary Evidence and applicability	Applicability
	Implementation - Third Party Data Center Setup and operations				Secretary / Chartered Accountant) certifying the value and scope of the criterion.	
TE2 1.2	<u>System Integration Experience</u> The Bidder should have prior experience of projects having API integration with external applications like portal of DG Shipping, National Logistics Portal, Icegate, Swift etc.	Maximum marks	15		Completion Certificates from the client certifying the value and scope of the criterion; Or Work Order or engagement letter + Self Certificate of Completion (Certified by the Statutory Auditor/ Company Secretary / Chartered Accountant) certifying the value and scope of the criterion Or	Single Bidder (in case of single Bidder) Or Lead Bidder/ Consortium Member in case of consortium
		More than 2 Project	15			
		1-2 Projects	5			
		0 Project	0			

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S. No	Evaluation Criteria	Parameters	Maximum Marks	Sectional cut-off	Documentary Evidence and applicability	Applicability
					Work Order and Phase Completion (Certified by the Statutory Auditor/ Company Secretary / Chartered Accountant) certifying the value and scope of the criterion.	
TE3 1.3	<u>Cloud Deployment</u> The bidder / any member of the consortium should have been carrying/ carried out the following activities related to IT transformation projects at national level in community solutions (solutions involving multiple stakeholders) similar to the proposed system in the last Seven years involving the following components. - Design of cloud solution including sizing of IT infrastructure components on cloud	Maximum marks 3 Marks per project Maximum of five citations to be provided	15(max marks)		Completion Certificates from the client certifying the value and scope of the criterion; Or Work Order or engagement letter + Self Certificate of Completion (Certified by the Statutory Auditor/ Company Secretary / Chartered	Single Bidder (in case of single Bidder) Or Lead Bidder/ Consortium Member in case of consortium

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S. No	Evaluation Criteria	Parameters	Maximum Marks	Sectional cut-off	Documentary Evidence and applicability	Applicability
	<p>- Installation & commissioning on cloud - Application migration and data migration to cloud - Operation, administration & maintenance on cloud - Security Management on cloud All the projects to be showcased under this criterion should fulfil above mentioned parameters and will be awarded maximum of 2 marks per project. Bidder can submit up to a maximum of 5 projects for a total score of 10 All the projects to be showcased under this criterion should be completed and should have a minimum value of INR 5 Cr for cloud deployment (For on-going projects, the application must have gone live)</p>				<p>Accountant) certifying the value and scope of the criterion Or Work Order and Phase Completion (Certified by the Statutory Auditor/ Company Secretary / Chartered Accountant) certifying the value and scope of the criterion.</p>	
TE4 1.4	Certification of the organization	Maximum marks	5 (max marks)		Copy of valid certificate	Single Bidder (in

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S. No	Evaluation Criteria	Parameters	Maximum Marks	Sectional cut-off	Documentary Evidence and applicability	Applicability
		Bidder should be CMMI compliant as on the date of submission of the bid.	<ul style="list-style-type: none"> • CMMI Level 3 certification: 1 Marks • CMMI Level 4 certification: 2 Marks • CMMI Level 5 certification: 5 Marks 		issued to the Bidding Organization by respective agencies	case of single Bidder) Or Lead Bidder in case of consortium
2. CVs of Key Personnel			30	21		
TE5 2.1	Project Manager	MTEch / MBA	Mandatory		Evidence: CV of Project Manager	Single Bidder (in case of single Bidder) Or Lead Bidder/ Consortium Member in case of consortium
		Certified PMP / Prince2 / i2P2M	2.5 marks			
		At least 10 years of total work experience	4.5 marks (2 marks for 10 years of experience and for every additional year of relevant experience 0.5 marks will be awarded with maximum up to 4.5 marks for this criteria)			

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S. No	Evaluation Criteria	Parameters	Maximum Marks	Sectional cut-off	Documentary Evidence and applicability	Applicability
			0 marks (If total work experience is less than 10 years)			
		Should have worked on at least one project cited in criteria 1.2 / 1.3/ 1.4 or similar projects	Mandatory			
TE6 2.2	Marine Expert	BE/BTech /MTech (Naval Architecture / Marine / mechanical Engg)	Mandatory		Evidence: CV of Ship Design & Construction / Ship Surveyor / O & M of Sea Going Vessels / Classification Society Surveyor	Single Bidder (in case of single Bidder) Or Consortium Member in case of consortium
		At least 8 yrs. of total work experience with any of the following stake holders or their allies will be considered. a. Ship Design & Construction b. Shipping Lines c. Ship Surveyor d. O & M of Sea Going Vessels e. Classification Society	4.5 marks			

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S. No	Evaluation Criteria	Parameters	Maximum Marks	Sectional cut-off	Documentary Evidence and applicability	Applicability
		Surveyor (2 marks for 8 years of experience and for every additional year of relevant experience 0.5 marks will be awarded with maximum up to 4.5 marks for this criteria)				
		Should have worked on at least two projects cited in criteria 1.1 or similar projects	Mandatory			
		Individual accomplishments: Research or Concept paper, which is relevant to RFP is presented in any of the conference	1.5			
TE7 2.3	Solution Architect	B.E./B.Tech./MCA/M.Tech	Mandatory		Evidence: CV of Solution Architect	Single Bidder (in case of single Bidder) Or Lead Bidder/
		At least 8 yrs. of total work experience in architecting solution for projects out	4			

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S. No	Evaluation Criteria	Parameters	Maximum Marks	Sectional cut-off	Documentary Evidence and applicability	Applicability
		of which at least one project for a community system (2 Marks), (For every additional year of experience 0.5 marks will be awarded with maximum up to 4 marks for this criteria)				Consortium Member in case of consortium
		Should have worked on at least one project cited in criteria 1.1 or similar projects	Mandatory			
		TOGAF or Zachman framework and additional framework or Certifications related to any of the technologies mentioned in the RFP	2			
TE8 2.4	Integration Manager	Engineering graduate in Computer Sciences, IT/ECE with MBA/MS/ MTech	Mandatory		Evidence: CV of Integration Manager	Single Bidder (in case of single Bidder) Or Consortium

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S. No	Evaluation Criteria	Parameters	Maximum Marks	Sectional cut-off	Documentary Evidence and applicability	Applicability
		10+ years' Experience in working on integration projects involving application/data integration	2 marks			Member in case of consortium
		Experience in projects involving third party integrations / API manager / Integration Service Bus	<=1 project - 0 marks			
			2-3 Projects - 1 mark			
			4-5 Projects - 2 marks			
			6 or above Projects - 4 marks			
TE9 2.5	Security Expert	B.E./B.Tech./MCA/M.Tech	Mandatory		Evidence: CV of Security Expert	Single Bidder (in case of single Bidder) Or Consortium Member in case of consortium
		At least 8 yrs. of total work experience as IT security expert (2 Marks),(For every additional year of experience 0.5 marks will be awarded with maximum up to 4 marks for this criteria)	4			
		Should have worked on at least one projects cited in criteria 1.3	Mandatory			

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S. No	Evaluation Criteria	Parameters	Maximum Marks	Sectional cut-off	Documentary Evidence and applicability	Applicability
		or similar projects.				
		CISSP / CISM / CCIE	1			
3. Approach & Methodology & Presentation			20	14		
TE10 3.1	Approach & Methodology	Understanding of the complexity of the project	2		Evidence: Approach & Methodology Approach Paper	
		Approach & Methodology for execution of the project, Solution Architecture, O&M Support, Key resources, Project Plan, Project Governance methodology and risk & mitigation plan	4			
		Proposed solution <i>Solution details including proposed technology solution, any other solution component required to meet functional and technical requirements</i>	4			
		Demonstratio	4			

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S. No	Evaluation Criteria	Parameters	Maximum Marks	Sectional cut-off	Documentary Evidence and applicability	Applicability
		n of the capabilities of the proposed solution through Wireframe				
TE11 3.2	Presentation and answers to queries	Presentation at the time of technical evaluation <i>The Bidder should ensure that all the proposed key personnel as per the RFP shall attend the presentation either in person or through VC. (Min of 2 key resource personnel should be present in person)</i>	2		Evidence: Presentation at the time of technical evaluation	
		Demonstration of the Portal with relevant UI/UX for the platform	2			
		Answers to the queries <i>Knowledge of potential challenges with special regards to PMS implementation</i>	2			

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S. No	Evaluation Criteria	Parameters	Maximum Marks	Sectional cut-off	Documentary Evidence and applicability	Applicability
		<i>on Risk Management Plan Change Management Knowledge about implementation timelines Innovation & any other question raised by the committee</i>				
	Total Technical Score		100	70		

Technical & Commercial Evaluation

Technical Bid will be evaluated only for Bidders who are successful in Pre-Qualification stage.

The evaluation committee will review the technical bids of the short-listed Bidders to determine whether the technical bids are substantially responsive. Bids that are not substantially responsive are liable to be disqualified at the IWA's discretion.

The Bidder shall primarily be evaluated on their technical competency and experience. Marks for evaluation criteria are broadly divided into the following three sections:

- 1. Credentials - 50 marks**
- 2. CVs of experts - 30 marks**
- 3. Approach and Methodology & Technical Presentation - 20 marks**

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Bidders are required to use the format provided below and respond to each of the functional requirement, A1 to A11, SF1 to SF6, OT1 to OT7, SH0 to SH7, OT1 to OT2, IN 1 to IN 11 (excluding, sample forms and logic) with one of the below mentioned answer keys:

F = Fully provided "Out-of-the-Box" in proposed product / solution

C = Configuration / Customization required

N = New Development

Sr. No.	Process Type	System Requirement	Response (F/C/N)	Comments (if any)

The Bidders may also add explanatory details as necessary in the "comments" column.

Please note that:

Bidders must use only one response code per requirement.

In case of any unanswered response OR more than one response against any requirement it will be treated as "non-response"

6.6 Financial bid Evaluation

- I. The Financial Bids of technically qualified bidders (i.e. above 75% marks) will be opened on the prescribed date in the presence of bidder representatives.
- II. Only fixed price financial bids indicating total price for all the deliverables and services specified in this bid document will be considered.
- III. The bid price will include all taxes and levies and shall be in Indian Rupees and mentioned separately.
- IV. Any conditional bid would be rejected.
- V. Errors & Rectification: Arithmetical errors will be rectified on the following basis: "If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail".
- VI. If there is no price quoted for certain material or service, the bid shall be declared as disqualified.
- VII. Bidder should provide all prices as per the prescribed format provided in Annexure.
- VIII. Bidder should not leave any field blank. In case the field is not applicable, Bidder must indicate "0" (Zero) in all such fields.
- IX. All the prices (even for taxes) are to be entered in Indian Rupees ONLY (%age values are not

allowed)

- X. It is mandatory to provide breakup of all Taxes, Duties and Levies wherever applicable and/or payable. IWAI shall take into account all Taxes, Duties & Levies for the purpose of Evaluation
- XI. IWAI reserves the right to ask the Bidder to submit proof of payment against any of the taxes, duties, levies indicated.
- XII. The Bidder needs to account for all Out-of-Pocket expenses related to Boarding, Lodging and other related items in the Financial bids. Any additional charges have to be borne by the bidder. For the purpose of evaluation of Financial bids, the IWAI shall make appropriate assumptions as mentioned below to arrive at a common bid price for all the Bidders. This however shall have no co-relation with the Contract value or actual payment to be made to the Bidder.

7 Appointment of System Integrator

The Bidders are required to submit all required documentation in support of the evaluation criteria specified (e.g. detailed project citations and completion certificates, and all others) as required for technical evaluation.

7.1 Bidders who score minimum of 70% in each of the sections i.e. Credentials, CVs of experts and Approach and Methodology & Technical Presentation will only qualify for the financial evaluation.

IWAI and the evaluation committee may seek written clarifications from the Bidders. The primary function of clarifications in the evaluation process is to clarify ambiguities and uncertainties arising out of the evaluation of the bid documents. Written clarifications provide the opportunity for the evaluation committee / IWAI to state its requirements clearly and for the Bidder to more clearly state its proposal. IWAI and the evaluation committee may seek inputs from their professional, technical experts in the evaluation process. However, the Bidder will not be allowed to modify or amend their proposals during these clarifications

Each technical bid shall be awarded an absolute technical score of 'T1' marks out of a total of 100 marks. A detailed evaluation matrix is provided in the following section

Technical Score Formulation: The highest evaluated absolute Technical score (Tmax) will be given the maximum technical score (Tn) of 100 points. The technical scores (Tn) of the other Bidders will be computed as per the formula for determining the technical scores as given below:

$$\mathbf{T_n = 100 \times (T1 / T_{max})}$$

Where,

Tn = Normalized Technical score for the Bidder under consideration,

T1 = Absolute Technical Score for the Bidder under consideration,

Tmax = Maximum absolute Technical Score obtained by any Bidder

Results of the Technical Bid opening will be published on the tendering portal. Evaluation Committee's decision in this regard shall be final & binding and no further discussion/interface will

be held with the Bidders whose bids are technically disqualified /rejected. Evaluation of Technical Proposals by Evaluation Committee shall not be questioned by any of the Bidders. Evaluation Committee may ask Bidder(s) for additional information to verify claims made in Technical Bid documentation from the Bidder on the already submitted Technical Proposal at any point of time before opening of the Price bid.

7.2 Financial Evaluation

Bidders who score minimum of 70% in each of the sections i.e. Credentials, CVs of experts and Approach and Methodology & Technical Presentation will only qualify for the financial evaluation.

The bid value shall be inclusive of taxes and shall be in Indian Rupees (₹).

If there is a discrepancy between words and figures, the amount in words will prevail.

Financial Score Formulation: The lowest evaluated financial quote (Fmin) based on cumulative will be given the maximum financial score (Fn) of 100 points. The financial scores (Fn) of the other financial quotes will be computed as per the formula for determining the financial scores given below:

$$F_n = 100 \times (F_{min} / F_1)$$

Where,

Fn = Normalized financial score for the Bidder under consideration,
F1 = Absolute financial quote for the Bidder under consideration,
Fmin = Minimum absolute financial quote obtained from any Bidder

7.2.1 Final Evaluation

Proposals will be ranked according to the combined normalised technical (Tn) and financial (Fn) scores using the weights.

The combined technical and financial score

$$(S) = T_n \times T + F_n \times F$$

Where:

T = 0.70, the weight given to the Technical Score;

F = 0.30, the weight given to the Financial Score;

$$T + F = 1$$

The Bidder who scores the highest combined technical and financial score as detailed above will be considered for selection and award of the contract.

If two or more Bidders have same combined technical and financial score, then the Bidder with the higher financial score will be selected. Further, if two or more Bidders have same financial score, then the Bidder with higher technical score will be selected.

Results of the Financial bid opening will be published on the online tendering portal.

7.3 Post Qualification and Award Criteria

7.3.1 This determination will consider the Bidder's financial, technical, implementation and post-

implementation strengths and capabilities. It will also include examination of the documentary evidence submitted by the Bidder as part of the bid as well as such other information as the Purchaser deems necessary and appropriate.

7.3.2 An affirmative determination will be a prerequisite for award of the Contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event; the Purchaser will proceed to the next best evaluated bid to make a similar determination of that Bidder's capabilities to perform satisfactorily and award of contract.

7.3.3 The Purchaser is not bound to accept the best evaluated bid or any bid and reserves the right to accept any bid, wholly or in part.

7.4 Right to Accept Any Proposal and To Reject Any or All Proposal(s)

IWAI reserves the right to accept or reject any proposal, and to annul the tendering process / Public procurement process and reject all proposals at any time prior to award of contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for IWAI action.

7.5 Notification of Award

- I. Prior to the expiration of the validity period, IWAI will notify the successful bidder in writing or by fax or email, that its proposal has been accepted. In case the tendering process has not been completed within the stipulated period, IWAI may like to request the bidders to extend the validity period of the bid.
- II. The notification of award will constitute the formation of the contract. Upon the successful bidder's furnishing of Performance Bank Guarantee IWAI will notify each unsuccessful bidder and return their EMD.

7.6 Contract Finalization and Award

- I. IWAI shall reserve the right to negotiate with the Bidder(s) whose proposal has been ranked best value bid on the basis of Technical and Commercial Evaluation to the proposed Project, as per the guidance provided by CVC. On this basis the draft contract agreement would be finalized for award & signing.
- II. IWAI may at any time, by a written order given to the Bidder, make changes within the quantities, specifications, services or scope of the Contract as specified. The change in the quantity shall be upto +/- 25% of the quantity mentioned in the RFP.
- III. The written advice to any change shall be issued by IWAI to the bidder up to 4 (four) weeks prior to the due date of commencement of services.
- IV. In case of increase in Quantities/ Licenses / Specifications or Service requirements or in case of additional requirement, the bidder agrees to carry out / provision for such additional requirement at the rate and terms and conditions as provided in the Contract. In case of decrease in Quantities or Specifications of goods/equipment or Service requirements, the bidder shall give a reduction in price at the rate given in the Contract corresponding to the said decrease.

7.7 Performance Bank Guarantee

7.7.1 Within 15 days of the receipt of notification of award or Letter of Intent (LOI) from the Inland Waterways Authority of India, the successful Bidder shall furnish the performance bank guarantee of **10% of total contract value** in accordance with the Conditions of Contract, in the Performance Bank Guarantee prescribed in **Annexure 18** of this RFP document given by any nationalized/scheduled bank.

7.7.2 Failure of the successful Bidders to comply with the requirement of Clause 7.8 (Signing of Contract) of this section shall constitute sufficient grounds for the annulment of the award and forfeiture of the EMD, in which event the Purchaser may award the Contract to the next best-evaluated bid or call for new bids.

7.7.3 All incidental charges whatsoever such as premium, commission etc. with respect to the Performance Bank Guarantee shall be borne by the Bidder. The successful Bidder shall ensure that the Performance Guarantee is valid always during the Term of the contract (including any renewal) and for a period of 180 (one hundred eighty) days beyond all the contractual obligations/ completion of contract period/ tenure of the appointment.

7.7.4 In the event of the Bidder being unable to service the contract for whatever reason, Purchaser will encash the PBG. Notwithstanding and without prejudice to any rights whatsoever of Purchaser under the contract in the matter, the proceeds of the PBG shall be in favour of Inland Waterways Authority of India, payable at Noida as compensation for the Bidder's failure to perform/comply with its obligations under the contract. Purchaser shall notify the Bidder in writing of the exercise of its right to receive such compensation within 14 (fourteen) days.

7.7.5 Before encashing the PBG, the vendor will be given an opportunity to represent before Purchaser. The decision of Purchaser on the representation given by the vendor shall be final and binding. If circumstances so warrant, the matter may be referred to an arbitrator(s) as appointed under section on Arbitration and Legal Jurisdiction of this RFP in Part III.

The PBG is required to protect purchaser against the risk of selected Bidder's conduct, which would warrant the PBGs forfeiture.

7.8 Signing of Contract

7.8.1 After the IWAI notifies the successful Bidder that its proposal has been accepted, Purchaser shall enter into a contract, incorporating all clauses, pre-bid clarifications and the proposal of the Bidder between Purchaser and the successful Bidder.

7.8.1 The successful bidder shall sign the contract within 30 days from the date of notification of award

7.8.3 Post awarding of contract, if the System Integrator refuses to sign the contract, then IWAI reserves the right to blacklist and forfeit the EMD of that System Integrator.

7.9 Failure to Agree with the Terms and Conditions of the RFP

I. Failure of the successful bidder to agree with the Draft Legal Agreement and Terms & Conditions of the RFP shall constitute sufficient grounds for the annulment of the award, in which event IWAI may award the contract to the next best evaluated bidder or call for new proposals from the interested bidders.

II. In such a case, the IWAI shall invoke the PBG of the successful bidder.

8 Rejection Criteria

Besides other conditions and terms highlighted in the RFP document, bids may be rejected under following circumstances:

8.1 General Rejection Criteria

- Bids not qualifying under Pre-qualification criteria.
- Bids submitted without or improper EMD or tender fees
- The bank solvency certificate submitted by the Bidder shall not be older than Six (6) months from the Bid Submission Last Date. In case Bidder does not adhere to this criterion, his bids shall be considered non-responsive and shall not be considered for further evaluation process.
- Bids received through Telex /Telegraphic / Fax / E-Mail except wherever required
- Bids which do not confirm unconditional validity of the bid as prescribed in the Tender
- If the information provided by the Bidder is found to be incorrect / misleading at any stage / time during the Tendering Process
- Any effort on the part of a Bidder to influence the IWAI' s bid evaluation, bid comparison or contract award decisions
- Bids received by the IWAI after the last date for receipt of bids prescribed by the IWAI
- Bids without signature of person (s) duly authorized on required pages of the bid
- Bids without power of authorization and any other document consisting of adequate proof of the ability of the signatory to bind the Bidder.
- If it is found that multiple bidders have submitted separate tenders/ quotations under different names of firms/ establishments but with common address for such establishments/ firms, are managed or governed by the same person/ persons jointly or severally, such tenders shall be liable for penal and legal action including blacklisting.
- If it is found that firms have tendered separately under different names for the same contract, all such tender(s) shall stand rejected and tender deposit of each such firm/ establishment shall be forfeited. In addition, such firms/ establishments shall be liable at the discretion of the IWAI for further penal action including blacklisting.
- The Bidders not confirming unconditional acceptance of full responsibility of providing services in accordance with the Scope of work, General Terms & Conditions and Service Level Agreements of this tender.
- Bidders not complying with the General Terms and conditions as stated in the Tender Documents.
- Failure to furnish all information required by the Tender Document or submission of a bid not substantially responsive to the Tender Document in every respect.

8.2 Technical Rejection Criteria

- Technical Bid containing financial details.
- Revelation of Prices in any form or by any reason before opening the Financial bid

- Failure to furnish all information required by the Tender Document or submission of a bid not substantially responsive to the Tender Document in every respect.
- Bidders not quoting for the complete scope of Work as indicated in the Tender documents, addendum (if any) and any subsequent information given to the Bidder.
- Bidders not complying with the Technical and General Terms and conditions as stated in the Tender Documents.
- The Bidder not confirming unconditional acceptance of full responsibility of providing services in accordance with the Scope of work and Service Level Agreements of this tender.
- If the bid does not conform to the timelines indicated in the bid.
- Bidder not complying with the eligibility criteria.

8.3 Financial Rejection Criteria

- Incomplete Price Bid
- Price Bids that do not conform to the Tender's price bid format.
- Total price quoted by the Bidder does not include all statutory taxes and levies applicable. If there is an arithmetic discrepancy in the Financial bid calculations the bidder shall rectify the same. If the Bidder does not accept the correction of the errors, its bid may be rejected.
- Financial Bids that are less than 50% of the average bid price will be disqualified. The average bid price is computed by adding all Financial Bid values of ALL the technically qualified bidders and dividing the same by the number of technically qualified bidders.
- Bidders not quoting for the complete scope of Work as indicated in the Tender documents, addendum (if any) and any subsequent information given to the Bidders.
- Revelation of Prices in any form or by any reason before opening the Financial bid

9 Project Schedule

9.1 Project Timelines

The envisaged project shall be implemented in following 2 Phases:

- Phase 1 - Full scale deployment of system across all locations and system stabilization with parallel run (duration is 12 months from the signing of contract):
The full-scale deployment phase shall begin with the project charter, wherein the bidder is expected to clearly detail out the complete project plan & overall project approach. Key activities expected during this phase are requirements gathering, detailed solution design, network design, development of the system, applications, provide hardware components, establishment of complete Infrastructure including network, Cloud data centre & disaster recovery, client side computing, data migration, establishment of IT facilities management including set-up of helpdesk, user trainings, final testing of the overall solution including UAT, readiness of scanning and digitization services, final deployment & go-live of the entire system as per scope of work. Detailed timelines of the expected deliverables are given in the table below.
Post full scale deployment, next step is to stabilize the operations of the system. This shall include activities like completion of scanning and digitization services, certification of SLA

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monitoring system by third party agency, updating the system as per feedback provided from the users, developing application interfaces as required, assist in conducting outreach programs for external users in forms of monthly workshop, training programs, Setup SLA monitoring by third party agency SMS and email to the registered Mobile no. and email id for pre-defined events.

- Phase 2 - Operations and maintenance phase (duration is 300 months from the completion of Phase-I):

Overall, the entire phase will require dedicated application software support for the users, performance monitoring of the entire solution, adherence to the IT policies & procedures, patches/ upgrades of all components, configuration management and version control, management of updates and changes requested by user, complete helpdesk support for all system components, tracking of issues/ problems/ bugs/ defects raised by user, on-going project updates, SLA compliance reporting. Along with this, very important activity is to develop the required application interfaces with external systems as specified in the scope of work. Bidder has to ensure that required personnel are available to develop the interfaces during the entire phase of the project.

Activity code	Track	Brief activities	Name of deliverables
<i>Phase 1 - Full scale deployment of system across all locations and system stabilization with parallel run (12 Months from signing of contract)</i>			
1.1	PGM	Project kick-off meeting or Agreement signing whichever is earlier	D1
1.2	PGM	Submission of project charter	D2
1.3	ASI	Business and system requirements study including interfaces	D3
1.4	ASI	Solution design including configuration requirements, interface design, etc.	D4
1.5	ASI	Deployment of complete application software with all modules & required functionalities for user acceptance testing.	D5
1.6	CDC	Specifications for required Cloud Data Centre and Disaster Recovery Centre	D6
1.7	CDC	Completion of Cloud DC and DR	D7
1.8	CMT	Data migration plan	D8

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1.9	CMT	Submission of change management plan covering training and transitioning requirements	D9
1.10	CMT	Completion of change management activities including training as required for UAT	D10
1.11	CMT	Completion of change management activities including training as required for go-live	D11
1.12	CMT	Completion of data migration	D12
1.13	IFM	Establishment of IT facilities management system	D13
1.14	DSD	Procedures and specifications for providing data scanning, digitization and data entry services	D14
1.15	DSD	Readiness for carrying out data scanning services as per IWAI's requirements	D15
1.16	All	Full scale deployment of the system across all locations	D16
1.17	All	Successful completion of parallel run with existing system	D17
1.18	All	Setup of data scanning services for States operations & commencement of data scanning activities	D18
1.19	All	Certification of SLA monitoring system by third party agency as appointed by IWAI	D19
1.20	All	Stable operations of the system for the 3 months post full scale deployment	D20
1.21	CRT	STQC Certification	D21
<i>Phase 2 - Operations and maintenance phase (60 Months from the completion of Phase I and warranty period)</i>			
2.1	ON M	Operations and maintenance of the entire solution for a period of 5 years after stabilization	D22

Track	Description
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PGM	Project governance and management
ASI	Application software and interfaces
CDC	Third party data centre
CMT	Change management, Migration and transitioning
ONM	Operations and maintenance
CRT	STQC Certification
IFM	IT facilities management
DSD	Data scanning and digitization
ALL	All tracks

Note:

- i. Timelines defined for Phase I start from T i.e. Project kick-off meeting or Agreement signing whichever is earlier
- ii. As per plan, T1 i.e. kick-off for Phase II is defined based on completion of Phase I provided IWAI provides sign-off for the completion of Phase I of the project & all defined deliverables & milestones thereof
- iii. Project tracks are defined to map the project timelines with the scope of work defined in Part II of the RFP

9.2 Deliverables schedule

- I. The bidder has to deliver the following deliverables to IWAI as part of an assurance to fulfil the obligations under the Payment schedule & meet the applicable SLA. The table given below may not be exhaustive and Bidder is responsible to provide all those deliverables which may be specified in this RFP but not listed here and those agreed by the Bidder in response to any request from IWAI. The timelines for producing each of these deliverables will be in line and closely linked with the overall project timeline as indicated in the table above.
- II. Any conflict with respect to project and/or deliverable timelines will have to be resolved by bidder in consultation with IWAI and/or its designated agencies and approved by IWAI. Thereafter the approved timelines will have to be adhered to by bidder, unless specified otherwise. It is to be noted that upon completion of Go-live, bidder is required to submit all the updated system design documents, specifications, source code, application deployment files, user manuals, administration manuals and all other applicable deliverables listed below.

III. Following is a brief description of the deliverables & expected submission timelines

Deliverables	Deliverable Description in detail	Expected Timelines
D1	Kick-off presentation and/or duly signed agreement	T

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D2	<p>Project charter should cover the following:</p> <ul style="list-style-type: none"> - Study of scope of work & functional coverage - Detailed project plan - Governance Structure for Project Implementation - Project implementation approach - Work breakdown structure - Delivery schedule - Key milestones - Resource deployment - Change & communication management plan - Change control procedure - Exit management plan 	T + 0.5 months
D3	<p>Software Requirements Specifications (SRS) should cover the following:</p> <ul style="list-style-type: none"> - Detailed requirement captures and analysis - Software requirement - Functional requirement - Interface specifications - Application security requirements - Mapping of FRS & SRS - Requirements sign-off - Identify third party interfaces required along with the type / specifications 	T + 1.5 months
D4	<p>System Design & Configuration report should cover the following:</p> <ul style="list-style-type: none"> - System Configuration and module wise configuration needs as per the design envisaged - Legacy and Third-party System Integration/interface Report and integration of same with the envisaged solutions - Customization Development Plan and Design/development plan of components of functionalities that are not available - High Level Software Design document including Software Architecture design, Logical and Physical Database Design - Low Level Software Design document including Programming Logic, Workflows 	T + 2 months
D5	<p>Software Deployment report should cover the following:</p> <ul style="list-style-type: none"> - Complete Source Code with documentation - Test Plans and Test cases (including Unit Test Plan, System/Integration Test Plan, User Acceptance Test Plan, Security Test Plan, Load Test Plan) - Software Testing Documentation (including details of defects/bugs/errors and their resolution) - User Acceptance Test Cases, Test Data and Test Results, User Acceptance Test Scripts, Unit Test Cases, Integration Test Results/ Cases - System Integration Tests (SIT) including Performance Tests (PT) - Challan of license procurement or verification through online portal of OEM 	T + 8 months

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	- Periodic data backup and archival post Go-Live. Backup data should be tested for restorability on a quarterly basis.	
D6	Cloud Data centres establishment report should cover the following: - Specifications & Design of Cloud DC & DRC Installation & Commissioning of Cloud DC & DRC detailed plan	T + 2 months
D7	Report on Cloud DC & DR readiness should cover the following: - Commissioning of Cloud DC & DR	T + 8 months
D8	Data migration report should cover the following: - Data migration assessment - Migration & transitioning approach - Detailed data migration plan Scripts required for importing data that has been migrated	T + 1 months
D9	Change Management & Training report should cover the following: - Detailed training plan - Communication plan Training Materials and Curriculum	T + 4 months
D10	Change Management & Training completion for UAT report should cover the following: - Training session-wise completion reports Certification from IWAI officials confirming successful completion of Change Management & Trainings	T + 7 months
D11	Change Management & Training completion for Go-live report should cover the following: - Training session-wise completion reports - Submission of Final Training Documents Certification from IWAI officials confirming successful completion of Change Management & Trainings	T + 9 months
D12	Data migration completion report should cover the following: - Details of actual data that has been migrated Certificate from IWAI officials confirming successful completion of data migration	T + 9 months
D13	Establishment of IT facilities management system should cover the following: - Report on Operationalization of Help desk /SMS /Whatsapp - Standard Operating Procedures and Operations Manuals - Obtaining Relevant Certifications	T + 12 months
D14	Scanning & Digitization procedures & specification report should cover the following: - Requirements gathering of scanning & digitization of IWAI - Detailed plan of scanning & digitization	T + 1 months

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	Standard Operating manuals of scanning & digitization	
D15	Scanning & Digitization readiness report should cover the following: - Status of scanning & digitization - Details of completion of activities	T + 9 months
D16	Overall System Deployment report should cover the following: - Deployment sign-off from IWAI - User Manuals and System Manuals - Go-Live Certificate indicating readiness for roll-out with trainings - Pending Issues in the system, Dependencies - Updated System Design documents, specifications for every change request Updated user Manuals, administration manuals, training manuals	T + 9 months
D17	Certification of successful completion of parallel run	T + 12 months
D18	Certification of setup of data scanning services & commencement report	T + 3 months
D19	Certification of SLA monitoring system - Third party agency should certify SLA monitoring system	T + 12 months
D20	System stabilization report should cover the following: - Report indicating results, observations and action items - UAT Sign-off - Latest source code, application deployment files, configuration files for entire solution - Detailed changes description	T1 = T + 12 months
D21	STQC report and Certificate	T+8
D22	SLA Compliance Reports (Monthly) should cover the following: - Performance Monitoring reports for system - SLA Compliance Reports - Patches/ Upgrades of all components - Incremental updates to solution - Change Requests Managed - Issue/ Problem/ Bugs/Defect Tracker - IT facility management services review report - Scanning & digitization completion & review - On-Going Project Updates - Audit/ Standard Compliance Reports	T1 + 300 months

9.3 Payment Schedule

- The payment to be made to the System Integrator will be as per the schedule given in the table below. The milestone completion will as per the Project Deliverables set out in the Part II of the RFP Document.

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No	Milestones	Deliverables	Timeline T=0 at Kick-off	Payment Percentage
1	Kick off meeting	D1	T	NA
2	Submission of project charter and project plan	D2	T+5 days	NA
3	Submission of Software Requirement Specification (SRS) of all modules of single window system of Central Database	D3	T+1 months	10% of the Design, Development and implementation phase cost
4	Submission of Master Design Document including Solution Architecture and Design, Logical and Functional Architecture	D4	T+1 months	
5	Prototyping & Wire Frame		T+2 months	NA
6	Cloud Data Centre Establishment & Commissioning of Cloud DC & DR	D6 & D7	T+8 Months	10% of the Design, Development and implementation phase cost
7	Software Development	D5	T+6 months	30% of the Design, Development and implementation phase cost
8	Data Migration & Data completion	D8 & D12	T+5 months	5% of the Design, Development and implementation phase cost
9	Change Management & User Training	D9, D10	T+9 months	5% of the Design, Development and implementation phase cost
10	Scanning & Digitalization	D14, D15 & D18	T+9 Months	Quarterly payments on usage basis after deducting penalties. Total payout will not exceed total awarded cost for Scanning & Digitalization (SI 4 of price schedule)
11	Completion of iteration (Prototyping, UAT, User Training and Conference Room Pilot)		T+8 months	NA
12	Integrated UAT	D11, D16 & D21	T+ 10 months	20% of the Design, Development and implementation phase cost
12	Go-Live of Single window system of Central Database	D17	T+12 months	10% of the Design, Development and

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No	Milestones	Deliverables	Timeline T=0 at Kick-off	Payment Percentage
				implementation phase cost
13	Security Audit & Certification	D19, D20	T+12 Months	10% of the Design, Development and implementation phase cost
14	IT Facility Management (SMS / Whatsapp Gateway & Helpdesk)	D13	5 years after go-live	Quarterly payments on usage basis after deducting penalties. Total payout will not exceed total awarded cost for Scanning & Digitalization (SI 5 of price schedule)
15	Operation and Maintenance	D22	5 years after go-live & warranty period	Quarterly payments of the operation and maintenance phase cost

The total cost quoted by the bidder in the design, development and implementation phase should not be more than 45% of the total contract value. In case the bidder quotes more than 45% of the TCV in the design, development and implementation phase, then the additional cost quoted shall be paid by being equally distributed in quarterly payments across the entire operation and maintenance phase.

- The payments shall be made to the successful bidder based on the payment components provided in the table above. The payments shall be based on the completion of the key milestones defined in the project plan and acceptance of the deliverables associated with the milestones by IWAI.
- The overall project is broadly divided into two key phases, Implementation phase (Phase I) and Operations & Maintenance phase (Phase II). The initial payment of key components described in the above table shall be paid upfront after completion of the milestones & remaining payment shall be in equal instalments of quarterly payments during the Phase II: Operations & Maintenance phase as per defined timelines.
- Each component has a ceiling percentage value defined to determine the upper limit of component-wise payment to be paid by IWAI. The ceiling value is the maximum cost to be paid by IWAI for a component in terms of percentage of the total cost of the entire project as specified in the 'Financial Quote/Bid' by the successful bidder.
- All components defined in the above table shall together constitute the total cost of the entire project. The bidder is expected to provide the scanning and digitization services as per IWAI requirements as given in the scope of work for which bidder shall be paid on the price quoted for per page scanning & digitization activities. Hence bidder should provide a detailed plan of scanning & digitization services as by IWAI requirements.

- A monitoring body will be set up by IWAI to monitor the progress of bidder for the smooth implementation and performance of project as per the agreed timelines of all deliverables and SLAs. IWAI may ask for representation from the bidder. The monitoring body will meet for review of all deliverables submitted during the contract. It will be the responsibility of the bidder to provide all information required for review by the monitoring body in timely manner.

9.4 Terms of payment

- I. In consideration of the obligations undertaken by the bidder under this Agreement and subject to the provisions of this Agreement, IWAI shall pay the bidder for successful delivery of Services / Deliverables / Goods and System in pursuance of this Agreement, in accordance with the Terms of Payment Schedule set out in this clause.
- II. IWAI shall not be required to make any payments in respect of the Services, Deliverables, obligations and scope of work mentioned in the RFP and Agreement other than those covered in the table as per Payment Schedule. For the avoidance of doubt, it is expressly clarified that the payments shall be deemed to include all ancillary and incidental costs and charges arising in the course of performance of obligations under the RFP and Agreement including consultancy charges, infrastructure costs, project costs, implementation and management charges and all other related costs including taxes which are addressed in this Clause.

9.5 Invoicing and settlement

- I. The bidder shall submit its invoices in accordance with the following principles:
 - a. Generally, and unless otherwise agreed in writing between the Parties, the bidder shall raise an invoice as per scheduled payment milestones; and
 - b. Any invoice presented in accordance with this Clause shall be in a form agreed with IWAI.
- II. The bidder alone shall invoice all payments after receiving due approval/acceptance of Deliverables / Services / Goods from IWAI or any nominated agency. Such invoices shall be correct and accurate and shall be raised in a timely manner.
- III. Subject to accomplishment to obligations of bidder and delivery of Deliverables/ Services / Goods to the satisfaction of IWAI, payment shall be made by IWAI within 45 working days of the receipt of invoice along with supporting documents.
- IV. Notwithstanding anything contained in clause (III) above, IWAI shall be entitled to delay or withhold payment of any invoice or part of it where IWAI disputes such invoice or part of it provided that such dispute is bona fide. The withheld amount shall be limited to that which is in dispute. A notice of such withholding shall be provided within 10 days of receipt of the applicable invoice.
- V. The bidder shall be solely responsible to make payment to its personnel, sub-contractors, OEMs, third parties.

9.6 Taxes

- I. IWAI shall be responsible for withholding taxes from the amounts due and payable to the bidder wherever applicable under extant law. The bidder shall pay for all taxes in connection with this Agreement, SLAs, scope of work and any other engagement required to be undertaken as a part of this Agreement, including, but not limited to, property, sales, use, excise, value-added, goods and services, consumption and other similar taxes or duties
- II. IWAI shall provide the bidder with the original tax receipt of any withholding taxes paid by IWAI or its nominated agencies on payments under this Agreement within reasonable time after payment. The bidder agrees to reimburse and hold IWAI or its nominated agencies harmless from and against any claims, losses, expenses (including attorney fees, court fees) etc. arising out of deficiency (including penalties and interest) in payment of taxes that is the responsibility of the bidder.
- III. If, after the date of this Agreement, there is any unforeseen change in the levies or rate of levy under the applicable laws of India with respect to indirect taxes and duties, which are directly payable by the bidder for providing the Deliverables/Services i.e. service tax or any such other applicable tax from time to time, which increase or decreases the cost incurred by the bidder in performing the Services, then the remuneration and reimbursable expense otherwise payable by the IWAI under this Agreement shall be increased or decreased accordingly by correspondence between the Parties hereto, and corresponding adjustments shall be made. However, in case of any new or fresh tax or levy imposed after submission of the proposal the bidder shall be entitled to reimbursement on submission of proof of payment of such tax or levy.

9.7 Adherence to Deliverables

- I. The bidder has to deliver the deliverables mentioned in Deliverables Schedule to IWAI as part of an assurance to fulfil the obligations under the SLA. The table given in Project Timeline & Deliverables Schedule may not be exhaustive and bidder is responsible to provide all those deliverables which may be specified in this RFP but not listed here and those agreed by bidder in response to any request from IWAI. The timelines for producing each of these deliverables will be in line and closely linked with the overall project timelines.
- II. Any conflict with respect to project and/or deliverable timelines will have to be resolved by bidder in consultation with IWAI and/or its designated agencies and approved by IWAI. Thereafter the approved timelines will have to be adhered to by bidder, unless specified otherwise. It is to be noted that upon completion of Go-live, bidder is required to submit all the updated system design documents, specifications, source code, application deployment files, user manuals, administration manuals and all other applicable deliverables listed in Deliverables Schedule.

10 Annexure

10.1 Annexure: Technical Bid Forms

10.1.1 Annexure 1: Technical Bid- Covering Letter

<<On Bidder / Lead Bidder Letterhead>>

Date:

To:

Inland Waterways Authority of India

Jalmarg Bhavan

A-13, Sector 1,

Noida 201301

Subject: SELECTION OF SYSTEM INTEGRATOR FOR DESIGN, DEVELOPMENT, IMPLEMENTATION, HOSTING AND MAINTENANCE OF SINGLE WINDOW SYSTEM FOR CENTRAL DATABASE FOR INLAND VESSELS

Dear Sir,

We hereby request to be qualified with the Inland Waterways Authority of India as a Tenderer for "Selection of system integrator for design, development, implementation, hosting and maintenance of single window system for central database for inland vessels" against IWAI/MD/406/2022-23 dated 2023. I / We declare that all the services shall be performed strictly in accordance with the RFP documents and we agree to all the terms and conditions in the RFP.

1. I / We confirm that I / we am / are withdrawing all the deviations, counter clauses, proposed modifications in the Scope of work, Terms and Conditions, Functional Requirement Specifications and Technical Specifications which may have been mentioned in our proposal.
2. We authorize Inland Waterways Authority of India or its authorized representatives to conduct any investigations to verify the statements, documents and information submitted and to clarify the financial and technical aspects of this application. For this purpose, we hereby authorize (any public official, engineer, bank, depository, manufacturer, distributor, etc.) or any other person or firm to furnish pertinent information deemed necessary and requested by Inland Waterways Authority of India to verify statements and information provided in this application or regarding our competence and standing.
3. The names and positions of persons who may be contacted for further information, if

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required, are as follows:

Name:

Designation:

Telephone:

E-mail id:

4. We declare that the statements made and the information provided in the duly completed application are complete, true and correct in every detail. On verification at any time in the future if it is found that information furnished with this application and statements made therein are not true, incomplete or incorrect, we hereby authorize Inland Waterways Authority of India to reject our application.
5. We confirm having submitted the information as required by you in Qualification Criteria. In case you require any other further information / documentary proof in this regard before evaluation of our bid, we agree to furnish the same in time to your satisfaction.
6. We undertake, if our proposal is accepted, to provide all the services related to "Selection of system integrator for Design, Development, Implementation, Hosting and Maintenance of Single Window System for Central Database for Inland Vessels" put forward in the bid document or such features as may subsequently be mutually agreed between us and IWAI or its appointed representatives.
7. We agree for unconditional acceptance of all the terms and conditions set out in the bid document and also agree to abide by this bid response for a period of 180 days from the date fixed for bid opening and it shall remain binding upon us with full force and virtue. Till a formal contract is prepared and executed, this bid response, together with your written acceptance thereof in your notification of award, shall constitute a binding contract between us and IWAI.
8. We hereby declare that in case the contract is awarded to us, we will submit Performance Bank Guarantee equivalent to 10 % of total contract value as quoted in the financial bid in the form prescribed in the RFP.
9. I/We understand that Inland Waterways Authority of India reserves the right to reject any application without assigning any reason thereof.
10. I/We hereby undertake that I/We have not made any payment or illegal gratification to any person/authority connected with the bid process so as to influence the bid process and have not committed any offence under the PC Act in connection with the bid.
11. All the prices mentioned in our Tender are in accordance with the terms as specified in the RFP documents. All the prices and other terms and conditions of this Bid are valid for a period of 180 calendar days from the date of opening of the Bid.
12. We hereby confirm that our prices include all taxes. However, all the taxes are quoted separately under relevant sections.
13. We understand that the actual payment would be made as per the existing tax rates during the time of payment.

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14. We have indicated in the relevant forms enclosed, the unit rates for the purpose of on account of payment as well as for price adjustment in case of any increase to / decrease from the scope of work under the contract.
15. We further confirm that the prices stated in our bid are in accordance with your Instruction to Bidders included in Tender documents.
16. In case you require any other further information/documentary proof before/during evaluation of our Tender, we agree to furnish the same in time to your satisfaction.
17. We declare that our Bid Price is for the entire scope of the work as specified in the tender document. These prices are indicated in Financial bid submitted as part of the requirements of Tender.
18. Our commercial proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal.
19. We understand you are not bound to accept any Proposal you receive.
20. We hereby declare that our Tender is made in good faith, without collusion or fraud and the information contained in the Tender is true and correct to the best of our knowledge and belief.
21. I/We shall disclose any payments made or proposed to be made to any intermediaries (agents, etc.) in connection with the bid.
22. It is hereby confirmed that I/We are entitled to act on behalf of our corporation/ company/firm/organization and empowered to sign this document as well as such other documents, which may be required in this connection.

Thanking you,

Yours faithfully

(Signature of the Authorized signatory of the Bidding

Organization) Name :

Designation :

Date :

Company Seal :

Business Address :

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10.1.2 **Annexure 2: Bidder's Profile** (please fill separate sheet for each consortium members)

S. No.	Particulars	Description/ Details	Reference Documents	Page No.
A.	Name of Bidder		-	-
B.	Contact Details		-	-
	Address			
	Telephone No.			
	Fax			
	Email			
	Website			
C.	Incorporation Details		Certified copy of incorporation under Indian Companies Act, 1956 Or Equivalent Copy of Certificate of Incorporation	
	Incorporation Number			
	Date of Incorporation			
	Authority			
D.	Sales / Trade Tax Regn. Details		Certified copy of valid Sales/Trade Tax Registration	
	Sales / Trade Tax No.			
	Date			
	Registration Authority			
E.	GST Regn Details		Certified copy of valid GST Registration in India	
	GST No.			
	Date			
	Registration Authority			
F.	Legal Status of Company			
G.	Name of Authorized Signatory		Special Power of Attorney, duly authorizing the person signing the bid documents to sign on behalf of the Bidder and thereby binding the Bidder	
	Position			
	Telephone			
	Fax			
	Mobile			
	Email			
H	Number & Address of Offices			
	a) In India			
Full Name and Signature of the Authorized Representative:				

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(Signature of the Authorized signatory of the Bidding

Organization) Name :

Designation :

Date :

Company Seal :

Business Address :

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10.1.3 Annexure 3: Financial Information of the Bidder

<<To be completed by the Bidder / In case of consortium, by each partner as appropriate to demonstrate that they meet the requirements>>

<<On the letterhead of the Chartered Accountant >>

<<To be submitted along with Audited Financial Statements>>

Date

To:

Inland Waterways Authority of India

Jalmarg Bhavan, A-13, Sector 1,

Noida 201301

We have examined the books of accounts and other relevant records of <<Bidder / consortium Partner Name along with registered address>>. On the basis of such examination and according to the information and explanation given to us, and to the best of our knowledge & belief, we hereby certify that the annual turnover, Profit before Tax and Profit after tax for the five years i.e. from FY 2018-19 to FY 2022-23 was as per details given below:

	Information from Balance Sheets (In Indian Rupees)				
	2018-19	2019-20	2020-21	2021-22	2022-23
Annual Turnover					
Profit before Tax					
Profit After Tax					

(Signature of the Chartered

Accountant) Name :

Designation :

Membership Number:

Date :

Company Seal:

Business Address :

10.1.4 Annexure 4: Format for Power of Attorney to Authorize Signatory

<To be executed in favor of the Authorized Signatory>

It is clarified that the Bidder may submit the Power of Attorney in their own format clearly stating that the person is authorized to sign on behalf of the bidder. It is also clarified that the "Letter of Authorization" is to be read as "Power of Attorney".

(To be executed by Sole / Lead Bidder (in case of consortium) on Non – judicial stamp paper of INR 100/-or such equivalent amount and document duly attested by notary public)

Know all men by these presents, We, *[Insert full legal name of the bidding entity]*, having registered office at *[Insert registered office address]* (hereinafter referred to as the "Principal") do hereby constitute, nominate, appoint and authorize *[Insert full name of authorized signatory]* son of *[Insert father's name]* presently residing at *[Insert address of authorized signatory]* who is presently employed with us and holding the position of *[Insert position/designation of the authorized signatory]* as our true and lawful attorney (hereinafter referred to as the "Authorized Attorney") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to the submission of our proposal in response to the RFP bearing number _____ for '<RFP Name>' dated _____, including but not limited to signing and submission of all applications, proposals and other documents and writings, participating in pre-Bid and other conferences and providing information/ responses to the Inland Waterways Authority of India (hereinafter referred to as the "IWAI"), representing us in all matters before the IWAI, signing and execution of all contracts and undertakings/declarations consequent to acceptance of our Proposal and generally dealing with the IWAI in all matters in connection with or relating to or arising out of our Proposal for the said assignment and/or upon award thereof to us till the execution of appropriate Agreement/s with the IWAI.

AND, we do hereby agree to ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Authorized Attorney pursuant to and in exercise of the powers conferred by this deed of Power of Attorney and that all acts, deeds and things done by our said Authorized Attorney in exercise of the powers hereby conferred shall always be deemed to have been done by us.

IN WITNESS THEREOF WE, _____ THE ABOVE-NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF, 2023

For _____

(Signature, name, designation and address)

[Please put company seal if required]

[Notarize the signatures]

Witness 1:

Witness 2:

Name:

Name:

Designation:

Designation:

Address:

Address:

Signature:

Signature:

10.1.5 Annexure 5 : Format for Power of Attorney for Partners In-charge / Lead Bidder of Consortium

(To be executed by all members of consortium on Non – judicial stamp paper of INR 100/-or such equivalent amount and document duly attested by notary public)

Whereas IWAI (the “Client”) has invited proposals from Bidders for [name of assignment] being developed under Single Window System for Central Database, (the “Project”).

Whereas, [name of Party], [name of Party] and [name of Party] (collectively the “Consortium”) being Partners of the Consortium are interested in bidding for the Project in accordance with the terms and conditions of the Request for Proposal and other connected documents in respect of the Project, and

Whereas, it is necessary for the Partners of the Consortium to designate one of them as the Partner in-charge with all necessary power and authority to do for and on behalf of the Consortium, all acts, deeds and things as may be necessary in connection with the Consortium’s bid for the Project and its execution.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS,

We, [name of Party] having our registered office at [registered address] and M/s. [name of Party], having our registered office at [registered address] (hereinafter collectively referred to as the “Principals”) do hereby irrevocably designate, nominate, constitute, appoint and authorize M/s [name of Partner In-charge], having its registered office at [registered address], being one of the Partners of the Consortium, as the Partner In-charge and true and lawful attorney of the Consortium (hereinafter referred to as the “Attorney”) and hereby irrevocably authorize the Attorney (with power to sub- delegate to any person) to conduct all business for and on behalf of the Consortium and any one of us during the bidding process and, in the event the Consortium is awarded the Contract, during the performance of the services related to the Project, and in this regard, to do on our behalf and on behalf of the Consortium, all or any of such acts, deeds or things as are necessary or required or incidental to the submission of its bid for the Project, including but not limited to signing and submission of all applications, bids and other documents and writings, accept the Letter of Acceptance, participate in bidders’ and other conferences, respond to queries, submit information/documents, sign and execute contracts and undertakings consequent to acceptance of the bid of the Consortium and generally to represent the Consortium in all its dealings with the Client, and/ or any other government agency or any person, in all matters in connection with or relating to or arising out of the Consortium’s bid for the Assignment and/ or upon award thereof until the Contract is entered into with the Client.

AND hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us/ Consortium.

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IN WITNESS WHEREOF WE THE PRINCIPALS ABOVE NAMED HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS [date in words] DAY OF [month] [year in 'yyyy' format].

SIGNED, SEALED & DELIVERED

For and on behalf of

LEAD BIDDER / PARTNER IN-CHARGE by:

[Signature]

[Name]

[Designation]

[Address]

SIGNED, SEALED & DELIVERED

For and on behalf of

SECOND PART (PARTNER 1) by:

[Signature]

[Name]

[Designation]

[Address]

SIGNED, SEALED & DELIVERED

For and on behalf of

THIRD PART (PARTNER 2) by:

[Signature]

[Name]

[Designation]

[Address]

In presence of:

[Signature, name and address of witness]

[Signature, name and address of witness]

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10.1.6 Annexure 6 : Profile of Resources

1.	Name of the employee					
2.	Name of the employer	<<Name of the Bidder / Consortium Member >>				
3.	Proposed position					
4.	Date of Birth					
5.	Nationality					
6.	Total years of relevant experience					
7.	Certifications	Note: Please attach copies of relevant certificates				
8.	Education	Qualification	Name of School / College / University	Degree Obtained	Date Attended	
		Note: Please attach copies of relevant certificates				
9.	Language	Language	Read	Write	Speak	
10	Employment Record	Employer	Position	From (MM / YYYY)	To (MM / YYYY)	Exp. in Months

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		(Starting with present position list in reverse order)																	
11	Relevant Experience	<p>(Give an outline on the experience most pertinent to tasks mentioned in the project. Describe degree of responsibility held on these relevant assignments).</p> <p>(Details shall be provided as per the number of project experience in the evaluation criteria specified in section I – Clause 1.28 of the RFP. Bidders are expected to clearly state the total number of projects for the respective criterion as applicable.)</p> <p>Maximum 8 Projects:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 45%;">Name of Assignment/Project</td> <td></td> </tr> <tr> <td>Year</td> <td></td> </tr> <tr> <td>Location</td> <td></td> </tr> <tr> <td>Client</td> <td></td> </tr> <tr> <td>Main project features</td> <td></td> </tr> <tr> <td>Positions held</td> <td></td> </tr> <tr> <td>Activities performed</td> <td></td> </tr> </table>				Name of Assignment/Project		Year		Location		Client		Main project features		Positions held		Activities performed	
Name of Assignment/Project																			
Year																			
Location																			
Client																			
Main project features																			
Positions held																			
Activities performed																			
12.	Membership of Professional Associations:																		
13.	Other Training:																		
14.	Countries of Work Experience:																		
14.	Certification:																		
	<p>I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, my experience and my committed man-months for this project. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.</p>																		

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	Signature of the staff	Date:
	Full name of authorised representative:	

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10.1.7 Annexure 7: Manpower Details

<<On the letterhead of the Bidding Organization>>

<<In case of consortium, separate certificates to be submitted from respective HR
authorized representatives>>

Date:

To:

Inland Waterways Authority of India,
Jalmarg Bhavan, A-13, Sector 1,
Noida - 201301

This is to certify that the number of full-time employees having experience in implementing all the major modules/solution components of the proposed solution in <<Organization Name>> as on 31.03.2023 is as enumerated below:

S. No.	Name	Current Position in the Firm	Name of the Firm	Proposed Position	Age	Qualifications	Total Experience in years	Total relevant experience in years
1								
2								
3								
4								
5								

For <Organization Name>

HR Signature (with Organization

Stamp) HR Name

10.1.8 **Annexure 8: Technical Solution**

The Bidder is required to describe the proposed Technical Solution in this section. The Technical Solution would be evaluated on the following broad parameters. The IWAI reserves the rights to add, delete, or modify these parameters at any time during the Tender process, without assigning any reasons whatsoever and without being required to intimate the Bidders of any such change.

- Clear articulation and description of the design and technical solution and various components
- Extent of compliance to functional and technical requirements specified in the scope of work and in accordance with leading practices.
- Technical Design and clear articulation of benefits to IWAI of various components of the solution vis-à-vis other options available.

The Bidder should provide detailed design for the following listing all assumptions that have been considered:

- Proposed Solution, in detail (including various tools to be used)
- Proposed Technical architecture
- Capabilities of the proposed solution to address the functional requirements
- Database design considerations
- Application Security Architecture
- Disaster Recovery site details and approach
- Data Migration approach
- Testing approach
- Risk Management Plan

10.1.9 **Annexure 9: Approach & Methodology**

1. The Bidder should cover details of the methodology proposed to be adopted for planning and implementation of solutions and infrastructure relating to establishment of the IWAI solution.
2. The Bidder may give suggestions on improvement of the scope of work given and may mention the details of any add on services related to this project over and above what is laid down in the tender document. List of deliverables should also be identified and explained.
3. The Bidder shall describe the knowledgebase, best practices and tools that will be used by the project team for the execution of scope of work activities.
4. The Bidder should cover details of the methodology proposed to be adopted for operations

and maintenance of equipment and facilities related the IWAI solution.

5. The Bidder should provide details about of the Service Helpdesk, Call centre and handholding staff available for the purpose of resolution of issues pertaining to the conditions at the proposed solution.
6. The bidder shall cover the details for best practices from imparting similar kind of training for users in an organization similar to the IWAI based on bidder's prior implementation experience in the same
7. Detailed Methodology and approach provided for training of the different stakeholders within IWAI
8. Best practices from undertaking Change Management for users in an organization similar to IWAI based on bidder's prior implementation experience in the same.
9. Detailed Training Plan indicating the number of training sessions, batch sizes and number of batches with respect to all the stakeholders, and all different kinds of training vis-à-vis the requirements in the tender.
10. Project Methodology should contain but not limited to following
 - Overall implementation methodology (Objective of phases, deliverables at each phase, etc.)
 - Methodology for performing business design
 - Methodology for quality control and testing of configured system
 - Methodology of internal acceptance and review mechanism for deliverables by the bidder.
 - Proposed Acceptance criteria for deliverables
 - Methodology and approach along with proposed tools and processes which will be followed by the bidder during project implementation
 - Change Management and Training Plan
 - Risk and Quality management plan

10.1.10 Annexure 10: Project Plan & Development

S.No.	Item of Activity	Month wise Program					
		M1	M2	M3	M4	M5
1	Activity 1						
1.1	Sub-Activity 1						
1.2	Sub-Activity 2						

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2	Activity 2						
	..						
3	Activity 3						
3.1	Sub-Activity 1						
3.2	Sub- Activity 2						

- Indicate all main activities of the assignment, including delivery of reports (e.g.: inception, interim, and final reports), and other benchmarks such as Bidder approvals. For phased assignments indicate activities, delivery of reports, and benchmarks separately for each phase.
- Duration of activities shall be indicated in the form of a bar chart.

Note: The above activity chart is just for the purpose of illustration. Bidders are requested to provide detailed activity & phase wise timelines for executing the project with details of deliverables & milestones as per their proposal.

10.1.11 Annexure 11: Format of Deployment of Personnel

1. The Bidder should provide a detailed resource deployment plan in place to ensure that technically qualified staff is available to deliver the project for both the phases viz. development and O&M phase.
2. The Bidder should provide the summary table of details of the manpower that will be deployed on this project along with detailed CVs of key personnel
3. Bidder should mention proposed Governance structure including designation of representatives in the Governance structure for the project
4. Bidder should provide escalation matrix and interaction frequency with IWAI and its stake holders
5. Resource mobilization and deployment plan as per project plan shared
6. Roles and Responsibility of deployed team members
7. Bidders can propose any additional role and profile as per their experience in same format
8. Replacement mechanism to bring new team members due to attrition or reasons beyond the control of successful Bidder

	Name	Education Qualification	Area of	Deployment Period (In Months)	Total	Full Time
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No.	of Staff	and Designation	Expertise	M1	M2	M3	M4	M5	n	Man- Months Proposed	/ Part Time
1											
2											
3											

10.1.12 **Annexure 12: Details of Experience of Bidder in Various projects**

As per the format below, the bidder should provide information for each project on similar assignments required for pre-qualification and technical evaluation criteria.

Credential for < Prequalification Criteria No. / Technical Criteria No>		
Sr. No.	Name of the Organization - <<Name of the Bidder / Consortium Member that have executed / executing the project>>	
	Parameter	Details
General Information		
1.	Customer Name	
2.	Name of the contact person and contact details for the client of the assignment	
3.	Whether client visit can be organized	(YES / NO)
Project Details		
4.	Project Title	
5.	Start Date and End Date	
6.	Date of Go-Live	
7.	Total Cost of the project	
8.	Current Status (Live / completed / on- going / terminated / suspended)	
9.	No of staff provided by your company	
10.	Please indicate the current or the latest AMC period with the client (From Month -Year to Month-Year)	
11.	Please indicate whether the client is currently using the implemented solution	

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Size of the project			
12.		Total users	
Sr. No.	Credential for < Prequalification Criteria No. / Technical Criteria No>		
	Name of the Organization - <<Name of the Bidder / Consortium Member that have executed / executing the project>>		
	Parameter	Details	
	Number of total users and concurrent users of the solution at the client location(s):	Concurrent users	
13.	Training responsibilities of Bidder		
14.	Any other information to be shared with IWAI		
Narrative Description of the Project:			
Detailed Description of actual services provided by Bidder:			
Documentary Proof:			

10.1.13 **Annexure 13: Format for Manufacturer's Authorization Form**

<<To be obtained from all OEMs on OEM letterhead>>

To:

Inland Waterways Authority of India
Jalmarg Bhavan, A-13, Sector 1
Noida - 400042

WHEREAS _____ who are official
manufacturers of _____ having factories at _____
do hereby authorize _____
to submit a Bid in relation to the
Invitation for Bids indicated above, the purpose of which is to provide the following Goods,
manufactured by us _____ and to subsequently negotiate and
sign the Contract.

We hereby extend our full guarantee and warranty for the complete project duration, with respect to the Goods offered by the above firm in reply to this Invitation for Bids. We also confirm that the Goods/Services supplied as a part of the RFP shall not be End of Sale / Life / Support for the entire contract period. Also the Goods / Services supplied as a part of RFP shall be supported for the entire contract period. The products offered by us are of equivalent or higher specifications as mentioned in the RFP.

Thanking you,

Yours faithfully

(Signature of the Authorized

signatory) Name :

Designation :

Date :

Company Seal :

Business Address :

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10.1.14 **Annexure 14: List of Sub-Contractors and OEMs and their details**

List of Sub-Contractors

Sr. No.	Role	Name of Sub-Contractor / OEM	Responsibility	Products/Services Offered

List of OEMs

Sr. No.	Role	Name of OEM	Responsibility	Products/Services Offered

(Signature of the Authorized signatory of the Bidding

Organization) Name :

Designation :

Date :

Company Seal :

Business Address :

10.1.15 **Annexure 15: Undertaking on Blacklisting**

<<On the letterhead of the Bidding Organization>>

<<In case of consortium, separate certificates to be submitted from respective authorized
representatives>>

Date:

To:

Inland Waterways Authority of India
Jalmarg Bhavan, A-13, Sector 1
Noida - 201301

Subject: Undertaking on Blacklisting

Dear Sir,

We, the undersigned, hereby declare that

- We are not under a declaration of ineligibility / banned / blacklisted by any State or Central Government / any other Government institutions in India for any reason as on last date of submission of the Bid or convicted of economic offence in India for any reason as on last date of submission of the Bid

Thanking you,

Yours faithfully

(Signature of the Authorized signatory of the Bidding

Organization) Name :

Designation :

Date :

Company Seal :

Business Address :

10.1.16 **Annexure 16: Format for Consortium Agreement**

(Company letterhead)

[Date]

To

Inland Waterways Authority of India
Jalmatg Bhavan, A-13, Sector 1
Noida - 201301

Consortium Agreement

<<On non-judicial stamp paper of appropriate value to be purchased in the name of executant's
companies or as required by the jurisdiction in which executed>>

This Consortium Agreement executed on this day of..... Two Thousand

By: M/s.a Company incorporated under the laws of.....and having its
registered office at..... (Hereinafter called the "Lead Member/First Member" which
expression shall include its successors);

And

M/s. a Company incorporated under the laws ofand having its
registered office at..... (Hereinafter called the "Second Member" which expression shall
include its successors)

The Lead Member/First Member and the Second Member shall collectively hereinafter be called as the
"Consortium Members" for the purpose of submitting a proposal (hereinafter called as "Bid") for the work
of(Name of project) of Inland Waterways Authority of India (hereinafter called the
"Owner") in response to Request for Proposal Document (hereinafter called as "tender" Document)
Dated..... for the purposes of submitting the bid no.and entering into a
contract in case of award for the work of (Name of work)

WHEREAS, the Owner invited bids vide its tender document no.for the work of.....AND
WHEREAS as per document, Consortium bids will also be considered by the Owner provided they meet
the specific requirements in that regard.

AND WHEREAS the bid is being submitted to the Owner vide proposal dated based on the
Consortium Agreement and the bid with its forms and submission documents, in accordance with the
requirement of tender conditions and requirements have been signed by all the partners and submitted
to the Owner.

AND WHEREAS Clause 2.21 of tender document stipulates that a Consortium of maximum <2> companies,
meeting the requirements stipulated in the tender document may submit a Proposal signed by Lead
Member of the Consortium Members so as to legally bind all the Members of the Consortium who will
be jointly and severally liable for the performance and all obligations thereunder to Inland Waterways
Authority of India and duly signed Consortium Agreement shall be attached to the Proposal

NOW THEREFORE, in consideration of the mutual covenants of the members of the Consortium, the
sufficiency whereof is hereby acknowledged and other good valuable consideration, we agree as follows:

1. We the members in the Consortium hereby confirm that the name and style of the Consortium shall
be..... Consortium.

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2. M/s.shall act as Lead Member for self, and for and on behalf of M/s (Second Member) and further declare and confirm that we shall jointly and severally be bound unto the Owner for the successful performance of the obligations under the Request for Proposal (tender) and resulting Contact Agreement(s) submitted / executed by the Lead Member in the event of the selection of Consortium. Further, the Lead Bidder is authorized to incur liabilities and receive instructions for and on behalf of any or all partners of the consortium.
3. The composition or the constitution of the consortium shall not be altered without the prior consent of Inland Waterways Authority of India
4. The roles and responsibilities of the lead Bidder and the second member of the consortium for execution of various components/activities as defined in the tender document shall be as under:

S.no	Project Component/Activity	Roles & Responsibility of Lead Bidder	Roles & Responsibility of Consortium Member
1.			
2.			

5. It is expressly agreed by the members that all members of the consortium shall be held jointly and severally responsible for all the obligations under the tender Document, Contract and this Agreement, irrespective of the specific roles/responsibilities undertaken by them.
6. For the purpose of this Agreement, the tender Document and the Contract, the Lead Bidder shall be the single point of contact for the Inland Waterways Authority of India, shall have the overall responsibility of the management of the Project and shall have single point responsibility for ensuring that all members of the consortium are complying with the terms and conditions set out in the Contract and the tender Document.
7. If Inland Waterways Authority of India suffers any loss or damage on account of any breach in the stipulation of the Agreements to be entered into by the Consortium Members, upon its selection pursuant to tender (the "Agreements") or any shortfall in the performance of the Transaction or in meeting the performances guaranteed as per the tender and the Agreements, the Consortium Members hereby jointly and severally undertake to promptly make good such loss or damages caused to Inland Waterways Authority of India on its demand without any demur or contest. The Owner shall have the right to proceed against anyone of the partners and it shall neither be necessary nor obligatory on the part of the Owner to proceed against the Lead Bidder before proceeding against or dealing with the other Member.
8. The financial liability of the Consortium Members to the Inland Waterways Authority of India, with respect to any of the claims arising out of the performance or non-performance of obligations under the tender and the resulting Agreement(s) shall not be limited so as to restrict or limit the liabilities of any of the Members and the Members shall be jointly and severally liable to Inland Waterways Authority of India.
9. It is expressly agreed by the Members that all the due payments shall be made by the Owner to Lead Bidder only.
10. This Consortium agreement shall be construed and interpreted in accordance with the laws of India and the Courts of Delhi shall have the exclusive jurisdiction in all matters arising there under.

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11. It is also hereby agreed that Lead Member shall, on behalf of the Consortium shall submit the Bid and performance Security as specified by owner in the tender document.
12. It is further agreed that this Consortium Agreement shall be irrevocable and shall continue to be enforceable till the same is discharged by Inland Waterways Authority of India.
13. This Agreement shall come into force as of the date of signing and shall continue in full force and effect until the complete discharge of all obligations, concerning the carrying out of the Project, which have been taken on by the Parties under the Contract, tender Document and under this Agreement.
14. Any other terms and conditions not in contradiction to the tender and above-mentioned terms and conditions.
15. Any change in the consortium composition post the award of the Purchase order should not affect the eligibility of the consortium. In case any consortium member other than the prime Bidder exits, the prime Bidder shall be responsible for finding the replacement vendor who should qualify as per the eligibility criteria of the RFP and should be a suitable replacement for the previous vendor. Also, Inland Waterways Authority of India shall be the final authority for approving/disapproving the change in composition.

IN WITNESS WHEREOF, the Members to the Consortium agreement have through their authorised representatives executed these presents and affixed common seal of their companies, on the day, month and year first mentioned above.

Common Seal of has been affixed in my/our Lead Member presence pursuant to Board of Director's resolution dated 1) Witness 2) Witness	For and on behalf of M/s..... (Lead Bidder) (Signature of authorized representative) Name: Designation:
Common Seal of has been affixed in my/our Lead Member presence pursuant to Board of Director's resolution dated 1) Witness 2) Witness	For and on behalf of M/s..... (Second member) (Signature of authorized representative) Name: Designation

10.2 Pre-qualification Bid Forms

10.2.1 Annexure 17: Bank Guarantee for Earnest Money Deposit

WHEREAS (Name of Tenderer) (hereinafter called 'the tenderer') has submitted its tender dated (date) for the execution of (Name of work) (hereinafter called 'the tender')

KNOW ALL MEN by these presents that we (Name of Bank) having our registered office at (hereinafter called 'the Bank') are bound unto the Inland Waterways Authority of India, Noida appointed by Government of India under IWAI Act 1985 (hereinafter called 'the Employer') in the sum of Rs. /- (Rs.) for which payment well and truly to be made to the said Employer the Bank binds itself, its successors and assigns by these presents.

The CONDITIONS of this obligation are

- a) If the Tenderer withdraws its Tender during the period of Tender validity specified in the Tender; or
- b) If the Tenderer having been notified of the acceptance of his Tender by the Employer during the period of Tender Validity;
 - i. fails or refuses to execute the Agreement, if required; or
 - ii. fails or refuses to furnish the Performance Security, in accordance with the General Conditions of Contract.

We undertake to pay the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or both of two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including the date upto (it shall be valid up to one eighty (180) days after the date of expiry of the period of tender validity), and any demand in respect thereof should reach our branch situated in Noida limits for encashment not later than the date of expiry of this guarantee.

Dated day of 2023

Name of the Bank

Signature & Name &

Designation

Seal of the Bank

10.2.2 Annexure 18: Performance Bank Guarantee

Ref: _____ Date _____

Bank Guarantee No. _____

To
{Procurement Entity}

1. IN consideration of the Chairman, Inland Waterways Authority of India, Ministry of Ports, Shipping & Waterways, Jalmarg Bhavan, A-13, Sector 1, Noida Uttar Pradesh 201301, _____ < indicate name and address of purchaser > (hereinafter called "the IWAI") having agreed; to exempt _____ (hereinafter called "Agency") from the demand, under the terms and conditions of an Agreement, dated _____ made between _____ and _____ for _____ (hereinafter called "the said Contract"), of security deposit for the due fulfilment by the said Agency of the terms and conditions contained in the said Agreement, on production of a bank Guarantee for Rs. _____ (Rupees _____ only) we, _____ < indicate name of the Bank > (hereinafter referred to as "the Bank") at the request of _____ or Agency or , do hereby undertake to pay to the Inland Waterways Authority of India an amount not exceeding Rs. _____ against any loss or damage caused to or suffered or would be caused to or suffered by the Government by reason of any breach by the said Agency of any of the terms or conditions contained in the said contract
2. We _____ < indicate name of the Bank > do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Chairman, Inland Waterways Authority of India, Ministry of Ports, Shipping & Waterways, Jalmarg Bhavan, A-13, Sector 1, Noida Uttar Pradesh 201301 stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Inland Waterways Authority of India by reason of breach by the said Agency of any of the terms or conditions contained in the said Contract or by reason of the Agency failure to perform the said Contract. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____
3. We undertake to pay to the Chairman, Inland Waterways Authority of India, Ministry of Ports, Shipping & Waterways, Jalmarg Bhavan, A-13, Sector 1, Noida Uttar Pradesh 201301 any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) supplier(s) in any suit or proceeding pending before any court or Tribunal relating thereto our liability under this present being absolute and unequivocal.
4. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) supplier(s) shall have no claim against us for making such payment.
5. We, _____ < indicate name of the Bank > further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the

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Contract under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged or filed _____ Office or Department _____ certifies that the terms and conditions of the said contract, have been fully and properly carried out by the said Agency and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the _____ we shall be discharged from all liability under this guarantee thereafter.

6. We, _____ <indicate name of the Bank> further agree with the Inland Waterways Authority of India that it shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Agency from time to time or to postpone for any time or from time to time any of the powers exercisable by the Inland Waterways Authority of India against the said Inland Waterways Authority of India and to for bear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said agency or for any forbearance, act or commission on the part of the Inland Waterways Authority of India or any indulgence by the Inland Waterways Authority of India to the said Agency or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

7. This guarantee will not be discharged due to the change in the constitution of the Bank or the agency.

8. We, _____ <indicate name of the Bank> lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Inland Waterways Authority of India in writing.

NOTWITHSTANDING ANYTHING CONTAINED HEREIN:

- I. Our liability under this Bank Guarantee shall not exceed Rs. <<Amount in figures>> (Rupees
- II. <<Amount in words>> only)
- III. This Bank Guarantee shall be valid up to <<insert date>>)
- IV. It is condition of our liability for payment of the guaranteed amount or any part thereof arising under this Bank Guarantee that we receive a valid written claim or demand for payment under this Bank Guarantee on or before <<insert date>>) failing which our liability under the guarantee will automatically cease.

Date _____

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Place _____

Signature _____

Witness _____

Name _____

(Bank's common seal)

10.2.3 Annexure 19: CERTIFICATE OF CONFORMITY/ NO DEVIATION

<<To be submitted on the Company Letter head of the Lead Bidder>>

Date:

To:

Inland Waterways Authority of India
Jalmatg Bhavan, A-13, Sector 1
Noida - 201301

1. This is to certify that, the specifications of Single window System for Central Database which I/ We have mentioned in the Technical bid, and which I/ We shall supply if I/ We am/ are awarded with the work, are in conformity with the minimum specifications of the bidding document and that there are no deviations of any kind from the requirement specifications.
2. Also, I/ we have thoroughly read the tender and by signing this certificate, we hereby submit our token of unconditional acceptance to all the terms & conditions of the bidding document without any deviations.
3. I/ We also certify that the price I/ we have quoted is inclusive of all the cost factors involved in the end-to-end implementation and execution of the project, to meet the desired Standards set out in the bidding Document.

Thanking you,

Yours faithfully

(Signature of the Authorized signatory of the Bidding

Organization) Name :

Designation :

Date :

Company Seal :

Business Address :

10.2.4 Annexure 20: Format – Declaration for No Conflict of Interest

<<To be submitted on the Company Letter head of the Lead
Bidder>>

Date:

To
Inland Waterways Authority of India
Jalmatg Bhavan, A-13, Sector 1
Noida - 201301

Sir,

Sub: Undertaking on No Conflict of Interest

I / We as System Integrator (SI) do hereby undertake that there is absence of, actual or potential conflict of interest on our part, on part of our Consortium partner (in case of a Consortium) due to prior, current, or proposed contracts engagements, or affiliations with Inland Waterways Authority of India, Government of India.

I / We also confirm that there are no potential elements (time frame for service delivery, resource, financial or other) that would adversely impact our ability to complete the requirements of this RFP.

We undertake and agree to indemnify and hold Inland Waterways Authority of India, Government of India harmless against all claims, losses, damages, costs, expenses, proceeding fees of legal advisors (on a reimbursement basis) and fees of other professionals incurred (in the case of legal fees & fees of professionals, reasonably) Inland Waterways Authority of India, Government of India and / or its representatives, if any such conflict arises later.

Yours faithfully,

Authorized

Signatory

Designation

Date

Time

Seal

Business Address

10.2.5 Annexure 21: Compliance Sheet for Pre-Qualification Proposal

The Bidder is required to fill relevant information in the format given below. The pre-qualification bid must contain documentary evidences and supporting information to enable IWAI to evaluate the eligibility of the Bidder without ambiguity.

Sr. No	Qualification Criteria	Documents / Information to be provided in the submitted proposal	Compliance (Yes / No)	Reference & Page Number
1.	PQ 1			
2.	PQ 2			
3.	PQ3			
4.	PQ4			
5.	PQ5			
6.	PQ6			
7.	PQ7			
8.	PQ8			
9.	PQ9			

10.2.6 Annexure 22: Compliance Sheet for Technical Evaluation Criteria

The Bidder is required to fill relevant information in the format given below. The Technical Evaluation Criteria bid must contain documentary evidences and supporting information to enable IWAI to evaluate the eligibility of the Bidder without ambiguity.

Sr. No	Qualification Criteria	Documents / Information to be provided in the submitted proposal	Compliance (Yes / No)	Reference & Page Number
1.	TE 1			
2.	TE 2			
3.	TE 3			
4.	TE 4			
5.	TE 5			
6.	TE 6			
7.	TE 7			
8.	TE 8			
9.	TE 9			
10.	TE 10			
11.	TE 11			

10.3 Annexure 23: Financial Bid Format / Price Schedule

10.3.1 The Bidder shall submit the financial bid in the format provided in this section.

10.3.2 The bid value shall include all taxes and shall be in Indian Rupees (₹).

10.3.3 The bid value shall be mentioned in words and figures. If there is a discrepancy between words and figures, the amount in words will prevail.

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S.n o.	Scope Component	Quantity	Design, Development and implementation phase	O&M Y1	O&M Y2	O&M Y3	O&M Y4	O&M Y5	Total (inclusive of taxes)
1	Single Window System for Central Database (Software Development with all modules; API Integration)								
2	Cloud infrastructure & Security Services								
3	Operational & Maintenance support								
4	Scanning & Digitalization Integration								
5	IT Facility Management								
6	Project Manpower								

10.3.4 Annexure 24: Financial Bid Submission Letter

To
Chairman, Inland Waterways Authority of India,
Ministry of Ports, Shipping & Waterways,
Jalmarg Bhavan, A-13, Sector 1,
Noida Uttar Pradesh 201301

<<Date>>

Sub: Response to the **Request for proposal for Selection of System Integrator for Design, Development, Implementation, Hosting and Maintenance of Single Window System for Central Database for Inland Vessels**

Ref: RFP No. _____ dated _____

Dear Sir / Madam,

We, the undersigned Bidders, having read and examined in detail all the RFP/ bidding documents in respect of do hereby propose to provide services as specified in the RFP document number _____ dated _____.

1. PRICE AND VALIDITY

- All the prices mentioned in our Tender are in accordance with the terms as specified in the RFP documents. All the prices and other terms and conditions of

this Bid are valid for a period of <days> calendar days from the date of opening of the Bid.

- We hereby confirm that our prices include all taxes. However, all the taxes are quoted separately under relevant sections.
- We understand that the actual payment would be made as per the existing tax rates during the time of payment.

2. UNIT RATES

We have indicated in the relevant forms enclosed, the unit rates for the purpose of on account of payment as well as for price adjustment in case of any increase to / decrease from the scope of work under the contract.

3. TENDER PRICING

We further confirm that the prices stated in our bid are in accordance with your Instruction to Bidders included in Tender documents.

4. QUALIFYING DATA

We confirm having submitted the information as required by you in your Instruction to Bidders. In case you require any other further information/documentary proof in this regard before evaluation of our Tender, we agree to furnish the same in time to your satisfaction.

5. BID PRICE

We declare that our Bid Price is for the entire scope of the work as specified in Volume II. These prices are indicated Commercial Bid attached with our Tender as part of the Tender.

6. PERFORMANCE BANK GUARANTEE

We hereby declare that in case the contract is awarded .to us, we shall submit the Performance Bank Guarantee as specified in Part I of this RFP document.

Our Financial Proposal shall be binding upon us subject to the modifications resulting

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from Contract negotiations, up to expiration of the validity period of the Proposal, i.e., [Date].

We understand you are not bound to accept any Proposal you receive.

We hereby declare that our Tender is made in good faith, without collusion or fraud and the information contained in the Tender is true and correct to the best of our knowledge and belief.

We understand that our Tender is binding on us and that you are not bound to accept a Tender you receive.

Yours sincerely,

Authorized Signature:

Name and Title of Signatory:

Name of Firm:

Address:

Company Seal

10.4 Annexure 25: Compliance to Functional Requirement Specifications

Functional Requirement Specifications given below are indicative. Detailed Functional requirement needs to be captured by the SI during the design phase of the project.

FRS: User Registration Module

S.no	Requirement Description	Whether complied or not (Yes/No)	Reference Document
1.	System shall provide single interface for registration to all the stakeholders involved (Ship Owners, Ship Builder, Ship Managers, Designer, Crew, MTI, Class, DA's, IWAI etc.)		
2.	System shall provide facility to register according to the Category: Ship Owners, Ship Builder, Ship Managers, Designer, Crew, MTI, Class, DA's, IWAI etc.		
3.	<p>System shall capture the following indicative information of the applicants according to the Category type,</p> <p>A. In case of Ship Owner:</p> <ul style="list-style-type: none"> i. Owners Name ii. Email Id iii. Phone No. iv. PAN & TAN no v. Company name vi. Type of business vii. GSTIN No. viii. Trading License ix. Bank Account Details x. Others (as required) <p>B. In case of Ship Builder:</p> <ul style="list-style-type: none"> i. Name ii. Email Id iii. Phone No. iv. Pan & Tan no 		

S.no	Requirement Description	Whether complied or not (Yes/No)	Reference Document
	<p>v. Company name vi. Type of business vii. GSTIN No. viii. Bank Account Details ix. Others (as required)</p> <p>C. In case of Designated Authority user/ IWAI/ / others:</p> <p>i. Name ii. Employee ID iii. Designation iv. Current Job Location v. Official Email vi. Phone no. vii. Aadhar no. viii. Others (as required)</p> <p>D. In case of Ship Manager</p> <p>i. Name ii. License no. iii. Current Job Location iv. Email v. Phone vi. Aadhar vii. PAN / TAN viii. GST Regn No ix. Others (as required)</p> <p>E. Crew</p> <p>i. Name ii. Father/Mother's Name iii. Date of Birth iv. Place of Birth v. Education Qualification vi. Aadhar Card vii. PAN card viii. Passport No and validity ix. Marital Status x. Permanent Address</p>		

S.no	Requirement Description	Whether complied or not (Yes/No)	Reference Document
	xi. Current Residential Address xii. Nominee xiii. COC F. In case of Designer i. Name of Designer House / Designer ii. Company Registration No iii. PAN / TAN No iv. Aadhar v. GST Registration vi. Email vii. Telephone/Mobile No viii. Company Address ix. Others (As required) G. Maritime Training Institutes (MTI) i. Name of the Institute ii. Institute Registration iii. Email iv. Telephone /Mobile no v. Address vi. PAN / TAN No vii. GST Registration No viii. Aadhar ix. Others (as required) H. Classification Societies (Class) i. Name of the Classification Society ii. Company Registration iii. Email iv. Telephone /Mobile no v. Address vi. PAN / TAN No vii. GST Registration No viii. Aadhar ix. Others (as required)		
4.	The system should be integrated with DG Shipping, UIDAI, etc. to fetch phone no./email ID for OTP authentication		

S.no	Requirement Description	Whether complied or not (Yes/No)	Reference Document
5.	System shall implement the validation controls to ensure that all the mandatory fields are filled by the user		
6.	Facilitate the applicants to save a partly filled application form for registration in 'Save Draft' mode for a period of 7 days. Further, once the basic profile is created, the System should also have 'Auto- Save' functionality to ensure that additional information already entered by the user does not have to be re-entered in case of any outages/ navigation errors.		
7.	System should allow the Designated Authority / IWAI administrator to activate or reject the registration		
8.	System should generate and send profile activation link, once the registration has been successful and activated by the Designated Authority / IWAI Administrator		
9.	System shall facilitate creation of new user ID and password through activation link		
10.	System shall provide alerts to the competent authority for the new user registration requests received in the system		
11.	System shall be integrated to E-mail, whatsapp and SMS gateway for email, whatsapp and SMS notifications and alerts		
12.	System shall be flexible to integrate with other external gateways depending upon the requirement of user's or user's company information		
13.	The information retrieved from the external gateways should not be editable by the user. For changing such information, the system shall implement workflow and approval process, which must require approval from the government.		

S.no	Requirement Description	Whether complied or not (Yes/No)	Reference Document
14.	System shall perform validations for the information supplied by the user (including verification of mandatory fields, usage of same e-mail address and existence of same username, existence of same company etc.)		
15.	Upon completion of the information entry, system shall display the data entered by the user in a consolidated view for verification and confirmation by the user.		
16.	System shall inform user of a failure in case the same username already exists in the system, inform the user of the failure through an appropriate message and propose alternative usernames		
17.	Registration shall be carried out in a secure and encrypted session in Central Database System		
18.	User credentials (e.g.: passwords, Aadhaar number) must be stored in an encrypted/hashed format and access to such information must be restricted from all categories of users, including DBAs.		
19.	Registration process must ensure the confidentiality, integrity and non- repudiation of the user and user's organization credentials during information transfer and storage		
20.	System shall maintain the detailed audit trails for the registration application submitted in the system including the date and time of receipt of the application form		
21.	System shall adopt the best practices of secure portal design and development and database management		

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FRS: Log in Module

S.no	Requirement Description	Whether complied or not (Yes/No)	Reference Document
1.	System should provide single interface for login to all registered Ship Owners /Ship Builders /Crew /MTI /Class / Designer / Ship Managers and other users		
2.	System should provide facility/forms/tools for online user login		
3.	System should implement the validation controls to ensure that all the mandatory fields are filled by the user		
4.	System shall provide the facility to reset password through 'Forgot Password' option, in case the user forgets the password		
5.	System shall facilitate two types of login: a) Login using mobile number and OTP and b) Login using registered username and password		
6.	In 'Login using mobile number', the system shall request for OTP generated on mobile after entering mobile number as User ID		
7.	System shall validate the user ID: username/mobile/Aadhaar number and password/OTP entered for successful login		
8.	System shall open the user instance – Homepage after successful login		
9.	System shall perform field validations for the login information (For example: mobile number, password etc.)		
10.	System shall use masking for password/ OTP input in login form		
11.	System shall inform user of a failure in case the wrong login credentials, inform the user of the failure through an appropriate message		
12.	Login shall be carried out in a secured and encrypted session in the Central Database System		
13.	System shall maintain the detailed audit trails for the user login in the system including the date and time of login		
14.	System shall be highly secure, and the security measures should be up to date to prevent existing/new cyber		

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S.no	Requirement Description	Whether complied or not (Yes/No)	Reference Document
	attacks		

FRS: System Software and Support Services

S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
1.	Portal Level Security	Application shall make data available to the authorized users in an expedient and secure environment		
2.	Portal Level Security	Application shall prevent unauthorized users from accessing Solution.		
3.	Portal Level Security	The system should have facility to restrict user access to: - Module Menus - Sub- menus - Screens - Fields - Reports - Combination of the above -Search etc.		
4.	Portal Level Security	If access is denied following repeated unsuccessful logon attempts, this should be treated by the application as a security incident and handled accordingly.		
5.	Portal Level Security	The System to define Maximum Inactive Time after which a user should be automatically logged out of the system.		
6.	Portal Level Security	Application shall provide access monitoring to compile and report security violations and attempted security violations.		
7.	Portal Level Security	Application shall have the thorough capability to a log record of an unauthorized attempt.		
8.	Portal Level Security	Application shall provide physical and remote access control to components.		
9.	Portal Level Security	Application shall use audit controls, electronic signatures, data encryption and other methods to assure the authenticity of transaction and other		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
		relevant data.		
10.	Portal Level Security	Application shall implement controls to ensure the authenticity of data is preserved.		
11.	Portal Level Security	Application shall comply with the Application Security Plan and security guidelines of each of the stakeholder involved.		
12.	Portal Level Security	Application shall adhere to guidelines for physical, personnel, computer, communications, and internal data security.		
13.	Portal Level Security	Application shall be foreseen of user registration Solution allowing distinguishing different user roles; authorization of users;		
14.	Portal Level Security	Application shall be foreseen with an access control policy functionality allowing access of users in different roles to different functionalities of Application. At least the following roles shall be introduced for Application: Supervisor, Operator, Solution support, User		
15.	Portal Level Security	Registered users shall be allowed to log-on only to those Application functions which they are authorized to access and use.		
16.	Portal Level Security	Registration of users in their respective roles shall be valid only for a limited period of time, where after their authorization shall be re-confirmed and prolonged.		
17.	Portal Level Security	The logon processes shall display only the minimum amount of information to assist users.		
18.	Portal Level Security	The logon processes shall prohibit the display of help screens.		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
19.	Portal Level Security	The logon processes shall minimize the opportunities for unauthorized connections to application.		
20.	Portal Level Security	The logon processes shall prohibit the display of the solution or the application details until the process has been successfully completed.		
21.	Portal Level Security	The logon process shall deny access if either the username or password is invalid without identifying the specific erroneous element.		
22.	Portal Level Security	The logon process shall allow only a fixed number of logons attempts before disabling the terminal.		
23.	Portal Level Security	If access is denied following repeated unsuccessful logon attempts, this shall be treated by the application as a security incident and handled accordingly.		
24.	Portal Level Security	The logoff procedure shall clear any screen displays prior to terminating the application.		
25.	Portal Level Security	Application shall disallow simultaneous logon by the same user.		
26.	Portal Level Security	Passwords to log-on to Application (and additional access control devices) shall have at least the length of 8 characters. The password management solution shall require the enforcement of a minimum password length.		
27.	Portal Level Security	The password management solution shall require the use of quality (i.e. difficult to guess) passwords.		
28.	Portal Level Security	The password management solution shall require the enforcement of a password change after a 3 months' period.		
29.	Portal Level Security	The password management solution shall include non-display of the password when being entered.		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
30.	Portal Level Security	The password management solution shall require the storage of passwords in encrypted form.		
31.	Portal Level Security	For all security incidents alarm functionality shall be implemented, which immediately informs the supervisor role of these incidents.		
32.	Portal Level Security	Application shall treat the following events as security incidents: unsuccessful log-on, intrusion detection, malfunctioning of encryption facility		
33.	Data Exchange	The application should have a secure mechanism to exchange data among applications		
34.	Data Exchange	The application should ensure that each unique identifier is associated with the rightful user of the application and ensure the active management and maintenance of such identifiers		
35.	Data Exchange	The application should ensure that the personal information of the users which is being used and stored is being appropriately secured and protected from unauthorised access and disclosure		
36.	Data Exchange	The application should ensure, at a minimum, two-factor authentication for identity verification and validation involving communication with a service.		
37.	Data Exchange	The application should establish/demarcate data retention and deletion periods commensurate to the business need or legal obligation.		
38.	Data Exchange	The application must explicitly state to the user, i. the information that the application will access, collect, use, store and share; and ii. For what specific purpose the		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
		information is being used. before using the application.		
39.	Data Exchange	The user must be made aware of the identity of the entity which will collect or use personal information in the scope of usage of the application and he/she shall be able to contact the entity which owns the application.		
40.	Data Exchange	The application should proactively provide the users with a mechanism to access and rectify any personal information of the users, supplied by the users and stored & used by the application.		
41.	Data Exchange	The application should seek to minimise data collection from the user and use this personal information within the range of user's expectations and for legally permitted business/service purposes.		
42.	Data Exchange	The application shall proactively provide users with the information of non-obvious or secondary uses (including sharing of data with third parties, storage of data immediately after use such as location), of personal information of the users which has been captured and provide users with a mechanism to grant or withdraw consent.		
43.	Data Exchange	The application shall allow the users with opportunities to determine the nature and frequency of user authorisation prompts in order to enhance their privacy experience.		
44.	Data Exchange	The application shall proactively notify users about any change in the information collection and usage mechanism of the application prior to the		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
		change being applied.		
45.	Data Exchange	The application should provide the users with adequate information regarding the privacy settings and implications with regards to the application.		
46.	Data Exchange	The application should proactively ensure obtaining users' consent for registration and mapping to social networks.		
47.	Data Exchange	The application should proactively inform the user about the privacy settings, specifically how their personal information may be made visible/searchable to the public.		
48.	Data Exchange	The application must adhere to country/geography specific policies relating to security of children including publishing contact details or location		
49.	Data Exchange	The application should allow the user to delete the profile or uninstall mobile application following which the personal information and content related to the specific user must be completely removed.		
50.	General	The system shall have a workflow engine to support different types of document routing mechanism including:		
51.	General	Sequential routing -Tasks are to be performed one after the other in a sequence		
52.	General	Parallel routing - Tasks can be performed in parallel by splitting the tasks among multiple users and then merging as single composite work item. The system shall support conditional merging of multiple parallel activities i.e. Response from mandatory parallel work stages before it can be forwarded to next stage		
53.	General	Rule based routing - One or another task is to be performed, depending on		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
		predefined rules		
54.	General	Ad-hoc routing: Changing the routing sequence by authorized personnel		
55.	General	The workflow management system shall support Inbuilt Graphical route designer for modelling complex Business Processes using drag and drop facilities.		
56.	General	The system shall allow process designers to define multiple automatic system defined stages, where no human intervention is required.		
57.	General	The interface shall be easy to use so that Process owners can change the business process as and when required without any programming knowledge.		
58.	General	The system shall enable process designers to design multiple sub-processes. This includes mapping of the existing process instance to the newly created process instance as per mapping defined in the route.		
59.	General	The workflow management system development environment shall provide easy navigation to choose sub-processes as required to be invoked from within a process.		
60.	General	Facility to copy and paste work stages along with all its properties.		
61.	General	Facility to define documents viewed and to be attached at individual stages.		
62.	General	The Process designer shall support multiple Introduction stages for introducing different document types from different acquisition sources		
63.	General	Facility to define multiple archive stages for archive selected documents and indexes at any stage of workflow process.		
64.	General	The system shall provide facility to define hold stages so that a particular instance or the workflow can be kept on hold for specified interval on the basis of pre-defined condition. The system shall also provide facility to define conditions for		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
		resuming the instance from hold stage.		
65.	General	The system shall allow process designers to design properties for each work stage like default document view, form view or Exception view etc.		
66.	General	The system shall allow users to define entry-level settings like Increase of priority or sending an email trigger on the basis of pre-defined conditions or setting up particular variable or property etc.		
67.	General	The workflow management system shall support the definition of roles and allow many-to-many relationships between users and roles to be defined.		
68.	General	The workflow management system shall be capable of automatically deploying an entire business process application (including forms and adapters) to the servers from the development environment		
69.	Inbuilt Form Designer	The system shall provide inbuilt facility to design Custom forms that can be attached at one or more stages of workflow.		
70.	Inbuilt Form Designer	The Form designer interface shall support facility to define text boxes, Combo boxes, radio buttons, Drop down etc.		
71.	Inbuilt Form Designer	The system shall provide facility to define variables in the process or in external database tables, which can be linked to fields defined in the form for efficient data entry.		
72.	Inbuilt Form Designer	The system shall provide facility to define zones at forms and images, so that relevant part of the image is highlighted for Image assisted data entry.		
73.	Inbuilt Form Designer	The system shall support field level calculations at form level		
74.	Inbuilt Form Designer	Facility to use scripts for defining field level validations		
75.	Automatic Escalations	The system shall provide facility to define multi-level escalation procedures		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
76.	Automatic Escalations	The system shall provide facility to define deadlines to individual work stages and escalation to respective or group of individuals, if the instance is not processed in specified time frame.		
77.	Automatic Escalations	The system shall provide facility to define multi-level escalations on the basis of deadlines i.e. Level 1 escalation after specified time and Level 2 escalation after specified time.		
78.	Automatic Escalations	Facility to raise custom triggers like Email, SMS etc. for escalations.		
79.	Automatic Escalations	The system shall support inbuilt calendar for defining Holidays and Working hours and the escalations and reminders shall be raised on the basis of this i.e. if the escalation time is set for 2 days and there is Sunday in between then it shall not be included		
80.	Automatic Escalations	The system shall provide facility to define exceptions at individual stages, which shall dynamically change the route on execution.		
81.	Automatic Escalations	The system shall facility to give rights to raise and clear exceptions at different stages of the process with user comments.		
82.	Automatic Escalations	Facility to raise triggers on the basis of exceptions.		
83.	Automatic Escalations	Facility to raise automatic exceptions on the basis of pre-defined conditions.		
84.	Automatic Escalations	The system shall track all the exceptions raised in the course of process and shall maintain history of that with username, date, time and comments.		
85.	Automatic Escalations	The system shall clearly differentiate process instances with and without exception		
86.	Automatic Escalations	The system shall provide facility to define tasks for individual or group of users with deadlines.		
87.	Automatic Escalations	The system shall provide facility to define check lists for individual stage with option to make particular checklist items as		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
		mandatory.		
88.	Automatic Escalations	Facility to raise triggers on the basis of checklist.		
89.	Automatic Escalations	The workflow management system shall have email notification to user when the user is not logged on to the workflow management system. Upon receiving the email, the user shall be able to click on the attachment in the email to automatically launch the Workflow management system and present the user with the task to act on.		
90.	Automatic Escalations	Automatic reminders to concerned users for delegated tasks.		
91.	Automatic Escalations	The system shall allow definition of audit stages to audit work of new users. The users shall be able to define percentage of work to be audited on the basis of which, random instances shall be picked up and sent to auditing supervisor.		
92.	Automatic Escalations	The workflow management system shall provide user-definable job filters and sorters for the outstanding tasks for viewing and work prioritization.		
93.	Automatic Escalations	The workflow management system shall allow the users to route/re-route the jobs to one or more other users by job and by users (e.g. on long leave, resignation).		
94.	Automatic Escalations	The workflow management system shall allow automatic temporary re-routing of jobs to one or more other users (e.g. temporary covering of duties).		
95.	Automatic Escalations	The system shall provide facility to define custom triggers like Emails, Word template or launching executable etc. on predefined conditions		
96.	Automatic Escalations	The system shall provide facility to define custom templates for the triggers with static and dynamic data.		
97.	Automatic Escalations	The system shall provide facility to generate event-based triggers for automatically sending mails/ fax, generating responses, invoking data form		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
		for data entry, communicating from external systems.		
98.	Automatic Escalations	The workflow management system shall have email notification to user when the user is not logged on to the workflow management system. Upon receiving the email, the user shall be able to click on the URL in the email to automatically launch the Workflow management system and present the user with the task to act on.		
99.	Architecture and Technology	The workflow management system shall be based on an N-tier, open, scalable architecture.		
100.	Architecture and Technology	The workflow management system shall support thin client architecture.		
101.	Architecture and Technology	The workflow management system shall support Web based interfaces.		
102.	Architecture and Technology	The workflow management system shall support XML messaging and SOA Architecture.		
103.	Architecture and Technology	The workflow management system shall have the ability to integrate through messaging.		
104.	Architecture and Technology	The workflow management system shall have the ability to integrate through APIs.		
105.	Architecture and Technology	The workflow management system architecture must be scalable and can support increasing number of users and concurrent transactions.		
106.	Architecture and Technology	The workflow management system shall run in a clustered environment.		
107.	Architecture and Technology	The workflow management system shall be scalable through both horizontal clustering (multiple channels) and vertical clustering (multiple instances per machine).		
108.	Architecture and Technology	The Workflow management system must be Unicode compliant and shall also support customizing the interface in Local		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
		language.		
109.	Architecture and Technology	The system should have the capability to interface with industry standard web services through simple interfaces.		
110.	Process Management	The workflow management system shall be able to support complete administration through a web browser interface.		
111.	Process Management	The workflow management system shall allow administrators to manage users, groups, Roles and other document management operations.		
112.	Process Management	The workflow management system shall allow administrators to suspend, resume and control various processes from the same interface		
113.	Process Management	The workflow management system shall have audit trail to maintain history of all transactions performed on the system.		
114.	Process Management	The system shall give flexibility to administrator to do selective logging i.e. suspend and resume audit trail generation for specific system and user activities.		
115.	Process Management	The workflow system shall give a facility to define Turnaround time for the complete process and also for the individual work stages for efficient monitoring		
116.	Process Management	The workflow system shall give a facility to set Audit percentage for multiple users at different stages, so that the specified percentage of work randomly goes for work audit.		
117.	Process Management	The workflow system shall give a facility to review the audit done by different auditors.		
118.	Process Management	The workflow system shall display all the queues corresponding to particular process and add and remove multiple users to particular queue.		
119.	Process Management	The workflow system shall allow administrator to set properties of particular queue i.e. FIFO, Dynamic etc.		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
120.	Process Management	The system shall support Load balancing of work items in case of Dynamic Queues i.e. if more than one user is associated with particular queue, work items shall be assigned on the basis of current load.		
121.	Process Management	The Workflow system shall support the concept of Shared and Personal Queues, so that work items can either be permanently assigned to user's Personal queue or can be routed to shared pool of users.		
122.	Process Management	The workflow management system shall allow administrator to add new queues and associate multiple work steps with them.		
123.	Process Management	The workflow system shall give a facility to set diversions for particular users so that all the incoming work items are routed to assigned person or group of users.		
124.	Application Access Control	The workflow management system shall provide comprehensive access control mechanism.		
125.	Application Access Control	All users of the workflow management system shall be able to access to their own work queues and other work queues with access granted by the workflow administrator. They shall not be able to delete assigned tasks from the work queues.		
126.	Application Access Control	Process Owners or workflow administrator shall be able to intervene the flow of work items and reassign to specific user and shall also support ad-hoc routing to specific stage in case of delays or bottleneck.		
127.	Application Access Control	The application shall log all the actions done by individual users with username, date and time and the administrator shall be able to generate detailed audit logs and history of the process instance.		
128.	Application Access Control	The application shall support field level access so that authorized users can only edit them.		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
129.	Application Access Control	The workflow management system shall allow process owners to track the following status:		
130.	Application Access Control	For a task in progress or a completed task on Name of Officer, Start Date, End Date, Duration		
131.	Process Monitoring and Reporting	The workflow management system shall be able to keep track of the work item status, the date/time the jobs are started and ended, the creation and archival date of the documents.		
132.	Process Monitoring and Reporting	The workflow management system shall provide graphical and tabular tools to view progress of each individual process		
133.	Process Monitoring and Reporting	The workflow management system shall support the generation of performance comparison reports.		
134.	Process Monitoring and Reporting	The workflow management system shall support users drill down from a higher-level view of business processes to lower level details.		
135.	Process Monitoring and Reporting	The workflow management system shall support statistical reports like Total turnaround time and delay report for complete process or specific work stages		
136.	Process Monitoring and Reporting	The workflow management system shall support definition of new customized reports based on exposed data points.		
137.	Process Monitoring and Reporting	The workflow management system shall also provide dashboard interface for online reporting of various processes. The interface shall give a flexibility to toggle between graphical and tabular view and tile different windows in the same interface		
138.	User Management and Security	The workflow management system shall support integration with domain level authentication and single sign on.		
139.	User Management	The workflow management system shall support integration with database-based		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
	and Security	authentication.		
140.	User Management and Security	The workflow management system shall be capable of giving access rights to users/groups on work stages, documents, forms and also to the data fields.		
141.	User Management and Security	The workflow management system shall support extensive password validations i.e. locking of user account after specified number of unsuccessful login attempts, password history, password expiry, passwords must be alphanumeric and of minimum character length etc.		
142.	User Management and Security	The workflow management system shall support SSL, HTTPS and session timeouts.		
143.	Integration and Web services	The workflow management system shall provide support to invocation of external programs to perform activities of a process like launching core application screen for data entry.		
144.	Integration and Web services	The workflow management system shall support integration based on messaging.		
145.	Integration and Web services	The workflow management system shall support integration based on standards such as XML		
146.	Integration and Web services	The workflow management system shall support message-based collaboration based on protocols such as HTTP, FTP and SMTP.		
147.	Integration and Web services	The workflow management system shall support actions to be taken on business processes based on messaging.		
148.	Integration and Web services	The workflow management system shall allow documents used in processes to come from inbuilt proposed Document Management System.		
149.	Integration and Web services	The workflow management system shall support integration with Email Servers.		
150.	Integration and Web services	The workflow management system shall support email-steps to be fully integrated into business processes, not just for		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
		notification but also to initiate or complete a work step.		
151.	Integration and Web services	The workflow management system shall provide fully functional APIs for Process, Rules and Integration engines.		
152.	Integration and Web services	The workflow management system shall support Web services.		
153.	Integration and Web services	The workflow management system shall enable the work items to access the Web methods of a remotely deployed web service		
154.	Integration and Web services	The system shall allow the data to be mapped from the workflow to Web method parameters and vice versa.		
155.	Integration and Web services	The system shall allow support of both synchronous as well as asynchronous mode to invoke Web methods		
156.	Integration and Web services	The workflow management system shall allow a step of a business process or integration process to be performed by Web services.		
157.	Integration and Web services	The workflow management system shall allow for an integration flow or a business process to be made available as Web services		
158.	Backup & Archival	The system should be able to export system records, logs, user files and other folders along with their constituent records and contents to another content management system		
159.	Backup & Archival	The system should be able to archive system records, logs, user files and other folders along with their constituent records and contents		
160.	Backup & Archival	The system should be able to export / archive whole electronic folders, and groups of folders, and all associated records in one sequence of operations such that: · All components of an electronic record,		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
		when the record consists of more than one component, are exported / archived as an integral unit. · All structural links between records, parts and folders are retained		
161.	Backup & Archival	The system should be able to include a copy of audit trail data associated with records, parts and folders as part of the export or archival process		
162.	Backup & Archival	The system should produce a report detailing any failure completely to export or transfer any element of electronic records, parts and folders		
163.	Backup & Archival	The system should follow two-stage export/archival process, consisting of: · Export or archive of qualifying folders, part and records from the system · Subsequent destruction of the exported / archived folders, parts and records following confirmation of export / archival		
164.	Backup & Archival	The system should seek confirmation of deletion from an authorized user as a mandatory step in the deletion process, before any action is taken on folders, parts or records.		
165.	Backup & Archival	The system should allow for cancellation of the deletion process in case the confirmation is not given		
166.	Backup & Archival	The system should ensure that any function to delete records, parts or folders on an ad hoc basis is restricted to only the highest level of Administrator.		
167.	Area	Requirement Description		
168.	System Login and Access Control	The system should provide access rights and privileges according to login ID and password		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
169.	System Login and Access Control	The system should prompt the user for 3 unsuccessful login attempts through SMS/ email		
170.	System Login and Access Control	The system should allow authorized users to access various functions, forms, screens, sub modules, information etc.		
171.	System Login and Access Control	The system should allow single sign on to all modules/sub-modules as per rights and privileges of the user		
172.	System Login and Access Control	The system should have a mechanism for resetting and emailing the new password to the user's registered email ID, in case one forgets his password.		
173.	System Login and Access Control	The system must prompt the user to change the password on the first login.		
174.	System Login and Access Control	The system shall as a part of registration establish challenge and responses mechanisms for session validation for future online sessions. Details such as a username and password, challenge question and response answer should be asked if login details are forgotten etc.		
175.	System Login and Access Control	The system shall apply spam control measures like 'captcha' images during registration to avoid spurious details being automatically submitted and ensure that data is not submitted by non-humans.		
176.	System Login and Access Control	The system shall maintain non editable audit trail of all activities carried out by any user in the system		
177.	System Login and Access Control	The online systems shall have the provision to view records captured by Audit Trail feature		
178.	Integration with SMS & Email Solution	Wherever required, modules and sub-modules should have integration with an SMS solution for SMS based		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
		communication to users and other notification recipients		
179.	Integration with SMS & Email Solution	Wherever required, modules and sub-modules should have integration with an Email solution for email-based communication to users and other notification recipients		
180.	Solution wide functionalities	The system shall support consistent, globally unique naming and addressing scheme for data made centrally and automatically/systemically.		
181.	Solution wide functionalities	The system shall allow user to manage data independently of the processes that create or use that data.		
182.	Solution wide functionalities	The system shall allow user to scale up or scale out solution with easy to use GUI.		
183.	Solution wide functionalities	Online application shall be designed to permit user for easy insertion of new modules and new enhancements.		
184.	Solution wide functionalities	Application shall have the capability to complete all requests (e.g. store, retrieve, update, etc.) without any data loss.		
185.	Solution wide functionalities	Application shall have a system of record for legal purposes and shall maintain an audit file in chronological sequence of each transaction and all corresponding corrections made during the transaction by clients or their facilitators		
186.	Solution wide functionalities	The system shall have the capability to organize and store all data for aggregation and analysis.		
187.	Solution wide functionalities	Application shall be designed to accommodate growth in data rates and volumes for communications, networks, hardware and storage.		
188.	Solution Management Requirements	The system shall incorporate interfaces for authorized users for management		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
		capabilities, which shall include: Configuration Management, Testing & Validation, Fault Detection, Fault Isolation, Fault Recovery, Data collection, Data Analysis.		
189.	Solution Management Requirements	The system shall provide reports and MIS to authorized user for end-to-end performance monitoring and control.		
190.	Solution Management Requirements	The system shall provide data quality determination and analysis, error correction, recovery processing, and related quality control procedures and processes.		
191.	Solution Management Requirements	Infrastructure components should be implemented to permit management to monitor and measure the effectiveness		
192.	Solution Management Requirements	System shall permit inclusion of new or modified requirements during the life of application with appropriate established change control procedures.		
193.	Operational Requirements	Application shall be accessible to users 24 hours per day, 7 days per week on a continuous basis.		
194.	Operational Requirements	Data inputs to the application shall be validated prior to being processed		
195.	Operational Requirements	Input data shall be validated for out of range values.		
196.	Operational Requirements	Input data shall be validated for missing or incomplete data.		
197.	Operational Requirements	Input data shall be validated for unauthorized or inconsistent control data.		
198.	Operational Requirements	Input data shall be validated for values or volumes that are exceptional to the norm.		
199.	Operational Requirements	Invalid input data shall be rejected, and security incident shall be initiated.		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
200.	Operational Requirements	Integrity checks functionality on any data generated by solution shall be provided.		
201.	Operational Requirements	Functionality necessary for scheduling of Application to certain days, dates or time of day, shall be provided.		
202.	Operational Requirements	Functionality necessary for 'roll back' or recovery routines if applicable fails to operate as planned shall be provided		
203.	Operational Requirements	Application shall have 'Tooltip Text' for input fields to guide the user while entering data.		
204.	Operational Requirements	Application shall be fully compatible with all major web browser e.g. Firefox, Google Chrome, Internet Explorer, Opera, Safari etc.		
205.	Human Engineering Requirements	The system shall provide a menu driven screen interface permitting a user to navigate easily through the different functions of Solution.		
206.	Human Engineering Requirements	The system shall provide users with access to information management services		
207.	Human Engineering Requirements	The user interface shall be tailored to functions, which are authorized for the user.		
208.	Logs	The following operations shall be logged by means of automatic (machine generated) logs:		
209.	Logs	Logs shall include process start and finish time and date		
210.	Logs	Log shall include log-in details (username, login timestamp and logout timestamp), IP/MAC addresses		
211.	Logs	Logs shall include Application faults, errors and recovery processes.		
212.	Logs	Logs shall include the use of any privileged passwords.		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
213.	Logs	Logs shall include the use of any privileged utilities.		
214.	Logs	Logs shall include automatically generated data necessary to assess the application performance.		
215.	Logs	The frequency of logs generation shall be mutually agreed upon, in order to be consistent with the ability to trace appropriate actions of the application.		
216.	Logs	Logs shall include all log-ons and logouts as well as all attempts (whether successful or not) to log-on		
217.	Logs	Logs shall have appropriate mutually agreed upon retention period.		
218.	Logs	The log generating software shall prohibit amendment of log details and disabling of the recording of events.		
219.	Logs	The log generating software shall include review of log-on patterns to determine potentially abnormal Solution use and who accesses the application		
220.	Logs	Files of logged events shall be protected from amendment or deletion.		
221.	Logs	Logging process shall always be enabled		
222.	Regulatory requirements	Application shall provide flexibility to easily modify Solution to handle changes and addition of core or third-party services		
223.	Common Technical Requirements	The system shall have ability to customize user menus and screens based on user access authority.		
224.	Common Technical Requirements	The system shall be able to archive transactional database records to prevent long term speed concerns. Solution must also feature functionality for efficient retrieval of archived data.		

S.no	Area	Requirement Description	Whether Complied or not (Yes/ No)	Reference Documents
225.	Common Technical Requirements	There should be a standby Database available. All the transactions should be committed in the standby Database in regular interval of times. In case of a failure, the Standby Database should take over as main Database.		
226.	Common Technical Requirements	Application must erase browser history and session while logout process.		
227.	Common Technical Requirements	The system shall be capable of generating event notifications and interfacing with E-mail Solution and must support e-mail triggers as part of Solution's workflow.		
228.	Common Technical Requirements	The system shall provide a report-writing tool, which can be used to generate customized reports at any level.		

Common Functional Requirements			
A1	Profile Creation	Whether Complied or not. (Yes /No)	Ref Document
A1.1	System to create profiles for all stakeholders - internal and external: 1. External: IV Crew, Shipping Company, MTI, Vessel Agents and Managers, and ServiceProviders including Labs, LSA/ FFA - Service Stations, Insurance provides. 2. Internal: Individual profiles of the States/IWT staff across India		
A1.2	The system should have provision for capturing fields as per checklist for each stakeholder (explained separately in each process) creating new userlog-in account in the portal The system should not proceed further in case any of the mandatory fields in the checklists are missing. In such cases, a pop-up message should bedisplayed by the system highlighting the missing fields		
A1.3	Any request/application made to the States/UTs (DA) shall be made only throughthe stakeholder profile - available to stakeholder on a single click		

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A1.4	The system should assign username as email address of user (mandatory). Email ID should be valid and unique and should not exist within the existing database		
A1.4.1	The system shall have provision for the user to change username after firstlogin		
A1.5	The system should have a provision to upload relevant documents (including scanned copies) as per checklist required for concerned stakeholder for registration to the portal		
A1.6	The system should not proceed to next step in case documents are not uploaded or documents are not in required size or format. It should also provide pop-up messages and highlight the missing document in such cases.		
A1.7	System should have the provision of "self-declaration" citing that all info being provided by the user is true		
A1.8	The system sends initial verification OTP to registered mobile number for verification of mobile number during the registration to portal		
A1.9	The system sends initial verification mail consisting of verification link to registered email. Verification link should expire within 15 days		
A1.10	System will have the provision to save form in draft form before exiting or proceeding to next page of the registration process		
A1.11	The system shall allow the concerned State/UT's (DA) to accept/reject an application after document verification and send auto-generated mail containing account activation link to the user's registered email in approved cases		
A1.12	The system should have a provision for concerned the State/UT's (DA) to send a mail to user's registered email in case of discrepancy in uploaded documents		
A1.13	The system shall be capable of enabling user online account only after user fulfilling the verification mail activities successfully		
A1.14	The system should have a mechanism for resetting and emailing the new password to the users registered email ID, in case a user forgets his password or intends to change it		
A1.15	The system must prompt the user to change the password on the first login on the portal		
A1.16	The system should have de-duplication provision before creating a profile		
A1.17	The system must lock the account for 12 hours in case login not successful for 3 consecutive attempts		
A1.18	The system should have separate landing pages for different entities		
A1.19	If no services are availed for 6 months post profile creation, profile will be deactivated. User will have to activate the deactivated profile via portal request to the Directorate.		

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A1.20	System will have provision for correction of profile. While some field may be changes real time, key fields will have to go through a verification process with the Directorate		
A1.21	System to have provision to upload signed documents to the profile database		
A2	General Features of Profile		
A2.1	All profiles will have links for the services/request that are applicable to that particular stakeholder. For e.g. a IV Crew profile will have direct links to CDC, COC etc. while vessels will have links to registration of Vessels, technical clearance etc.)		
A2.2	All decision/actions related to an external stakeholder will be linked to the profile and available for internal review		
A2.3	Edit rights in each stakeholder profile will vary		
A2.4	Metadata, data and information to be updated in the system by State/UT's (DA) or by third parties shall be linked to INDOS number for IV Crews		
A3	Service Request (Services provided by State/UT's (DA))		
A3.1	The system should have forms/ format with all required fields as per checklists (for each process as mandated by the State/UT's (DA)) along with provision to upload relevant documents (including scanned copies).		
A3.2	System will not allow user to proceed unless all mandatory fields and documents are uploaded in required size and format		
A3.3	System will have the provision for saving the data entered on a form/ format before exiting or proceeding to next page		
A3.4	System shall provide the user with an option to review the form prior to submission and if required to go back		
A3.5	System will auto-generate the request number, once request has been submitted successfully. The request number can be used for tracking purposes in the status tracker		
A3.5.1	In case of internal State/UT's (DA) processes only, System will auto-generate a unique file number, once a new process is initiated. This unique file number shall be used to open the file and continue further in the same file.		
A3.6	When the user clicks on the respective service icon to avail a service, the form/ format opens up with auto-populated fields and data input fields		
A3.7	System shall provide the user with an option to save draft & review the form/format prior to submission and if required to go back		
A3.8	Provision for contacting SPOC for each process/the State/UT's nodal authority for single window system		
A3.9	System to have provision to direct the request to the concerned person in the concerned State/UT's		
A3.10	System shall have provision for bilingual forms and checklists		

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A3.11	System will have a provision for all submitted forms to be downloaded in PDF format along with a direct print option for the applicant/ concerned officer at State/UT's (DA)		
A3.12	System shall provide a link for Concurrent Feedback Mechanism after submission and closing of all service requests		
A3.13	System shall have provision for tracking application		
A4	Audit Trail		
A4.1	System shall maintain audit trail		
A4.2	the State/UT's (DA) entities will be able to look at the audit trail for all stakeholder profiles as well as internal the State/UT's action		
A5	Fees & Payment		
A5.1	System shall have provision for payment through an electronic payment gateway with multiple modes of payment including credit card, debit card and net banking. Applicant will be redirected to the payment gateway on successful submission of application and the respective fee to be paid will be built into the system.		
A6	Internal processing - Processing at the State/UT's		
A6.1	After any service request is received internally (the State/UT's), the system shall allow the State/UT's personnel at all levels to: <ul style="list-style-type: none"> - view complete profile of the user - view all information and documents uploaded - provide comments and send it to next higher/lower level - send query back to applicant 		
A6.2	For all approval processes, system will allow the following: <ol style="list-style-type: none"> a. The system will follow the State/UT's approval hierarchy and within the State/UT's approval hierarchy, system will allow the nodal officer to approve or reject the application b. The system will have provision for a senior officer to delegate power to approve or reject an application to a junior officer c. System will have provision to allow senior officers to delegate internal processing of service requests to a concerned officer d. System will have provision for a senior officer to delegate internal processing of a junior concerned officer to other junior officer (in cases of leave) 		
A6.3	System shall have provision to assign or refer or assign and refer a particular case to other officer of same or different departments.		
A6.4	System shall have provision to post internal notes		
A6.5	System will have the provision of digital signature for the Approving Authority		

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A6.6	System to generate MIS for tracking internal performance. List of respective service request status and its details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
A6.7	System will have provision to auto-escalate the file to the immediate senior officer if it is unattended by a particular officer		
A7	Notifications		
A6.1	System will automatically send notification once service request is <ul style="list-style-type: none"> - Submitted successfully - Pending application is about to default - Query has been replied to - Approved or rejected. - Dispatch by post along with tracking number. All notifications will be sent through portal, registered email, as well as the registered mobile number		
A8	Certification/ Approval/ License issued by State/UT's		
A8.1	System shall have provision to auto-generate letters and certificates by auto-populating fields post approval by authority		
A8.2	System shall have templates for approval letters and certificates		
A8.3	All certificates issued by State/UT's - for Vessels & IV Crew will be generated by the system		
A8.4	The system will have provision to assign unique alpha-numeric code for all the Certification/ Approval/ License issued.		
A8.5	The system shall provide optional service for hard copy dispatch of certificates/ approvals/ licenses to the users via post. In which the case the system will notify the respective officer and provide print option. Dispatch number as provided by postal department will have to be reflected in the system		
A8.6	The system shall provide users to print certificates issued by State/UT's (DA) and allied offices online.		
A9	Certification/ Approval/ License/ Survey Letters issued by authorised third party agencies like MTI etc.		
A9.1	System shall have provision for all third party agencies to input metadata and generate certificates, approvals, licenses or survey letters (mandatory). Although, third party agencies will be liable to issue all certificates and system will have no role in its issuance.		
A9.2	The system will have provision to assign unique alpha-numeric code for all the Certification/ Approval/ License issued.		
A9.3	Hard copies of all Certification/ Approval/ License/ Survey Letters issued by authorised third party agencies will have to be availed through the third party		

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	agencies. The system shall not be liable to issue such certificates in hard/soft copy		
A10	Checker for certificates issues by State/UT's / Third party agencies		
A10.1	The system shall have provision of a link to check authenticity of all certificates issued by State/UT's or authorised third parties via the alpha-numeric code issued. Such a link will confirm the authenticity of the document, name against whom it is issued along with general details of the certificate to whomsoever although will not reveal crucial data		
A11	Certificate/ Document Validity		
A11.1	System shall check validity related clauses of all certificates. In cases where the validity of certificates/ documents has expired, the system will generate pop-up of validity expiry for internal and external stakeholder		
A11.2	System shall notify the stakeholder of certificate/ document expiry 10 days before expiry		

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1. IV Crew				
S. No.	Process Type	System Requirement	Whether complied or not. (Yes/No)	Ref Document
SF1	Individual's (IV Crew) Profile			
SF1.1	Creation of Individual (IV Crew) Profile	System shall have all common functional requirement as mentioned in A1, A5 and A6		
		System will allow linkage with the UIDAI database. The demographic details of the applicant will be fetched from the same.		
		System will allow both individual (IV Crew) applicants as well as MTI to create the profile for the IV Crew (refer A1). However, in either case, the verification link with User ID and temporary password will be sent only to the individual IV Crew for whom the profile is being created.		
		MIS Reports: a) List of individual profile applications with status and other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
SF1.2	Correction of profile by IV Crew	System shall have all common functional requirements as mentioned from A2 to A6		
		System will allow for correction to database to be made automatically once application is approved		
		MIS Reports: List of correction applications with status and other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
SF2	Apply for INDOS			
SF2.1	Apply for INDOS	System shall have all common functional requirement as mentioned from A2 to A6		

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		<p>System check for application:</p> <p>a) Check that all applicants are enrolled at an Indian MTI</p> <p>b) System will ensure that if IV Crew has not enrolled or completed the MTI courses i.e. 5 basic STCW courses (PSSR, PST, FPFF, EFA, STSDSD/SSO) or any IWAI(NINI) approved pre-sea courses from an Indian MTI, the INDOS number will stay "provisional". This will be reflected by an additional (P) attached to the number. The P will be removed once a subsequent system check verifies that the eligibility criterion has been met. However, a provisional INDOS no. will be deactivated if eligibility criterion is not met within the specified timeframe.</p>		
		System will allow both individual (IV Crew) applicants as well as MTI's to apply for INDOS (refer A2).		
		System will allow for INDOS number to be auto-generated and integrated with the database after approval of application according to inbuilt system logic		
		MIS Reports: List of INDOS applications with status and other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
SF3	CDC			
SF3.1	Apply for New CDC	System shall have all common functional requirement as mentioned from A2 to A7, A9 and A10		
		<p>System check for application:</p> <p>a) Check that nationality is Indian</p> <p>b) Check for valid INDOS number</p>		
		System will allow for CDC number to be auto-generated after approval of application according to inbuilt system logic. The same shall be auto-forwarded to the Printing Section, State/UT's for further process.		

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		System will have the provision for uploading the scan and other details of the CDC from the back-end interface. This will then be integrated with the IV Crew database.		
		System will allow insertion of tracking number for the dispatch sent out with the CDC (Indian Postal Service dispatch). The same will be notified to the applicant.		
		MIS Reports: List of new CDC applications with status and other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
SF3.2	Renewal of CDC	System shall have all common functional requirement as mentioned from A3 to A7, A9 and A10		
		System check for request: a) Check time left from expiry date <1 yr		
		System will allow for expiry date to be automatically revised after approval of application. Parallely, a request for renewal sticker shall be auto-forwarded to the Printing Section, State/UT's.		
		System will have the provision for uploading the scan and other details of the renewal sticker from the back-end interface. This will then be integrated with the IV Crew database.		
		System will allow insertion of tracking number for the dispatch sent out with the CDC renewal sticker (Indian Postal Service dispatch). The same will be notified to the applicant.		
SF3.3	Replacement CDC	System shall have all common functional requirement as mentioned from A2 to A7, A9 and A10		
		System will allow for replacement CDC book printing request to be automatically sent to the Printing Section, State/UT's after approval of request. Parallely, the old CDC booklet no. will be deactivated on the database.		
		System will have the provision for uploading the scan and other details of the replaced CDC book from the back-end interface. This will then be integrated		

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		with the IV Crew database.		
		System will allow insertion of tracking number for the dispatch sent out with the replaced CDC (Indian Postal Service dispatch). Thesame will be notified to the applicant.		
		MIS Reports: List of CDC replacement applications with status andother details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
SF3.4	Duplication CDC	System shall have all common functional requirement as mentioned from A2 to A7, A9 and A10		
		System will allow for duplicate book printing request to be sent tothe Printing Section, State/UT's after approval of request. Parallelly, old CDC booklet no. will be deactivated on the database.		
		System will have the provision for uploading the scan and other details of the duplicate CDC book from the back-end interface. This will then be integrated with the IV Crew database.		
		System will allow insertion of tracking number for the dispatch sent out with the duplicate CDC (Indian Postal Service dispatch). Thesame will be notified to the applicant.		
		MIS Reports: List of CDC duplication applications with status andother details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
SF3.5	Discontinuation ofCDC	System shall have all common functiona requirement asmentioned from A2, A3, A5, A6, A7 and A9		
		System will deactivate CDC Number on the database afterapproval of request.		
		MIS Reports: List of CDC discontinuation applications with statusand other details (all metadata) for specified time period. This list should allow sorting to generate further		

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		MIS with refined search parameters.		
SF4	Examinations			
SF4.1	Online Eligibility Assessment	System shall allow IV Crew to check the eligibility online on single click		
		System shall allow the IV Crew to choose the grade he intends to check eligibility		
		System shall be configured to check eligibility as per grade and position which IV Crew aims to apply . Sample assessment logic for one grade assessment (Serang) is attached. Like there are ~ 50 plus combinations possible		
		System shall pick the basic information (trainings, certifications, sea service etc) from IV Crew's profile to perform the assessment		
		System shall prompt the IV Crew with provision to fill the additional information (like additional sea-service, training or courses) which are not updated on the system		
		System shall consider the additional information provided along with information from the IV Crew's profile to check eligibility		
		System shall have the provision to pop up the results of online eligibility assessment immediately with following status (illustrative) - Eligibility for that particular grade (with link to eligibility verification) - Not Eligible (with the head/field which did not match as per the eligibility criteria configured in system)- highlighting the additional requirements		
SF4.2	Examination application (including eligibility verification)	System shall have all common functional requirement as mentioned in A2, A3, A4, A5, A6, A7, A8 and A11		
		System shall allow IV Crew to request for eligibility verification and exam application on single click		
		System shall pick up all the information required for eligibility verification from		

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	the IV Crew's profile database maintained.		
	System shall prompt the IV Crew with provision to fill the additional information (like additional sea-service, training or courses) and attach documents for each added field for a particular grade eligibility verification		
	System shall route the IV Crew to payment gateway once all the required fields are filled. After making the payment the request for eligibility verification shall be considered as submitted		
	The eligibility verification application will be sent to 'Assessment Centre' based on work load at each Centre		
	System shall show the results of eligibility assessment as per the logic configured in system along with eligibility verification request		
	The application will be assessed by assessing officer and the officer shall have facility to accept/reject the application or call for physical verification of papers. In case called for physical verification of paper, system will prompt user via SMS and e-mail		
	On logging into the profile, system will allow IV Crew to choose the nearest Centre for physical verification of certificates		
	System shall have provision to transfer the eligibility verification from the one assessment Centre to the assigned IWAI staff at another assessment Centre		
	System shall allot time for visit at the selected Centre to the applicant		
	System shall notify the respective Centre - one day in advance for 'List of candidates visiting for verification' and the time for each visit		
	System shall allow IV Crew to select between Oral or Written exam, and then select the function he wants to appear for within that particular grade		

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	System shall have provision to build in logic for availability of seat for each function of examination at exam Centre on respective exam dates		
	Once eligibility is verified for a particular grade, system will allow user to apply for any function of that grade directly		
	System shall allow the IV Crew to choose the seat (course, exam Centre, time slot) for written examination as per the seat availability		
	System shall allow the IV Crew to choose the month and examCentre on application for Oral examination		
	System shall not allow the IV Crew to make examination booking if he had been absent for last 3 consecutive exam (written or oral). Notification will be sent to IV Crew by SMS and e-mail asking him to take special permission from assigned IWAI staff for appearing for that examination		
	System shall allow the assigned IWAI staff to allow the IV Crew to appear for a examination incase the IV Crew have been blocked by system as mentioned above		
	System shall allow assigned IWAI staff to allot time slot for Oralexamination, and notification regarding this should be sent to IV Crew by SMS and e-mail		
	System shall prompt user if seat is not available at selected exam Centre and provide options for other centres and alternate dates		
	System shall route the IV Crew to payment gateway once the IV Crew have selected the required field in exam application form		
	System shall generate Admit card on successful payment for written exam application. System shall allow the IV Crew to print the admit card and also to download it in PDF format		
	System shall generate Admit card for Oral examination on allotment of slot details by assigned IWAI staff		

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		System shall generate consolidated list of IV Crew appearing for a exam a week before to assigned IWAI staff of respective examCentre		
		MIS Report: List of Assessment application for a specified period (daily, monthly, from-to) with status, date applied, date approved, grade, List of Examination application for a specified period (daily, monthly, from-to) with status, date applied, date approved, grade, course, discipline, exam Centre, no of attempts, written/oral		
SF4.3	Question Paper setting	System shall have all common functional requirement as mentioned in A4		
		System shall have provision to upload question received from internal and external examiner under each topic head for each grade of examination		
		System shall have provision to select questions for preparing aquestion paper from the list of all questions		
		System shall have provision to generate a question paper with allthe selected questions in a particular format		
		System shall have provision to password protect the question paper when approved and updated on system		
		System shall have provision to generate password to assigned IWAI staff 30 minutes before the time set for the exam of thequestion paper		
		System shall have provision to generate question paper (which cannot be edited) after filling in correct password with a option to print or download in PDF format		
SF4.4	Conduct of writtenexam and update of marks	System shall have all common functional requirement as mentioned in A2, A4, A6, A7 and A8		
		System shall have provision for assigned IWAI staff to mark theattendance of IV Crew as per the attendance sheet generated		
		System shall have provision for assigned IWAI staff to fill in answer		

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		sheet code and examiner details for each IV Crew who appeared for the examination		
		System shall have provision for assigned States / UTs staff to fill in the results for each IV Crew who appeared for examination		
		System shall have provision to generate mark sheet in a particular format on final approval of results on system		
		MIS Report: List of IV Crew appearing for exam, slot wise, grade wise, exam Centre wise, course wise, date wise, List of IV Crew present for exam , List of IV Crew with respective marks in exams		
SF4.5	Conduct of oral exam and update of results	System shall have all common functional requirement as mentioned in A2, A4, A6, A7 and A8		
		System shall have provision for assigned IWA staff to mark the attendance of IV Crew as per the attendance sheet generated		
		System shall have provision for assigned States/UT's staff to allot and fill in details about internal and external examiner		
		System shall have provision for assigned States/UT's staff to fill in the results for each IV Crew who appeared for examination		
		System shall have provision to generate a mark sheet in a particular format on final approval of results on system		
		System shall have provision to update the video clip of oral exam to the profile of respective IV Crew		
		MIS Report: List of IV Crew appearing for exam, slot wise, grade wise, exam Centre wise, course wise, date wise, List of IV Crew on a daily basis having Oral examination with respective internal and external examiner, List of IV Crews who were absent for 3 consecutive exams		
SF4.6	Update marks from external parties	Examinations are authorized by some States/UT's to be conducted by third parties (Example: IV Crew examination are conducted by IMU, NINI). These		

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		third parties will be mailing the results in a particular format (CSV file) to assigned States/UT's staff and that staff will be uploading the file on system		
		System shall have all common functional requirement as mentioned in A2, A4, A6, A7 and A8		
		System shall allow the assigned States/UT's staff to upload the CSV files on system		
		System shall be able to take data from the file uploaded and update all the field to the profile on the basis of INDoS number field in the file		
F4.7	Review of results	System shall have all common functional requirement as mentioned in A2, A3, A4, A5, A6, A7 and A8		
		System shall generate the list of examination paper eligible for IV Crew to apply for review System check: IV Crew can request for review of a paper within 30 days from issue of results of that particular paper as per Rules 2022,		
		System shall route the IV Crew to payment gateway on a singleclick once IV Crew selects the examination paper for review		
		System shall have provision to route the review request to assigned States/UT's staff where initial assessment of that particular answer sheet was conducted		
		System shall have provision for assigned States/UT's staff to check the previous examiner who corrected the paper and fill in new allotted examiner details		
		System shall have provision for assigned States/UT's staff to fill in the re-evaluated results		
		System shall have provision to generate a new mark sheet in place of the original mark sheet in a particular format on final approval of results on system		
		MIS Reports: List of review application with application date, status, MBS/IWTS,		

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		evaluator for a specific period		
SF5	Certifications			
SF5.1	Issue of fresh Certificate of Competency (COC)	System shall have all common functional requirement as mentioned in A2, A3.6, A4, A6, A7 and A8		
		System shall automatically generate a request to assigned States/UT's staff for issue of Certificate of competency if that IV Crew have cleared all the functions (written and oral) for that particular grade		
		Logic will be built in the system specifying the list of written functions and oral functions under each grade of examination		
		System shall have provision to generate a soft copy of the certification after final approval		
		System shall have a provision for an assigned States/UT's staff to fill in the Certificate of competency booklet number which shall be updated on system		
		MIS Report: List of IV Crew eligible for issue of Certificate of Competency grade wise with status		
SF5.2	COC Revalidation	System will allow an IV Crew to request for revalidation/renewal of certificate of competency already issued to the IV Crew		
		System shall have all common functional requirement as mentioned in A2, A3, A4, A5, A6, A7 and A8		
		System shall have provision for application form to be generated with all required fields		
		System shall have provision for IV Crew to add additional information for application for revalidation and also provision to attach document in specified format		
		System will have a built-in logic in the system to check the eligibility for revalidation as per information already stored on profile and additional information filled by the IV Crew.		

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		Example of logic attached		
		System shall route the IV Crew to payment gateway on a successful completion of application form		
		The application will be assessed by assessing officer and the officer shall have facility to accept/reject the application or call for physical verification of papers. In case called for physical verification of paper, system will prompt user via SMS and e-mail		
		On logging into the profile, system will allow IV Crew to choose the nearest States/UT's office for physical verification of certificates		
		System shall have provision to transfer the particular application from the one regional office to the assigned States/UT's staff at another regional office of States/UT's		
		System shall provide a option to assigned States/UT's staff to fill in the validity of Revalidation certificate with few default options (illustrative): - 5 years from date of expiry of previous certificate - 5 years from date of revalidation/ refresher courses - 5 years from date of revalidation application		
		MIS Report: List of Revalidation application form with status, date applied, date approved, States/UT's due to verify for a specified period		
F5.3	COC Extension	System shall have provision for IV Crew or Shipping company to make a request for extension of validity for certificate of competency		
		System shall have all common functional requirement as mentioned in A2, A3, A4, A5, A6, A7 and A8		
		System shall allow the applicant to fill in the reason for application of extension and attach all the required documents in specific format		

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		System shall route the IV Crew to payment gateway on a successful completion of application form		
		The application will be assessed by assessing officer and the officer shall have facility to accept/reject the application or call for physical verification of papers. Incase called for physical verification of paper, system will prompt user via SMS and e-mail		
		System shall provide option to assigned States/UT's staff to fill in the validity of extension certificate		
		MIS Report: List of Extension application form with status, date applied, date approved, States/UT's due to verify for a specified period		
SF5.4	COC Suspension	System shall have provision for Shipping company, MTI or assigned States/UT's staffs (Assessing officers) to make a complaint against any IV Crew		
		System shall have all common functional requirement as mentioned in A2, A4, A6, A7 and A8		
		System shall allow applicant to fill in the required details (INDoS No, Nature of complain etc.) and attached required documents in specific format		
		System shall have provision for assigned IWA staff to assign a officer for inspection		
		System shall have provision to assign a States/UT's officer to conduct inspection. System shall provide the assigned staff to upload inspection report/ fill in inspection report		
		System shall have provision for officer to call concerned IV Crew. In that case, system will prompt the concerned IV Crew via SMS and e-mail		
		System shall have provision for concerned States/UT's staff to fill in the final decision		
		System shall have provision to generate suspension letter with an option with assigned States/UT's staff to edit it		
		MIS Report: List of cases IV Crew wise for		

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		a specified period with status, date, decision, who have made the complain		
SF5.5	COC Debarment	System shall have provision for assigned States/UT's staff (Examiners) to request for debarment in case the IV Crew is guilty of misconduct during any examination		
		System shall have all common functional requirement as mentioned in A2, A4, A6, A7 and A8		
		System shall have provision to assigned IWAI staff to upload the Misconduct letter on system and fill in INDoS number and other required fields. System shall automatically map the case to the INDoS number provided		
		System shall have provision for concerned IWAI staff to fill in the final decision		
		System shall have provision to generate debarment letter with an option with assigned IWAI staff to edit it		
		MIS Report: List of cases IV Crew wise for a specified period with status, date, decision, Exam Centre		
SF5.6	COC Duplication	System shall have provision for IV Crew to request for duplicate certificate of competency in case the COC have been damaged or lost		
		System shall have all common functional requirement as mentioned in A2, A3, A4, A5, A6, A7 and A8		
		System shall have provision for application form to be generated with all required fields with option to upload document in specific format		
		System shall route the IV Crew to payment gateway on a successful completion of application form		
		The application will be sent to 'regional offices based on work load at each States/UT's		
		The application will be assessed by assessing officer and the officer shall have facility to accept/reject the application or call for physical verification of papers. In case called for physical		

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		verification of paper, system will prompt user via SMS and e-mail		
		On logging into the profile, system will allow IV Crew to choose the nearest regional office of States/UT's for physical verification of certificates		
		System shall have provision to transfer the particular application from the one regional office to the assigned States/UT's staff at another regional office		
		System shall have provision to generate a soft copy of the certification after final approval		
		System shall have a provision for an assigned States/UT's staff to fill in the Certificate of competency booklet number which shall be updated on system		
		MIS Report: List of Duplicate application form with type of duplication, status, date applied, date approved, States/UT's due to verify for a specified period		
SF5.7	Certificate of Proficiency - Dangerous Cargo Endorsement- freshand renewal	System shall have all common functional requirement as mentioned in A2, A3, A4, A5, A6, A7 and A8		
		System shall allow a IV Crew to request for Type of Dangerous Cargo Endorsement: 1. Basic training for oil tanker cargo operations 2. Basic training for chemical tanker cargo operations 3. Basic training for liquefied gas tanker cargo operations 4. Advanced training for oil tanker cargo operations 5. Advanced training for chemical tanker cargo operations 6. Advanced training for liquefied gas tanker cargo operations		
		System should provide following provisions for application: 1. Apply for new certificate 2. Renewal of certificate		

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		System shall have provision for application form to be generated with all required fields and option to upload required documents inspecific format		
		System shall route the IV Crew to payment gateway on a successful completion of application form		
		The application will be sent to 'regional office' based on work load at each States/UT's		
		The application will be assessed by assessing officer and the officer shall have facility to accept/reject the application or call for physical verification of papers. Incase called for physical verification of paper, system will prompt user via SMS and e-mail		
		On logging into the profile, system will allow IV Crew to choose the nearest regional office of States/UT's for physical verification of certificates		
		System shall have provision to transfer the particular application from the one regional office to the assigned States/UT's staff at another regional office		
		System shall have provision to generate certificate on finalapproval by assigned States/UT's staff		
		MIS Report: List of application form IV Crew wise with type of application, status, date applied, date approved States/UT's due to verifyfor a specified period		
SF5.8	Certificate Of Service- Naval-fresh and renewal	After retiring from Navy any officer can request for working as an IV Crew. For that he needs to complete certain courses from MTIs and then request for Certificate of service on system		
		System shall have all common functional requirement as mentioned in A2, A3, A4, A5, A6, A7 and A8		
		System shall have provision for application form to be generatedwith all required fields		
		System shall route the IV Crew to payment gateway on a successful		

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		completion of application form		
		System should provide following provisions for application: 1. Apply for new certificate 2. Renewal of certificate		
		System shall route the IV Crew to payment gateway on a successful completion of application form		
		The application will be sent to regional office based on work load at each States/UT's		
		The application will be assessed by assessing officer and the officer shall have facility to accept/reject the application or call for physical verification of papers. In case called for physical verification of paper, system will prompt user via SMS and e-mail		
		On logging into the profile, system will allow IV Crew to choose the nearest regional office of States/UT's for physical verification of certificates		
		System shall have provision to transfer the particular application from the one regional office to the assigned States/UT's staff at another regional office.		
		System shall have provision to generate certificate after the final approval by assigned States/UT's staff		
		MIS Report: List of application IV Crew wise with type of application, status, date applied, date approved, States/UT's due to verify for a specified period		
SF5.9	Restricted COC- fresh and renewal	System shall have all common functional requirement as mentioned in A2, A3, A4, A5, A6, A7 and A8		
		System shall have provision for application form to be generated with all required fields		
		System shall route the IV Crew to payment gateway on a successful completion of application form		
		System should provide following provisions for application: 1. Apply for new certificate 2. Renewal of certificate		

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		System shall route the IV Crew to payment gateway on a successful completion of application form		
		The application will be sent to regional office based on work load at each States/UT's		
		The application will be assessed by assessing officer and the officer shall have facility to accept/reject the application or call for physical verification of papers. In case called for physical verification of paper, system will prompt user via SMS and e-mail		
		On logging into the profile, system will allow IV Crew to choose the nearest regional office of States/UT's for physical verification of certificates		
		System shall have provision to transfer the particular application from the one regional office to the assigned States/UT's staff at another regional office of the States/UT's		
		System shall have provision to generate certificate after the final approval by assigned States/UT's staff		
		MIS Report: List of application IV Crew wise with type of application, status, date applied, date approved States/UT's due to verify for a specified period		
SF5.10	Watch keeping Certificate	System shall have all common functional requirement as mentioned in A2, A3, A4, A5, A6, A7 and A8		
		System shall have provision for application form to be generated with all required fields		
		System shall route the IV Crew to payment gateway on a successful completion of application form		
		System shall route the IV Crew to payment gateway on a successful completion of application form		
		The application will be sent to regional office based on work load at each States/UTs		

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		The application will be assessed by assessing officer and the officer shall have facility to accept/reject the application or call for physical verification of papers. In case called for physical verification of paper, system will prompt user via SMS and e-mail		
		On logging into the profile, system will allow IV Crew to choose the nearest regional office for physical verification of certificates		
		System shall have provision to transfer the particular application from the one regional office to the assigned States/UT's staff at another regional office of the States/UT's		
		System shall have provision to generate certificate after the final approval by assigned States/UT's staff		
		MIS Report: List of application IV Crew wise with type of application, status, date applied, date approved, States/UT's due to verify for a specified period		
SF6	Sea Service			
SF6.1	Agreement	System shall have all common functional requirement as mentioned from A2, A3, A5 and A6		
SF6.2	Agreement	MIS Reports: List of applications with status and other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
SF6.3	Form 1	System check for application: a) Check sign off date > sign on date		
OT1	MTI			
OT1.1	Approval of MTI	System shall have all common functional requirement as mentioned from A1 and A3 to A10		
		System will allow inspection request to be sent to States/UTs. Thereafter, States/UTs will intimate the applicant of the inspection time and date through a notification.		
		System will allow States/UTs to upload the inspection report		

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		System will allow for MTI approval certificate to be auto-generated after approval of application. The certificate may be auto-forwarded to the States/UTs for further process.		
		System will have the provision for uploading the scan of the signed approval certificate from the back-end interface. This will then be integrated with the applicant database.		
		System will allow insertion of tracking number for the dispatch sent out with the Approval Certificate (Indian Postal Service dispatch). The same will be notified to the applicant.		
		MIS Reports		
		List of MTI approval applications with status and other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
OT1.2	Approval for courses	System shall have all common functional requirement as mentioned from A2 to A7 and A10		
		System will allow inspection request to be sent to MBS/IWTS. Thereafter, States/UTs will intimate the applicant of the inspection time and date through a notification.		
		System will allow States/UTs to upload the inspection report		
		System will allow for MTI approval certificate to be auto-generated after approval of application. The certificate may be auto-forwarded to the States/UTs for further process.		
		System will have the provision for uploading the scan of the signed course approval certificate from the back-end interface. This will then be integrated with the applicant database.		
		System will allow insertion of tracking number for the dispatch sent out with the Approval Certificate (Indian Postal Service dispatch). The same will be notified to the applicant.		
		MIS Reports		

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		List of MTI course approval applications with status and other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
OT1.3	Fee payment by MTI	System will auto-calculate the amount due		
		System shall have all common functional requirement as mentioned from A3 to A6		
		System will revise the amount due once the payment is processed		
		MIS Reports		
		List of annual fee payments with relevant details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
OT1.4	Change in batch details	System shall have all common functional requirement as mentioned from A2 to A7		
		System will allow for change in batch details to be made in the database, after approval of application. This change will also reflect in the approval certificate on the system.		
		MIS Reports		
		List of change in batch applications with status and other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
OT1.5	Change in affiliation	System shall have all common functional requirement as mentioned from A2 to A7		
		System will allow for change in MTI affiliation details to be made in the database, after approval of application. This change will also reflect in the approval certificate on the system.		
		MIS Reports		
		List of change in batch applications with status and other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
OT1.6	Update Batch details	System shall have all common functional requirement as mentioned from A2 to A7		

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OT1.7	Update Placement details	MIS Reports: List of details updated along with other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
OT1.8	Certifications issued by MTI	MIS Reports: List of details updated along with other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
OT1.9	Correction of profile/ IV Crew's details by MTI	System shall have all common functional requirement as mentioned from A2 to A6		
		System will allow for correction to database to be made automatically once application is approved		
		MIS Reports: List of correction applications with status and other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
OT1.10	Background Process Check	System will check is amount due is paid by the assigned deadline		
		System will check if updation of batch details, placement details and certification details have been completed by the assigned deadline		
		System will have the provision to notify the applicant and IWA authorized personnel in case of default		
		System will have the provision to block the User ID in case of repeat defaults		
		System will have the provision to redirect MTI to a payment gateway to pay the penalty in order to re-activate User ID		
		MIS Reports: Defaults in fee payment and process due for completion default for a specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
OT6	MB/IWT			
OT6.1	Issuance of IDCards	System shall have all common functional requirement as mentioned from A1, A3 to A7, A9 and A10		

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		System will allow for ID number to be auto-generated after approval of application according to inbuilt system logic. The same shall be auto-forwarded to the Printing Section, MB/IWTs for further process.		
		System will have the provision for uploading the scan and other details of the ID Card from the back-end interface. This will then be integrated with the applicant database.		
		System will allow insertion of tracking number for the dispatch sent out with the ID Number (Indian Postal Service dispatch). The same will be notified to the applicant.		
		MIS Reports: List of ID Card applications with status and other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
OT6.2	Renewal of ID Cards	System shall have all common functional requirement as mentioned from A3 to A7, A9 and A10		
		System eligibility check for request: a) Check time left from expiry date <1 yr		
		System will allow for expiry date to be automatically revised after approval of application. Parallely, a request for renewal sticker shall be auto-forwarded to the MB/IWTs.		
		System will have the provision for uploading the scan and other details of the renewal sticker from the back-end interface. This will then be integrated with the applicant database.		
		System will allow insertion of tracking number for the dispatch sent out with the ID Card renewal sticker (Indian Postal Service dispatch). The same will be notified to the applicant.		

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		MIS Reports: List of ID card renewal applications with status and other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		
OT6.3	Duplicate ID Cards	System shall have all common functional requirement as mentioned from A2 to A7, A9 and A10		
		System will allow for duplicate ID Card printing request to be sent to the MB/IWTs after approval of request. Parallely, old ID Card will be deactivated on the database.		
		System will have the provision for uploading the scan and other details of the duplicate ID card from the back-end interface. This will then be integrated with the applicant database.		
		System will allow insertion of tracking number for the dispatch sent out with the duplicate ID Card (Indian Postal Service dispatch). The same will be notified to the applicant.		
		MIS Reports: List of ID card duplication applications with status and other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.		

2. Vessels & allied				
S. No.	Process Type	System Requirement	Whether complied or not. (Yes/No)	Ref Document
SH0	Portal Registration	System shall have all common functional requirements as mentioned in: A1, A2, A3, A5, A6, A7		
		The system should have provision of portal registration for Shipping Companies, Recognized Organizations, Port Authorities, Ship Managers, Ship Builders, Designers, Other Users		
SH0.1	Portal	System shall have all common functional requirements as mentioned in: A1, A2, A3,		

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	Registration for Shipping Companies	A5, A6, A7		
		The system should have provision for 3 separate login ids for 1 Shipping company		
		The system shall provide Shipping companies option to render access to managers for selected Vessels only. All Managers activities will essentially be approved by the Shipping company		
SH0.2	Portal Registration for Recognized Organizations (RO)	The system should have provision for 3 separate login ids for 1 recognized organization		
		System shall have all common functional requirements as mentioned in: A1, A2, A3, A5, A6, A7		
SH0.3	Portal Registration for Port Authorities	System shall have all common functional requirements as mentioned in: A1, A2, A3, A5, A6, A7		
SH0.4	Portal Registration for Vessel Owners	The system shall provide Vessel Owners access of only those Vessels which they own		
SH0.5	Portal Registration for Ship Builders	The system shall provide Ship Builder access to facilitate registration formalities on behalf of vessel owners		
SH0.6	Portal Registration for Designers	The system shall provide Designers facilitate registration formalities on behalf of vessel owners		
SH1	Services for Shipping company			
SH1.1	Technical Clearance	System shall have all common functional requirements as mentioned in: A1, A2, A3, A4, A5, A6, A7, A8, A10 (Sample form attached)		
		System will check for following conditions and generate pop-up/ notification for requirement of technical clearance: - Vessel is older than 20 years Foreign Vessel being bought by an Indian owner - Technical Clearance does not exist in database		
		System shall have provision for payment through an electronic payment gateway with multiple options for mode of payment. Applicant will be redirected to the payment gateway on successful submission of application and the respective fee to be paid will be built into the system.		

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		System will automatically send notification once application is submitted successfully and subsequently, approved or rejected. Alternatively, in case of queries, notifications will be sent. All notifications will be sent through portal, registered email, as well as the registered mobile number		
		System will allow for all previously approved data (in preceding processes) to be stored in the profile and these will be auto populated in the future whenever required. Data has to be entered by the stakeholder carrying out the process, if data is not auto-populated.		
		System will have a provision to create profiles of each Vessel owned by a Shipping company. These Vessel profiles will be housed within the Shipping company's profile. - Each Vessel profile will be based on its 1. Registration No - all requests regarding a Vessel will be made through the profile of Vessel - the company will have to fill in Vessel profile details immediately after purchase/ charter, and before the first service request if submitted *Vessel-Registration number is YY IND 6 digit numerical long is automatically generated by the system for the vessel after approval by Designated Authority *Vessel-yard number is 5-7 digits long, and is assigned sequentially by the Shipyard where Vessel is built		
SH1.2	Name Allocation, Call Sign, Official number, Carving & Marking Note	System shall have all common functional requirements as mentioned in: A1, A2, A3, A4, A5, A6, A7, A9, A10, A11		
		System will proceed with the process only if the following conditions are met: -If Vessel is new or Vessel is 2nd hand, and younger than 20 years -If Vessel not registered -In case Vessel has been purchased from foreign entity and if such a Vessel is older than 20 years, then technical clearance is required prior to name allocation		
		System should have provision to direct user to 'Amendments to Registry' in case Vessel has already been registered		

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		The system should have provision to check for availability of name by searching for the desired name against 1. List of Vessel names registered in Indian Vessel Registry 2. Blacklisted words		
		The system should have provision for application form to be generated with all required fields as per age and type of Vessel		
		System should have provision for Vessel owner to input name in Hindi, post name availability check		
		System should have provision to auto generate Official No, Call Sign After approval by Designated Authority. *Call Sign consists of 4 alpha-numeric characters are assigned by Designated Authority		
		System should have provision for user to apply for C/M note if all documents are in place. The C/M note shall contain required information made as per guidelines. The C/M note shall be generated and auto-populated accordingly if approved by Designated Authority		
		System should have provision for Vessel owner to apply for Certificate of Survey from any pre-approved Indian port, apart from its Port of Registry		
		System will finalise creation of Vessel profile based on all the data entered by the user. Certain fields (as per checklists) are NOT EDITABLE directly by the user in the Vessel profile. Such fields shall be editable through a separate process called "Amendments to Registry". Other fields can be directly edited by the user. This will form the basis for auto-population when generating letters and certificates from templates.		
SH1.3	Amendments to Registry	System shall have all common functional requirements as mentioned in: A2, A3, A4, A5, A6, A7, A8, A10, A11		
		System shall have provision for Vessel owner/ Vessel manager to apply for amendments to fields which cannot be directly editable by the user		
		System will have provision for DA officials to amend certain fields of Vessel Profile		

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		These amendments will be reflected in the history of registry of Vessel		
SH1.4	Declaration of Owner Vessel	System shall have all common functional requirements as mentioned in: A2, A3, A5, A6, A7		
		System should have provision to accept document that has been digitally signed by Vessel owner. The Vessel's profile shall be updated with this declaration ONLY after digital signature from State / UT authority		
		System shall not proceed with registry in case declaration of ownership has not been submitted		
SH1.5	Issuance of Certificates (Transfer of Vessel / Transfer of Registry / Registration of Alteration and Modifications)	System shall have all common functional requirements as mentioned in: A2 to A11		
		System shall have provision for all Shipping companies/ Vessel managers/ to request Vessel related certificates from any RO only through State / UT. The payment will be directly made to the respective RO		
		System shall have provision for Recognized Organizations (RO) to input metadata for a Vessel and generate all RO issued certificates (mandatory). All certificates/ plan approvals/ survey letters will have to be issued only after entering meta data into the system		
		The system will have provision to assign unique alpha-numeric code for all the certificates issued by RO		
		System shall have provision for payment through an electronic payment gateway with multiple options for mode of payment. Applicant will be redirected to the payment gateway on successful submission of application and the respective fee to be paid will be built into the system.		
		The system shall have provision of a link to check authenticity of all certificates issued by MBs/IWTs or authorised third parties via the alpha-numeric code issued. Such a link will confirm the authenticity of the document, name against whom it is issued along with general details of the certificate to whomsoever although will not reveal crucial data		
		The system shall provide users to print certificates issued by State / UT and allied offices online. Certificates		

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		generated by the system for RO will have to be obtained from the RO.		
		The system shall provide optional service for hard copy dispatch of certificates to the users via post. In which the case the system will notify the respective officer and provide print option.		
SH1.6	Certificate of Registry	System shall have all common functional requirements as mentioned in: A2, A3, A4, A5, A6, A7, A8, A10		
		System should have provision to check in case Vessel has already been registered on Indian Flag or a fresh		
		System shall have provision for mapping / cancelling mortgage of vessel		
		The system will provide option for the user to choose the port of registry / the registrar		
		The system will check if mandatory requirements for Certificate of Registry (CoR) have been filled/ uploaded. If not, the system will check if mandatory requirements for Provisional Certificate of Registry have been satisfied. Accordingly, the system will allow/ direct the concerned officer to choose issuance of CoR or PCoR.		
		The system shall provide users to print COR/ PCOR certificates online.		
		The system shall provide optional service for hard copy dispatch of COR/ PCOR to the users via post. In which the case the system will notify the respective officer and provide print option.		
		System shall allow MBS/IWTS authority to issue digitally signed certificate of registry or PCOR, thus marking the Vessel as an Indian flag vessel in the database		
SH1.7	Cancellation of Registry and Issuance of Deletion Certificate	System shall have all common functional requirements as mentioned in: A2, A3, A4, A5, A6, A7, A8, A10		
		System shall have option to allow MBS/IWTS authority to cancel registry of vessel. On doing so, all digital signatures issued on all certificates for the vessel must be invalidated. A fresh certificate of 'deletion of registry' with a valid digital signature will be issued		
SH2	Plan Approval	System shall have all common functional requirements as mentioned in: A2 to A11		

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		System shall have provision for Vessel owner/ Vessel manager/ Designers / Ship Builders / RO to share plans of Vessels		
		System shall have provision for users (internal and external) to share files compatible with the specific Vessel design software (which has been discussed earlier)		
		System shall have provision to view and comment the all plans as uploaded by Vessel owner/ Vessel manager/ RO.		
		System will create a Vessel profile based on all the data entered by the user. Certain fields (as per checklists) are NOT EDITABLE directly by the user in the Vessel profile. Such fields shall be editable through a separate process called "Amendments to Registry". Other fields can be directly edited by the user. This will form the basis for auto-population when generating letters and certificates from templates.		
		System will make provisions for RO to enter metadata and required fields in the system for issuance of plan approval letter. All plan approval letters issued by RO will be routed through the system.		
SH3	Survey	System shall have all common functional requirements as mentioned in: A2 to A11		
		System shall have provision for user to apply for C/M survey and book surveyor for inspection		
		System shall have provision for user to apply for Type of survey and book surveyor for inspection such as (a) Initial Survey - new constructed vessels (b) Annual Survey - existing Vessels (c) Intermediate docking survey - existing vessel (d) Renewal Survey - Existing vessels (e) Additional Survey - as per DA		
		The system will check if mandatory requirements for Certificate of Survey (CoS) have been filled/ uploaded. If not, the system will check if mandatory requirements for Provisional Certificate of Survey have been satisfied. Accordingly, the system will allow/		

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		direct the concerned officer to choose issuance of CoS or PCoS.		
		The system shall provide users to print COS/ PCOS certificates online.		
		The system shall provide optional service for hard copy dispatch of COS/ PCOS to the users via post. In which the case the system will notify the respective officer and provide print option.		
		System shall allow Designated Authority to issue digitally signed certificate of Survey or PCOS, thus updating status of the Vessel as surveyed in the database		
SH4	FSI/ PSC inspection	System shall have all common functional requirements as mentioned in: A2 to A11		
		System shall have provision for Shipping agent/ Shipping company to apply voluntarily for FSI/ PSC inspection. System shall have provision for Ship Owners / Managers to select which port he wishes to voluntarily apply for FSI/ PSC inspection		
		System shall have provision for port authority to inform MBs/IWTs about potential FSI/ PSC violations by a Vessel		
		System will allow concerned lead authority of respective ports to assign surveyor or delegate the survey to RO		
		System shall provide a list of surveyors for the concerned lead authority to assign a survey		
		In cases where the survey has been delegated to an RO, the system will notify the concerned RO		
		System will have provision to mandatorily capture the metadata of Surveys conducted by RO.		
		In cases where the survey is conducted by MBS/IWTS/ IWA official, System shall have provision for surveyor to digitally fill forms while performing inspection while on-board the Vessel. These forms will be auto-saved at regular intervals to prevent loss of critical data, and uploaded as soon as internet connectivity is available.		
		Alternatively, the surveyor will be required to file the survey report, fill all the forms after the inspection.		

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		System shall have provision for surveyor to access the Vessel's details and certificates through his mobile/ tab/ laptop while conducting the inspection on board the Vessel		
		System shall allow generation of survey reports and forms		
		System shall have provision to communicate various codes to various concerned agencies regarding the status of the Vessel especially in cases where a Vessel has been detained		
		System shall allow generation of survey reports and forms for a second survey (whenever required)		
		System shall have provision to communicate revision in codes to various concerned agencies after a second survey has been conducted of a detained Vessel		
		System shall have provision for PO to send a mail from his portal to multiple entities for their reference		
		The system will capture all data of Vessel surveys conducted by global ports		
SH5	Exemptions	System shall have all common functional requirements as mentioned in: A2, A3, A4, A5, A6, A7, A8, A10, A11		
		System should have provision for users to apply for exemptions, based on categories and sub-categories		
		System should map each type of exemption to its concerned department heads		
OT1	Service Providers	System shall have all common functional requirements as mentioned in: A1, A2, A3, A4, A5, A6, A7, A8, A10, A11		
		The system will have login provision for service providers such as Bunker suppliers, labs, FFA/ LSA service stations, ports, etc.		
		The system will have a common landing page for all service providers, wherein the service provider can opt for MBs/IWTs services such as audits, approvals, etc.		

FRS: Document Management System

Sr. no.	Area	Requirement Description	Whether Complied or Not (Yes/No)	Reference Documents
1.	Document Management System	System shall have document management system which should have a functionality to store and archive the document in the system. The system should have the modules of having following features in the suite: Document Management, Record Management, Archival, Imaging & Information Rights Management		
2.	Document Management System	System must be scalable and follow the e-Gov standards as formulated by MeitY, GoI		
3.	Document Management System	Provide out-of-the-box integration with leading application servers		
4.	Document Management System	System shall provide web interface along with the facility of drag and drop. Web interface should support popular browsers such as Microsoft Explorer, Firefox, Netscape, Google and any other proposed browser etc.		
5.	Document Management System	System allows document / image capturing and should be able to send to a centralized repository		
6.	Document Management System	The system shall provide the standard file hierarchy structure of folders and sub-folders to allow users and groups of users to manage and organize their documents. State any limitations to the number of folders, subfolder levels.		

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Sr. no.	Area	Requirement Description	Whether Complied or Not (Yes/No)	Reference Documents
7.	Document Management System	The interface shall allow users creation, editing and management of documents. The system shall provide the to update the version of the linked document whenever the original is updated		
8.	Document Management System	The web interface shall provide multiple views of the content and allow users to access/modify folders based on their access rights and permissions. The proposed system should be able to restrict the users to access documents/images based on their pre-defined rights & privileges		
9.	Document Management System	System must provide web-based administration tool and provide a single point of access for managing and administering all repositories, servers, users and groups regardless of their location		
10.	Document Management System	System allows the users to add attributes/metadata to the documents/images and classify the documents/images based on their Type		
11.	Document Management System	System shall have simple search & advanced search facility		
12.	Document Management System	System shall provide a policy engine that can execute storage placement and migration policies to optimize storage, while reducing the content storage cost to the business and maintain accessibility and compliance needs as its value changes over time		
13.	Document Management System	System shall provide migration logs and audit trails so that operations on content is traceable. Audit trail must		

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Sr. no.	Area	Requirement Description	Whether Complied or Not (Yes/No)	Reference Documents
		contain information such as event performed on document, user who performed the action, and date time stamp		
14.	Document Management System	Documents received from external agencies through central database system shall be stored in Document Management System		
15.	Document Management System	System shall be able to store images/documents in various formats such jpeg, gif, bmp, word doc, excel, power point, pdf etc. The same infrastructure should be able to support other content types in the future like audio, video files etc.		
16.	Document Management System	System shall not require any additional license to communicate / exchange data between client / host machine and server		
17.	Document Management System	System shall support application of metadata taxonomy based on key words within the document.		
18.	Document Management System	System shall enable cross-reference of documents		
19.	Document Management System	System shall have search capabilities that supports powerful and comprehensive full-text searching, metadata searching or a combination of the two.		
20.	Document Management System	System shall provide ability for the user to search and find documents based on any of the associated metadata, such as document type, author, title, location, active/inactive status, date created etc.		
21.	Document Management	System shall provide capability to search within so that users can		

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Sr. no.	Area	Requirement Description	Whether Complied or Not (Yes/No)	Reference Documents
	System	narrow down the search		
22.	Document Management System	Interface for managing the entire lifecycle of Document management, starting from its creation to its disposition		
23.	Document Management System	Support for interoperability with crossplatforms specifically (Windows, Linux and Unix, Sun Solaris), Databases and Web Servers		
24.	Document Management System	The system should have capability to inform by SMS/Email/Voice calls that the grievance has been redressed.		
25.	Document Management System	Support Alert Mechanisms (Reminders), Escalation Mechanisms (Flexible routing of files, Calling back the files by the superior)		
26.	Document Management System	support Drop Down List for most of the fields, Single window for interacting with the application		
27.	Document Management System	Leveraged Document management software should figure in the Leader/Challenger Quadrant of Gartner Magic Quadrant or Leader/Strong Performer in Forrester's Wave or Classified as leaders as per latest IDC Market Scape in the last one year as on day of submission of bid		
28.	Document Management System	The System with document management facilities should be able to interface with related packages, including image processing, workflow systems and web services whilst retaining full control of existing electronic records.		
29.	Document Management	The solution should support single metadata store for modules such as		

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Sr. no.	Area	Requirement Description	Whether Complied or Not (Yes/No)	Reference Documents
	System	Document Management, Web Content Management, Records Management and Digital Asset Management.		
30.	Document Management System	System should provide Administration services such as archiving and removal, configuration migration, audit trails and system reports, and back-up and recovery using a web-based user interface.		
31.	Document Management System	System should fully integrate all the existing online applications of the Department. It shall provide a single point of access through the internet to the applications containing back office transactional and the applications under one umbrella.		
32.	Document Management System	Content Management solution should support common metadata repository, all kind of content rendition and robust content workflow. It should include document management, records management, web content management and digital asset management.		
33.	Document Management System	The system shall support drag and drop features in the browser based interface - both for adding documents from outside the DMS (like moving documents from Windows Explorer to DMS repository) and for moving documents within the folders of the DMS repository		
34.	Document Management System	Data migration from existing set up to the newly developed system should be supported.		
35.	Document Management	The proposed system should automate content archival according		

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Sr. no.	Area	Requirement Description	Whether Complied or Not (Yes/No)	Reference Documents
	System	to storage policies based on business value and information. System should be able to automatically move the content from production to archive storage based on the Business rules		
36.	Document Management System	The proposed system should have centralized repository and allow users to drag and drop content into the repository. The common integrated repository should be able to handle all types of enterprise content management, including documents, web content, digital assets, collaborative content, document images, records etc.		
37.	Document Management System	All appropriate field on the system screen should be populated and contextual information is displayed where necessary (e.g., payment information will display on the payment screen).		
38.	Document Management System	User should be able to view retention dates to determine how long items will be kept in the system. Should provide support to manage the retention and disposition of the documents		
39.	Document Management System	Provide support for chronological and event based retention types and provision to apply retention and disposition rules at any hierarchical level		
40.	Document Management System	The system should be capable of displaying the previous interaction histories on email / SMS, and the same should be available to voice based users.		
41.	Document Management System	The proposed system should allow major and minor versioning of the documents. Must be able to provide major (e.g. 1.0, 2.0), minor (e.g. 1.1, 1.2) and branch version (e.g. 1.0.1,		

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Sr. no.	Area	Requirement Description	Whether Complied or Not (Yes/No)	Reference Documents
		2.1.0.1) control. A "reason for change" comment entry and versionlabel entry must also be provided		
42.	Document Management System	Interface for managing the entire lifecycle of content management, starting from its creation to its disposition		
43.	Document Management System	Web interface shall enable users to select from a range of themes/skins that define the look-and-feel of the interface		
44.	Document Management System	The proposed system should provide configuration options that can be set at a role level to enable/disable functionality such as menu options and limiting list values according to that role's function		

Cloud Network Security Services				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Details of Reference Document for verifying compliance	Reference Page No
1	Security measures against malware (anti-virus, Trojan detection, anti-spam, etc.)			
2	Security measures against network-based attacks (IPS/IDS systems, firewall, etc.)			
3	DDoS mitigation (protection against DDoS attacks)			
4	Suitable network segmentation (isolate the management network from the data network)			
5	Secure configuration of all components in the cloud architecture			

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6	Remote administration via a secure communication channel (e. g. SSH, TLS/SSL, IPsec, VPN)			
7	Encrypted communication between Cloud Computing provider and Cloud Computing user (e. g. TLS/SSL)			
8	Encrypted communication between Cloud Computing locations			
9	Redundant networking of the cloud data centres			

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Cloud Application and Platform Services				
#	Description of Requirement	Compliance (Yes/No)	Details of Reference Document for verifying compliance	Reference Page No
1	Bidder to ensure secure isolated applications (PaaS) Platform as a Service			
2	Bidder to follow guidelines to create secure cloud applications (PaaS)			
3	Bidder to ensure automated checking of customer applications for application vulnerabilities, particularly before going live (PaaS)			
4	Bidder to ensure patch and change management (patches, updates and service packs deployed swiftly) and release management is adequate			
5	Patches are compatible on test systems before adopting them in production			

ENTERPRISE MANAGEMENT SYSTEM					
#	Nature of Requirement	Minimum Requirement Description for EMS	Compliance(Y/N)	Reasons for Deviation (if any)	Details
1	Basic Requirement	Solution should provide for future scalability of the whole system without major architectural changes.			
2	Basic Requirement	Should be SNMP compliant.			
3	Basic Requirement	Filtering of events should be possible, with advance sort option based on components, type of message, time etc.			
4	Basic Requirement	Should support Web / Administration Interface.			
5	Basic Requirement	Should provide compatibility to standard RDBMS.			
6	Basic Requirement	Solution should be open, distributed, and scalable and open to third party integration.			
7	Basic Requirement	Should provide fault and performance management for multi-vendor TCP/IP networks.			
8	Security	Should be able to provide secured windows based consoles / secured web based consoles for accessibility to EMS.			
9	Security	Should have web browser interface with user name and Password Authentication.			
10	Security	Administrator / Manager should have privilege to create / modify / delete user.			
11	Polling Cycle	Support discriminated polling			
12	Polling Cycle	Should be able to update device configuration changes such as re-indexing of ports			
13	Fault Management	Should be able to get fault information in real time and present the same in alarm window with description, affected component, time stamp etc.			

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14	Fault Management	Should be able to get fault information from heterogeneous devices routers, switches, servers etc.			
15	Fault Management	Event related to servers should go to a common enterprise event console where a set of automated tasks can be defined based on the policy.			
16	Fault Management	Should have ability to correlate events across the entire infrastructure components of DC/DR.			
17	Fault Management	Should support automatic event correlation in order to reduce events occurring in DC/DR.			
18	Fault Management	Should support advanced filtering to eliminate extraneous data / alarms in Web browser and GUI.			
19	Fault Management	Should be configurable to suppress events for key systems/devices that are down for routine maintenance or planned outage.			
20	Fault Management	Should be able to monitor on user- defined thresholds for warning/ critical states and escalate events to event console of enterprise management system.			
21	Fault Management	Should provide out of the box root cause analysis with multiple root cause algorithms inbuilt for root cause analysis.			
22	Fault Management	Should have self-certification capabilities so that it can easily add support for new traps and automatically generate alarms.			
23	Fault Management	Should provide sufficient reports pertaining to asset and change management, alarms and availability of critical network resources as well as network response times for critical links.			

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24	Fault Management	The tool shall integrate network, server and database performance information and alarms in a single console and provide a unified reporting interface for network and system components. The current performance state of the entire network and system infrastructure shall be visible in an integrated console.			
25	Fault Management	Should provide an integrated performance view for all the managed systems and networks along with the various threshold violations alarms in them. It should be possible to drill-down into the performance view to execute context specific reports.			
26	Fault Management	Should provide the following reports for troubleshooting, diagnosis, analysis and resolution purposes: Trend Reports, At-A-Glance Reports, & capacity prediction reports.			
27	Fault Management	Should be able to auto-calculate resource utilization baselines for the entire managed systems and networks and allow user to set corresponding upper and lower threshold limits.			
28	Discovery	Should provide accurate discovery of layer 3 and heterogeneous layer 2 switched networks for Ethernet, LAN, and Servers etc.			
29	Discovery	Manual discovery can be done for identified network segment, single, or multiple devices.			
30	Presentation	Should be able to discover links with proper colour status propagation for complete network visualization.			
31	Presentation	Should support dynamic object collections and auto discovery. The			

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		topology of the entire Network should be available in a single map.			
32	Presentation	Should give user option to create his /or her map based on certain groupof devices or region.			
34	Agents	Should monitor various operating system parameters such as processors, memory, files, processes, file systems etc. where applicable using agents on theservers to be monitored.			
35	Agents	Provide performance threshold configuration for all the agents to be done from a central GUI based console that provide a common lookand feel across various platforms inthe enterprise. These agents could then dynamically reconfigure them to use these threshold profiles theyreceive.			
36	System Monitoring	Should be able to monitor/manage large heterogeneous systems environment continuously.			
37	System Monitoring	Should monitor / manage following(based on Stack):			
38	System Monitoring	Event log monitoring.			
39	System Monitoring	Virtual and physical memorystatistics			
40	System Monitoring	Paging and swap statistics			
41	System Monitoring	Operating system			
42	System Monitoring	Memory			
43	System Monitoring	Logical disk			
44	System Monitoring	Physical disk			
45	System Monitoring	Process			
46	System Monitoring	Processor			
47	System Monitoring	Paging file			
48	System Monitoring	IP statistics			
49	System Monitoring	ICMP statistics			
50	System Monitoring	Network interface traffic			

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51	System Monitoring	Cache			
52	System Monitoring	Active Directory / LDAP Services			
53	System Monitoring	Should monitor following with statistics :			
54	System Monitoring	CPU Utilization, CPU LoadAverages			
55	System Monitoring	System virtual memory (includeswapping and paging)			
56	System Monitoring	Disk Usage			
57	System Monitoring	No. of Nodes in each file system			
58	System Monitoring	Network interface traffic			
59	System Monitoring	Critical System log integration			
60	Infrastructure Services	IIS / Tomcat / Apache / Web serverstatistics			
61	Infrastructure Services	HTTP service			
62	Infrastructure Services	HTTPS services & CRIMINALTRACKING NETWORK AND SYSTEMS			
63	Infrastructure Services	FTP server statistics			
64	Infrastructure Services	POP/ SMTP Services			
65	Infrastructure Services	ICMP services			
66	Infrastructure Services	Database Services - Monitor various critical relational database management system (RDBMS) parameters such as database tables / table spaces, logs etc.			
67	Application Performance Management	End to end Management of applications (J2EE/.NET based)			
68	Application Performance Management	Determination of the root cause of performance issues whether inside the			
69	Application Performance Management	Java / .Net application in connected back-end systems or at the networklayer.			
70	Application Performance Management	Automatic discovery and monitoringof the web application environment			
71	Application Performance Management	Ability to monitor applications with adashboard.			

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72	Application Performance Management	Ability to expose performance of individual SQL statements within problem transactions.			
73	Application Performance Management	Monitoring of third-party applications without any source code change requirements.			
74	Application Performance Management	Proactive monitoring of all end user transactions; detecting failed transactions; gathering evidence necessary for problem diagnose.			
75	Application Performance Management	Storage of historical data is for problem diagnosis, trend analysis etc.			
76	Application Performance Management	Monitoring of application performance based on transaction type.			
77	Application Performance Management	Ability to identify the potential cause of memory leaks.			
78	Reporting	Should be able to generate reports on predefined / customized hours.			
79	Reporting	Should be able to present the reports through web and also generate "pdf" / CSV / reports of the same.			
80	Reporting	Should provide user flexibility to create his /or her custom reports on the basis of time duration, group of elements, custom elements etc.			
81	Reporting	Should provide information regarding interface utilization and error statistics for physical and logical links.			
82	Reporting	Should create historical performance and trend analysis for capacity planning.			
83	Reporting	Should be capable to send the reports through e-mail to predefined user with pre-defined interval.			
84	Reporting	Should have capability to exclude the planned-downtimes or downtime outside SLA.			

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85	Reporting	Should be able to generate web-based reports, historical data for the systems and network devices and Near Real Time reports on the local management console.			
86	Reporting	Should be able to generate the reports for Server, Application.			
87	Reporting	Provide Historical Data Analysis: The software should be able to provide a time snapshot of the required information as well as the period analysis of the same in order to help in projecting the demand for bandwidth in the future.			
88	Availability Reports	Availability and Uptime – Daily, Weekly, Monthly and Yearly Basis			
89	Availability Reports	Trend Report			
90	Availability Reports	Custom report			
91	Availability Reports	MTBF and MTTR reports			
92	Performance Reports	Device Performance – CPU and Memory utilized			
93	Performance Reports	Interface errors			
94	Performance Reports	Server and Infrastructure service statistics			
95	Performance Reports	Trend report based on Historical Information			
96	Performance Reports	Custom report			
97	Performance Reports	SLA Reporting			
98	Performance Reports	Computation of SLA for entire DC/DR Infrastructure			
99	Performance Reports	Automated Daily, Weekly, Monthly, Quarterly and Yearly SLA reports.			
100	Data Collection	For reporting, required RDBMS to be provided with all licenses.			
101	Data Collection	Should have sufficient Storage capacity should to support all reporting data			
102	Integration	Should be able to receive and process SNMP traps from infrastructure components such as router, switch, servers			

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		etc.			
103	Integration	Should be able integrate with Helpdesk system for incidents.			
104	Integration	Should be able to send e-mail or Mobile -SMS to pre-defined users for predefined faults.			
105	Integration	Should trigger automated actions based on incoming events / traps. These actions can be automated scripts/batch files.			
106	Network Management	The Network Management function must monitor performance across heterogeneous networks from one end of the enterprise to the other.			
107	Network Management	It should proactively analyze problems to improve network performance.			
108	Network Management	The Network Management function should create a graphical display of all discovered resources.			
109	Network Management	The Network Management function should have extensive reporting facility, providing the ability to format and present data in a graphical and tabular display.			
110	Network Management	The Network Management function should collect and analyze the data. Once collected, it should automatically store data gathered by the NMS system in a database. This enterprise-wide data should be easily accessed from a central location and used to help with			

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		capacity planning, reporting, and analysis.			
111	Network Management	The Network Management functions should also provide information on performance of Ethernet segments, including capacity utilization and error statistics for the segment, WAN links and routers.			
112	Network Management	Alerts should be shown on the Event Management map when thresholds are exceeded and should subsequently be able to inform Network Operations Center (NOC) and notify concerned authority using different methods such as emails, etc.			
113	Network Management	It should be able to automatically generate a notification in the event of a link failure to ensure proper handling of link related issues.			
114	Network Management	The Systems and Distributed Monitoring (Operating Systems) of EMS should be able to monitor:			
115	Network Management	Processors: Each processor in the system should be monitored for CPU utilization. Current utilization should be compared against user-specified warning and critical thresholds.			
116	Network Management	File Systems: Each file system should be monitored for the amount of file system space used, which is compared to user-defined warning and critical thresholds.			

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117	Network Management	Log Files: Logs should be monitored to detect faults in the operating system, the communication subsystem and in applications. The function should also analyze the files residing on the host for specified string patterns.			
118	Network Management	System Processes: The System Management function should provide real-time collection of data from all system processes. This should identify whether or not an important process has stopped unexpectedly. Critical processes should be automatically restarted using the System Management function.			
119	Network Management	Memory: The System Management function should monitor memory utilization and available swap space.			
120	SLA Monitoring	The SLA Monitoring component of EMS will have to possess the following capabilities:			
121	SLA Monitoring	EMS should integrate with the application software component of portal software that measures performance of system against the following SLA parameters:			
122	SLA Monitoring	Response times of Portal;			
123	SLA Monitoring	Uptime of IT Infrastructure;			
124	SLA Monitoring	Meantime for restoration of services etc.			
125	SLA Monitoring	EMS should compile the performance statistics from all the IT systems involved and compute the average of the parameters over a quarter, and compare it with the SLA metrics laid down in the RFP.			

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126	SLA Monitoring	The EMS should compute the weighted average score of the SLA metrics and arrive at the quarterly service charges payable to the Agency after applying the system of penalties and rewards.			
127	SLA Monitoring	The SLA monitoring component of the EMS should be under the control of the authority that is nominated the client so as to ensure that it is in a trusted environment.			
128	SLA Monitoring	The SLA monitoring component of the EMS should be subject to random third party audit to vouchsafe its accuracy, reliability, and integrity.			
129	ITIL based Helpdesk	Helpdesk system would automatically generate the incident tickets and log the call. Such calls are forwarded to the desired system support personnel deputed by the Implementation Agency. These personnel would look into the problem, diagnose and isolate such faults and resolve the issues timely. The helpdesk system would be having necessary workflow for transparent, smoother and cordial DC/DR support framework.			
130	ITIL based Helpdesk	The Helpdesk system should provide flexibility of logging incident manually via windows GUI and web interface.			
131	ITIL based Helpdesk	The web interface console of the incident tracking system would allow viewing, updating, and closing of incident tickets.			
132	ITIL based Helpdesk	The trouble-ticket should be generated for each complaint and given to asset owner immediately as			

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		well as part of email.			
133	ITIL based Helpdesk	Helpdesk system should allow detailed multiple levels/tiers of categorization on the type of security incident being logged.			
134	ITIL based Helpdesk	It should provide classification to differentiate the criticality of the security incident via the priority levels, severity levels and impact levels.			
135	ITIL based Helpdesk	It should allow SLA to be associated with a ticket based on priority, severity, incident type, requestor, asset, location or group individually as well as collectively.			
136	ITIL based Helpdesk	It should maintain the SLA for each item/service. The system should be able to generate report on the SLA violation or regular SLA compliance levels.			
137	ITIL based Helpdesk	It should be possible to sort requests based on how close are the requests to violate their defined SLA's.			
138	ITIL based Helpdesk	It should support multiple time zones and work shifts for SLA & automatic ticket assignment.			
139	ITIL based Helpdesk	It should allow the helpdesk administrator to define escalation policy, with multiple levels & notification, through easy to use window GUI / console.			
140	ITIL based Helpdesk	System should provide a knowledgebase to store history of useful incident resolution.			
141	ITIL based Helpdesk	It should have an updateable knowledge base for technical analysis and further help end-users to search solutions for			

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		previously solved issues.			
142	ITIL based Helpdesk	The web-based knowledge tool would allow users to access his / her knowledge article for quick references.			
143	ITIL based Helpdesk	It should provide functionality to add / remove a knowledge base solution based on prior approval from the concerned authorities.			
144	ITIL based Helpdesk	Provide seamless integration to generate events/incident automatically from NMS / EMS.			
145	ITIL based Helpdesk	Each incident could be able to associate multiple activity logs entries manually or automatically events / incidents from other security tools or EMS / NMS.			
146	ITIL based Helpdesk	Allow categorization on the type of incident being logged.			
147	ITIL based Helpdesk	Provide audit logs and reports to track the updating of each incident ticket.			
148	ITIL based Helpdesk	Proposed incident tracking system would be ITIL compliant.			
149	ITIL based Helpdesk	It should be possible to do any customizations or policy updates in flash with zero or very minimal coding or down time.			
150	ITIL based Helpdesk	It should integrate with Enterprise Management System event management and support automatic problem registration, based on predefined policies.			
151	ITIL based Helpdesk	It should be able to log and escalate user interactions and requests.			
152	ITIL based Helpdesk	It should support tracking of SLA (service level agreements) for call requests within the help desk through service types.			

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153	ITIL based Helpdesk	It should be capable of assigning call requests to technical staff manually as well as automatically based on predefined rules, and should support notification and escalation over email, web etc.			
154	ITIL based Helpdesk	It should provide status of registered calls to end-users over email and through web.			
155	ITIL based Helpdesk	The solution should provide web based administration so that the same can be performed from anywhere.			
156	ITIL based Helpdesk	It should have a customized Management Dashboard for senior executives with live reports from helpdesk database.			
157	Client Management System	The proposed desktop management system should provide single integrated agent for asset management, remote software deployment and remote desktop control.			
158	Asset Management System	The proposed Asset Management solution must provide inventory of hardware and software applications on end-user desktops including information on processor, memory, operating system, mouse, key board of desktops etc. through agents installed on them.			
159	Asset Management System	The proposed Asset Management solution must have reporting capabilities; provide predefined reports and the possibility to create customized reports on data in the inventory database. Report results could be displayed as lists or graphs.			

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160	Asset Management System	The proposed Asset Management solution must have the capability to export the reports to CSV, HTML and XML format.			
161	Asset Management System	The proposed Asset Management solution must provide the facility for user defined templates to collect custom information from desktops.			
162	Asset Management System	The proposed Asset Management solution must provide facility to recognize custom applications on desktops.			
163	Asset Management System	The proposed Asset Management solution must support administrators to register a new application to the detectable application list using certain identification criteria's (Like executable, Date/time stamp etc.). The new application must be detected automatically from next time the inventory is scanned.			
164	Asset Management System	The proposed Asset Management solution must provide facility for queries and automated policies to be set up and permit scheduling of collecting engines to pick up the data at defined intervals.			
165	Asset Management System	The proposed Asset Management solution must be able to collect WBEM information.			
166	Asset Management System	The proposed Asset Management solution must integrate with the helpdesk solution and allow ticket creation automatically on an event defined in asset management solution. It should also allow manual ticket creation also.			

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167	Asset Management System	The proposed Asset Management solution must support Software metering to audit and control software usage where launching of an application can be prevented based on centrally configured number of licenses for an application.			
168	Remote Software Deployment System	It should provide delivery, installation, and un-installation of software (ex. Patches of Anti-virus solution etc.) installed on end-user desktops by software delivery remotely through agents installed on them. It must allow pre- and post- installation steps to be specified if required & support rollback in the event of failure in installing software to end-user desktops.			
169	Remote Software Deployment System	The tool should have the capability to install applications based on interdependencies i.e. to be installed in a particular order.			
170	Remote Software Deployment System	It should support deployment of MSI based packages using drag and drop method.			
171	Remote Software Deployment System	It should perform actual distribution of software remotely, not mere file transfer and manual installation at other end. Automated installation should be possible.			
172	Remote Software Deployment System	It should include a Software packager for creating software packages to be delivered to end- user desktops which uses a snap-shot technology.			

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173	Remote Software Deployment System	It should support both push and pull software distribution modes. A catalog/advertisement option of the existing software delivery packages must be provided for end-user to download and install software of his / her choice.			
174	Remote Software Deployment System	Users must be allowed to cancel jobs if they are launched at an inconvenient time. Cancelled jobs must be allowed to be reactivated. Forcing packages onto the computer must also be possible.			
175	Remote Desktop Control Management System	The proposed solution should allow remote control of end-user desktop for facilitating resolution of desktop issues without the need to go to the end-user desktop, through agents installed on them.			
176	Remote Desktop Control Management System	It should provide the capability of taking Remote control of Linux systems also using Views sitting on Windows platform.			
177	Remote Desktop Control Management System	It should provide Windows integrated authentication as well as application based authentication option to choose from for the agent installed.			
178	Remote Desktop Control Management System	It should allow host enabled recording which allows the end user to initiate a recording session.			
179	Remote Desktop Control Management System	It should have the ability to convert the recorded sessions in AVI/WMA format so it can be replayed using commonly available Windows media player.			

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180	Remote Desktop Control Management System	Centralized User Management should allow administrators to centrally manage remote control users' and their access rights. Administrators must be able to define preferences and capabilities different users or user groups have, as well as defining which targets they can control.			
181	Remote Desktop Control Management System	It should support Seamless integration with management applications such as helpdesk, assetmanagement and Software delivery.			
182	Remote Desktop Control Management System	It should support remote Reboot & Chat functions between nodes.			
183	Remote Desktop Control Management System	It should provide facility for encrypting the authentication traffic and support AES 256.			

Firewall Services				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Details of Reference Document for verifying compliance	Reference Page No
1	Solution/offering would be a cloud-based Firewall service.			
2	The Firewall Appliance / solution / offering should have certifications like NDPP / ICASA / EAL4 or more.			
3	The Appliance / virtual / cloud offering based security platform should be capable of providing firewall, IPS, and VPN (both IPsec and SSL) functionality in a single appliance			

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4	The Appliance / virtual /cloud offering hardware should be a multicore CPU architecture with a hardened operating system to support higher memory			
5	Proposed Firewall should be open architecture based on multi-core cpu's to protect & scale against dynamic latest security threats.			
6	Firewall should support atleast sufficient concurrent VPN peers IPsec / SSL			
7	Firewall should support minimum vlans as required in the project			
8	Firewall should support virtual firewalls from day one & support licensed based scalability as & when required			
9	Firewall should provide application inspection for DNS, FTP, HTTP, SMTP, ESMTP, LDAP, VLAN, VXLAN, MGCP, RTSP, SIP, SCCP, SQLNET, TFTP, H.323, SNMP			
10	Should be able to group multiple firewalls together as a single logical device and should scale performance in term of combined throughput, connections and connections per second			
11	Firewall should support creating access-rules with IPv4 & IPv6 objects simultaneously			
12	Firewall should support operating in routed & transparent mode. Should be able to set mode independently for each context in multi-context mode			
13	In transparent mode firewall should support arp-inspection to prevent spoofing at Layer-2			

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14	Should support Non-Stop Forwarding in HA during failover and Graceful Restart			
15	Firewall should support static nat, pat, dynamic nat, pat & destinationbased nat			
16	Firewall should support Nat66 (IPv6- to-IPv6), Nat 64 (IPv6-to-IPv4) & Nat46 (IPv4-to-IPv6) functionality			
17	Should support Remotely TriggeredBlack Hole for Border Gateway protocol security			
18	Firewall should support Restful APIfor integration with 3rd party solutions like Software Defined Networking			
19	Firewall should support stateful failover of sessions in Active/Standby or Active/Active mode			
20	Firewall should support etherchannel functionality for the failover control & date interfaces forprovide additional level of redundancy			
21	Firewall should support redundant interfaces to provide interface level redundancy before device failover			
22	Firewall should support 802.3ad Etherchannel functionality to increase the bandwidth for a segment across different modules			
23	Firewall should support failover of IPv4 & IPv6 sessions			
24	Firewall should replicate Nat translations, TCP,UDP connection states, ARP table, ISAKMP & IPSec SA's, SIP signalling sessions			
25	Firewall should have integrated redundant power supply			
26	Firewall should support client based and clientless SSL vpn peers from			

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	day one.			
27	Firewall should support RFC 6379 based Suite-B Cryptography Suites/algorithms like AES- GCM/GMAC support (128-, 192-, and 256-bit keys), ECDH support (groups 19, 20, and 21), ECDSA support (256-, 384-, and 521-bit elliptic curves) for enhanced VPNsecurity.			
28	Firewall should support latest IKEv2 standards for supporting SHA-2 256, 384 & 512 bit message integrity algorithms in hardware to ensure there is no performance bottleneck& higher security.			
29	Firewall should support RFC 6379 based Suite-B Cryptography Suites/algorithms like AES- GCM/GMAC support (128-, 192-, and 256-bit keys), ECDH support (groups 19, 20, and 21), ECDSA support (256-, 384-, and 521-bit elliptic curves) for enhanced VPNsecurity.			
30	The proposed solution should be VPNC/ICSA compliant for interoperability.			
31	Should support pre-shared keys & Digital Certificates for VPN peer authentication			
32	Should support perfect forward secrecy & dead peer detection functionality			
33	Should support Nat-T for IPsec VPN			
34	Routing Features			
35	Firewall should support IPv4 & IPv6static routing, RIP, OSPF v2 & v3, PBR, VLAN, VXLAN for PBR, PBR for IPv6 BGP and BGPv6			
36	Firewall should support PIM multicast routing			

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37	Firewall should support SLA monitoring for static routes			
38	Firewall should support management of firewall policies via Cli, SSH & inbuilt GUI management interface.			
39	Firewall should support SNMP v1,2c& 3 simultaneously			
40	Firewall should support packet capturing functionality			
41	Firewall should support the functionality of Auto-Update to check for latest software versions & download the same			

FRS: Content Management Module

Sr. no.	Area	Requirement Description	Whether Complied or not (Yes/No)	Reference Documents
1.	Content Management System	System shall provide FAQs on all the modules which provides interface from the user. FAQs shall be made available for public view		
2.	Content Management System	System shall provide web-based training videos (WBT) demonstrating all the user interaction related modules in detail. Such videos shall explain each phase of the registration process, contents and documents to be attached during registration etc. Online training Programmes shall be in both English and local language (Hindi).		
3.	Content Management System	System shall provide a 'Help/Guidance' page which includes the video tutorials for end-to-end process for each type of stakeholder		
4.	Content Management	System shall provide User Manual for each type of stakeholder. The user		

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Sr. no.	Area	Requirement Description	Whether Complied or not (Yes/No)	Reference Documents
	System	manual shall be in English and Hindi		
5.	Content Management System	System shall provide up-to-date content and the content shall be ease in understanding and engaging for the viewer		
6.	Content Management System	System shall also capture the feedbacks/suggestions from the user of the central database system		
7.	Content Management System	There shall be also hybrid mobile app for vessel owners etc for this module		

FRS: Analytics, Reporting Generation and Dynamic Dashboard/MIS Report

S.no	Area	Requirement Description	Whether complied or not (Yes/No)	Reference documents
1.	Dashboard	The system will have a unified dashboard for reporting purpose		
2.	Dashboard	The system will provide for descriptive analysis dashboard inclusive of but not limited to following		
3.	Dashboard	Number of central database system users		
4.	Dashboard	Number of Stakeholders interacting with the system		
5.	Dashboard	Number/Type of Registration undertaken in month/quarter/yearly by the Designated Authority		
6.	Dashboard	Number of incidents cases occurred, if any under the jurisdiction of Designated Authority		
7.	Dashboard	Number/Type of Survey undertaken in month/quarter/yearly by the Designated Authority		
8.	Dashboard	The system will also provide dwell time monitoring related to Registration & Survey.		
9.	Dashboard	The system will also provide transactions during a specified period, transaction density trends for any specified periodicity (weekly, monthly) and any bottleneck situation creating dependency at any stage		
10.	MIS	The system will generate reports consisting of, but not limited to, central database system user details, stakeholder at the Maritime Boards / Inland Water Transport Depts using central database system		
11.	MIS	The system will support creating of customized reports		
12.	MIS	The system will allow filtering the reports based on the number/type of		

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S.no	Area	Requirement Description	Whether complied or not (Yes/No)	Reference documents
		Registration and Survey by respective Maritime Boards / Inland Water Transport Depts in a day/week/month		
13.	MIS	The system will provide the report of the documents getting rejected by the Designated Authorities		
14.	MIS	The system will provide a report of vessels Survey being rejected by Designated Authorities		
15.	MIS	The system will also provide the data on the number of stakeholders request for various services by Designated Authority		
16.	MIS	The reports will be made available in multiple formats like Adobe PDF, MS Excel and other relevant formats		
17.	MIS	The system will provide the number of Registration suspended / cancelled by Designated Authorities		

FRS: Presentation Layer

S.no	Area	Requirement Description	Whether Complied or not (Yes or No)	Reference Documents
1.	Common requirements of Portal	System should have a web portal for central database system which shall be user friendly, informative, interactive and easily accessible.		
2.	Common requirements of Portal	The system should follow GIGW guidelines		
3.	Common requirements of Portal	The web portal should meet and compliant the web design and security guidelines of Govt. of India		
4.	Common requirements of Portal	The system should adhere to Best/Standard programming practices		

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S.no	Area	Requirement Description	Whether Complied or not (Yes or No)	Reference Documents
		and OWASP-recommended security practices that can help authorized user to easily extend the functionality of the portal.		
5.	Common requirements of Portal	The system should provide consistent look & feel, Themes, Navigation to the users and the standards defined for content, structure and presentation of the portal should be applied and followed throughout the portal.		
6.	Common requirements of Portal	All the sections of the web portal should be of dynamic nature and must be supported with easy content management and administration of the same.		
7.	Common requirements of Portal	The Web portal should be providing role-based content pages as well as content pages for Un-authenticated (guest) user.		
8.	Audit trail	The system should display the date and time of last login when the user logs in.		
9.	Login Users	System should allow following type of user logins: a) Ship Owners b) DA/IWAI Admin c) Ship Managers d) Ship Builders e) Designers f) Classification Societies g) Maritime Training Institutes h) Others		

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S.no	Area	Requirement Description	Whether Complied or not (Yes or No)	Reference Documents
10.	Unique ID	All stakeholders are required to have a unique central database system ID. The unique central database system ID should be created at the time of registration. The format for central database system ID should be discussed with IWAI		
11.	Auto Information Population	All forms are required to be streamlined to remove redundancies in terms of seeking information. Wherever the information can be retrieved from the system will be pre-loaded on the relevant application forms. However, it is required that before submission of prepopulated data, stakeholder is provided an option to review the pre-populated data.		
12.	Personalized Homepage	The home page of the central database system is required to be personalized view for different set of stakeholders, wherein, all information and services displayed are related to the persona only. The services display on home page is hence, required to be dynamic. However, flexibility is required to be built in the system to include other services.		
13.	Device Agnostic Platform	The platform will be accessible through multiple devices such as desktop, laptop, mobile, tablet etc. There will be a web-based portal for access by desktop and laptop; and a mobile app for access by mobile and platform available on leading		

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S.no	Area	Requirement Description	Whether Complied or not (Yes or No)	Reference Documents
		platforms such as Android and iOS.		
14.	Mobile App	System shall interface for login to both IWA and other stakeholders like Designated Authorities, Ship Owners, Ship Managers, Ship Builders, Designers, MTI, Terminal Operators, Others.		
15.	Mobile App	System should provide facility/forms/tools for online user login		
16.	Mobile App	System should implement the validation controls to ensure that all the mandatory fields are filled by the user		
17.	Mobile App	System shall provide the facility to reset password through 'Forgot Password' option, in case the user forgets the password		
18.	Mobile App	System shall facilitate three types of login: a) Login using mobile number and OTP b) Login using IE number and OTP c) Login using registered username and password		
19.	Mobile App	In 'Login using mobile number', the system shall request for OTP generated on mobile after entering mobile number as User ID		
20.	Mobile App	System shall validate the user ID: username/mobile/IE number and password/OTP entered for successful login		
21.	Mobile App	System shall auto-detect OTP received on the mobile device		

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S.no	Area	Requirement Description	Whether Complied or not (Yes or No)	Reference Documents
22.	Mobile App	System shall perform field validations for the login information (For example: mobile number, password etc.)		
23.	Mobile App	System shall use masking for password/ OTP input in login form		
24.	Mobile App	System shall inform user of a failure in case the wrong login credentials, inform the user of the failure through an appropriate message		
25.	Mobile App	In case of Login through mobile and through IE number, the maximum time allowed to enter OTP should not be more than 180 seconds		
26.	Mobile App	System shall maintain the detailed audit trails for the user login in the system including the date and time of login		
27.	Mobile App	System shall be highly secure, and the security measures should be up to date to prevent existing/new cyber attacks		
28.	Mobile App	The Mobile Application should provide an intuitive and user friendly GUI that enables users to navigate and apply actions with ease. The GUI should be responsive with very little or no delays or time lag at launch or whilst navigating through screens.		
29.	Mobile App	It should enable ease of configuration and changes to existing GUIs, and support the introduction of new screens.		
30.	Mobile App	It should provide on screen tips and online help to aid users while		

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S.no	Area	Requirement Description	Whether Complied or not (Yes or No)	Reference Documents
		interacting with it.		
31.	Mobile App	Should make use of data available in the existing database and reduce duplicate data entry		
32.	Mobile App	Incorporate analytics into mobile app, to track and identify users experience and actions.		
33.	Mobile App	Should support real time information subject to internet availability		
34.	Mobile App	Application should ensure Compatibility with all platforms suchas Windows, Google Android, & Apple iOS etc.		
35.	Mobile App	Solution should develop resolution independent design structure i.e. Mobile Application should adjust itself automatically as per the screen resolution of the Mobile		
36.	Mobile App	Mobile Apps should work flawlessly across different platforms		
37.	Mobile App	There should be limited or zero useof flash contents so that home page should be loaded quickly		
38.	Mobile App	It should not occupy excess client's Mobile RAM.		
39.	Mobile App	Should be able to capture and trackall events at device and console.		
40.	Mobile App	Should support authentication using digital signatures / OTP / native biometric or user authentication feature of mobile		
41.	Mobile App	Should have facility to download and upload files, including eForms		
42.	Mobile App	Mobile applications should be designed and developed in a waythat it		

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S.no	Area	Requirement Description	Whether Complied or not (Yes or No)	Reference Documents
		ensures security of the application and data on the device.		
43.	Mobile App	All appropriate field on the system screen should be populated and contextual information is displayed where necessary (e.g., payment information will display on the payment screen).		
44.	Mobile App	The system should be capable of displaying the previous interaction histories on email / SMS, and the same should be available to voice based users.		

FRS: SMS / Whatsapp Gateway

Sr. No.	Description of Requirement	Compliance (Yes/No)	Reasons of Deviation (If any)	Details
1	System should allow SMS text messages to be sent and/or received by email, from web pages or from software applications.			
2	Gateway should connect directly to a Mobile Operator's SMSC via the Internet			
3	System should use HTTP API protocol which allows to send messages using simple HTTP requests			
4	System should be able to handle high volume of bulk SMS at the same time (of the order of 500 messages /second)			
5	System should support dual core and multiprocessor system			
6	System should be independent of platform, operating system and programming language			
7	System should support Unicode format			

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8	System should show the status of SMS as pending, sent, time out, scheduled, not sent etc			
9	System should be able to send customized SMS to users as Applicable			

FRS: API Management

S.no	Area	Requirement Description	Whether Complied or not (Yes/No)	Reference Documents
1.	API Manager	API Manager should be able to perform following functionalities but not limited to <ul style="list-style-type: none"> ▪ API Integration ▪ API Transformation ▪ API Metering ▪ API Version management ▪ API Analytics ▪ API Throttling 		
2.	API Manager	API Manager should have provision for the developer to design, develop and publish APIs		
3.	API Manager	API Manager should provide a repository wherein APIs can be published, and attributes can be discovered		
4.	API Manager	API Manager should allow role-based access to APIs		
5.	API Manager	API Manager should have provision to monitor the API access		
6.	API Manager	API Manager should have provision for API lifecycle management		
7.	API Manager	API Manager should be able to manage API versions		
8.	API Manager	System should have support multiple editions for Cloud based deployment		
9.	API Manager	System should support clustered architecture to allow linear scalability across multiple instances with automatic failover		
10.	API Manager	System should provide a		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/No)	Reference Documents
		standardized comprehensive platform for API and application development and execution.		
11.	API Manager	System should have facility for online centralized portal that allows stakeholders to manage internal or external developers, publish APIs for consumption and provide analytics on API usage/performance		
12.	API Manager	System should support major industry standards		
13.	API Manager	System should help with effective Governance and control all APIs by supporting branching of API's, global API parameters, API debug tracing, real time API validation		
14.	API Manager	System should generate API documentation, API explorer, example code and sample applications to help developers/partners speed the creation of applications		
15.	API Manager	System should support throttling, rate limiting, traffic prioritization and message caching		
16.	API Manager	System should support features to limit API access based on user, time of day and/or IP address		
17.	API Manager	System should support route API traffic based on geography, IP address and/or backend response times		
18.	API Manager	System should support System level monitoring/alerting, auditing and logging		
19.	API Manager	System should support concurrent processing logic with support for dynamic and intelligent routing to backend service instances		
20.	API Manager	System should support for		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/No)	Reference Documents
		centralized administration of all APIs, along with Single, real-time management view (i.e. dashboard) of all APIs		
21.	API Manager	System should support remote patching, remote restoration, support for disaster recovery along with facility to access it via third party / remote management		
22.	API Manager	Systems should have in-built features to handle composition, versioning, rollback and orchestration of API's		
23.	API Manager	Systems should support facility to automate API migration across environments and geographies with feature to automatically resolve dependencies.		
24.	API Manager	System should have the ability to generate reports in multiple formats (i.e. CSV, PDF and HTML etc.)		
25.	API Manager	System should be able to support real-time reporting of service activity		
26.	API Manager	System should support for industry standard cryptographic algorithms (Triple DES, AES, SHA, RSA etc.)		
27.	API Manager	System should be compliant to common criteria qualifications and other industry level certification and compliance standards		
28.	API Manager	System should be able to do threat detection and message content filtering		
29.	API Manager	The proposed solution should be able to detect and filter for sensitive/confidential content with subsequent scrubbing, rejection or reduction of messages		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/No)	Reference Documents
30.	API Manager	System should support protection against viruses		
31.	API Manager	System should support features to track failed authentications and/or violations to identify and report patterns and potential threats		
32.	Gateway	System should have API Gateway which would act as an API front-end, receives API requests		
33.	Gateway	System should have API Gateway to enforces throttling and security policies		
34.	Gateway	System should pass requests to the back-end service and then passes the response back to the requested		
35.	Gateway	System should have a gateway with dynamic nature which includes a transformation engine to manage and modify the requests and responses on the fly.		
36.	Gateway	System should have provision of collecting analytics data and provide caching		
37.	Gateway	System should have API Gateway that provides functionality to support authentication, authorization, security, audit and regulatory compliance.		
38.	Publishing Tool	System should have API Publishing tool for API Management		
39.	Publishing Tool	System should have ability to define and configure API's		
40.	Publishing Tool	System should have ability to manage access and usage policies for APIs		
41.	Publishing Tool	System should have ability to test and debug the execution of API, including security testing and automated generation of tests and test suites, deploy APIs into		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/No)	Reference Documents
		production, staging, and quality assurance environments, and coordinate the overall API lifecycle.		
42.	Developer Portal	System should have portal for developing API for LPMS		
43.	Developer Portal	System should have an interactive API console and sandbox to trial APIs, the ability to subscribe to the APIs and manage subscription keys and obtain support from the API provider and user and community as and when required		
44.	API Analytics	System should have functionality for providing API analytics		
45.	API Analytics	System should have functionality to monitor API usage and load over different parameters like overall hits, completed transactions, number of data objects returned, amount of compute time and other internal resources consumed, volume of data transferred etc.		
46.	API Analytics	System should have ability for real-time monitoring of the API with alerts being raised directly or via a higher-level network management system, for instance, if the load on an API has become too great, as well as functionality to analyse historical data, such as transaction logs, to detect usage trends.		
47.	API Analytics	System should have ability to create dummy transactions that can be used to test the performance and behaviour of API endpoints.		
48.	Monetization	System should have ability to monetization of API as and when required		
49.	Monetization	System should have ability for easy integration with analytics and billing		

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S.no	Area	Requirement Description	Whether Complied or not (Yes/No)	Reference Documents
		services		
50.	Monetization	System should have provision to provide API on different models like freemium, subscription etc.		
51.	Monetization	System should allow API to support the expansion across a wide range of platforms, apps, devices, partners and third parties etc.		
52.	Monetization	System should have functionality to support charging for access to commercial APIs		
53.	Monetization	System should support setting up pricing rules, based on usage, load and functionality, issuing invoices and collecting payments including multiple types of payments		
54.	API Security	System should have specialised provision for API privacy and security		
55.	API Security	System should provide threat detection and neutralization for key OWASP vulnerabilities such as SQL injections, cross-site scripting, denial-of-service (DDoS) attacks etc.		

FRS: Grievance Reporting

Sr. no.	Requirement Description	Whether Complied or not (Yes/no)	Reference Documents
1.	System shall provide single interface for Ship Owners / Ship Managers / Ship Builders / Designers and other users to register the grievances		
2.	System shall provide the facility to capture grievance related information from the user		
3.	System shall allow uploading of supporting		

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Sr. no.	Requirement Description	Whether Complied or not (Yes/no)	Reference Documents
	images/documents along with the grievances information		
4.	System shall allow only PDF or JPG type of supporting documents and maximum upload size of 4 Megabytes (MB)		
5.	System shall implement the validation controls to ensure that all the mandatory fields are filled by the user		
6.	System shall check for spywares/adware/viruses on the uploaded document/image		
7.	System shall send notification to the user providing the acknowledgement of the grievance submission		
8.	System shall maintain the detailed audit trails for the grievances submission		
9.	System shall record the date and timestamp of grievances submission		
10.	System shall allow Designated Authority / IWAI to submit the query response		
11.	System shall send grievances query response to the complainant		

Annexure 26: Compliance with latest Security guidelines

S.No.	Requirement	Compliance (Yes/No)
1	The security of the solution developed, and cloud provisioning should be compliant with the latest National Critical Information Infrastructure Protection Centre (NCIIPC) guidelines	
2	The security of the solution developed, and cloud provisioning should be compliant with the latest Meity guidelines	

PART II

SCOPE OF WORK

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Scope of Work

1. Introduction

Inland Waterways Authority of India (IWAI) intends to select a system integrator for design, development, implementation, hosting and maintenance of a Single window system for central database system for inland vessels. The portal will ensure seamless integration of information from existing online and offline systems used by various states and digitization/migration of offline data in the same. The Single window system shall support all activities and functions being carried out by States / UT's (IWT/MB's). The solution shall enable States / UT's (IWT/MB's) to improve its business processes and supporting activities, closely monitor and enhance the performance in all areas of operations and management, and provide efficient service delivery to all relevant stakeholders.

Through the Single window system, Inland Waterways Authority of India envisages to standardize processes and systems for vessel registration, survey, crew certification, etc. pan India and improve its operational efficiency and effectiveness leading to a customer centric service delivery with focus on ease of doing business, and improved stakeholder satisfaction.

Objective of the solution to be implemented is to enable States to:

- Facilitate movement towards paperless regime
- Improve transparency and provide efficient service delivery to its stakeholders.
- Digitalize and automate all functions related to Registration, Survey, Crew and manning, Reception facilities, operations and maintenance and internal administration.
- Enable digitalization of all physical records within respective States / UT's (IWT/MB's) as required
- Integration with external applications like portals of DG shipping, National Logistics Portal, ICEGATE, SWIFT, etc.
- Integration with payment gateway

2. Scope of Project

2.1 Scope Overview

The purpose of this document is to define the scope of work of the bidder for design, development and implementation of Single window system for central database system. The scope of the bidder primarily consists of the following four components:

- i. **Single window based central database system:** The bidder shall develop, maintain and operate a single window based central database system. It shall interact with the users via a Web portal and a mobile application and shall have various functionalities as detailed below:
 1. Redesign, redevelopment and maintaining content on IWAI website open to public
 2. Creation of Single window system for registered users of IWAI/States/UT's including IV

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Crew, Vessel Owners, Shipping companies, training institutes, government agencies, Vessel manager/Shipping agents, and other external stakeholders

3. Development of mobile application to provide selected services to the user
4. Interface with external agencies & submission of third-party data
5. Scanning and Digitization of Services as per maritime board/ IWTs requirements
6. Managing SMS and Email interfaces to enable push-pull services and alerts through these medium

The scope of work for the bidder is to help IWAI achieve the aforementioned objectives by providing necessary services as required. The list of services offered at States / UT's are as follows:

(a) Vessel Related Processes

- (i) Registration of Vessels
- (ii) Survey and Certification of Vessels
- (iii) Exemptions and Plans
- (iv) Charter & permissions
- (v) FSI / PSC

(b) IV Crew's Related Processes

- (i) Individual IV Crews profile
- (ii) Apply for INDOS
- (iii) CDC
- (iv) Examinations
- (v) Certificates
- (vi) Verification of COC
- (vii) Sea Service

(c) Other Processes

- (i) Maritime Training Institutes
- (ii) Onshore Collection facilities for pollutants
- (iii) Institutions (Naval Architecture firms – plan approvals / Certified Surveyors for inspection and survey of vessels)

- ii. Cloud Service Provision:** The bidder should provide for hosting of the complete system on a Meity empaneled cloud platform. The cloud service provider is required to have its data centre hosted in India.

iii. Operations and Maintenance: The bidder shall be responsible for the operation and maintenance of the system for a period of 05 years after the commissioning and go-live of the system. It would include application support and maintenance, master data management, web-based SLA monitoring tool, backup and archival services, etc. It shall also include administration, monitoring and management of system, storage and portal.

iv. Capacity building: The bidder shall organize training sessions for various stakeholders viz. IWAI, IWTs, Maritime boards, etc. as per mutually agreed upon training plan. It would include creation of training manuals, digital training content and hosting of such content on the system.

2.2 Project Planning

- i. The System Integrator needs to prepare an Integrated Project Plan for the entire project. Project plan should provide a detailed drill down of all activities to be undertaken. This includes details of tasks, assigned teams for undertaking responsibilities for the task, schedule of deliverables and milestones, key assumptions and dependencies, associated risks and mitigation plans.
- ii. Bidder should define the project governance structure detailing and highlighting roles and responsibilities for all stakeholders involved from bidder's team, IWAI team, other vendors/ stakeholders. Requirements that are expected from IWAI need to be jointly arrived at and have to be signed off between the bidder, IWAI and all relevant parties involved.
- iii. Considering that the project involves a major transformational change within States & UT's, bidder will be expected to detail out a comprehensive change and communications management strategy and plan
- iv. Bidder along with IWAI's consent will define a change control procedure to monitor implementation of any changes in the contract subject to conditions as laid out in this tender. No change will be accepted without approval of the change control board (CCB) formed and defined as a part of project governance structure.
- v. The bidder shall form a project team comprising the following key positions proposed in their proposal and as defined in this tender:
 - a. Project Manager
 - b. Subject Matter Expert
 - c. Business Analyst
 - d. Solution Architect
 - e. Database Administrator
 - f. Marine Expert.
 - g. Cloud Expert
 - h. Cloud Support Engineers
- vi. Initial Composition, Full Time Obligation; Continuity of Personnel

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- Bidder shall ensure that each member of the Key Personnel devotes substantial working time to perform the services to which that person has been assigned as per the proposal.
- Bidder shall not make any changes to the composition of the Key Personnel and not require or request any member of the Key Personnel to cease or reduce his or her involvement in the provision of the Services during the Term (or agree to any request other than from IWAI that would have the same effect):
 - a. Unless that person resigns, is terminated for cause, dies, is long-term disabled, is on permitted mandatory leave under Applicable Law or retires; and
 - b. Without IWAI's prior written consent. The clauses of non-disclosure agreements shall always operate in any such case.
 - c. Bidder shall promptly notify IWAI of its intention to re-hire any member of the Key Personnel who had resigned from bidder in the previous 12-month period. IWAI shall have the right to request that any member of the Key Personnel who resigns and is re-hired by bidder within 12 months of the resignation date be re-assigned to the provision of the Services.

vii. Evaluations

- Bidder shall carry out an evaluation of the performance of each member of the Key Personnel in connection with the Services at least once in each Contract Year. Bidder shall provide reasonable written notice to IWAI of the date of each evaluation of each member of the Key Personnel and IWAI shall be entitled to provide bidder with input for each such evaluation.
- Bidder shall promptly provide the results of each evaluation to IWAI, subject to Applicable Law.

viii. Replacement

- In case the resource has resigned, then the bidder has to inform IWAI within one week of such resignation.
- Bidder shall promptly initiate a search for a replacement and use commercially reasonable efforts (including the expenditure of reasonable sums, such as to engage the services of a recruiting firm) to ensure that the role of any member of the Key Personnel is not vacant for any longer than 7 days, subject to reasonable extensions requested by bidder or IWAI.
- Before assigning any replacement member of the Key Personnel to the provision of the Services, bidder shall provide IWAI with:

- ix. A resume, curriculum vitae and any other information about the candidate that is reasonably requested by IWAI and
- x. An opportunity to interview the candidate, if required.

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- The bidder has to provide replacement resource, who scores at least the same marks as the resource proposed originally on the same evaluation parameters defined in this RFP document. Once this confirmation is received, IWAI may request for an interview of the candidate and notify bidder within mutually agreed timelines. If IWAI does not request an interview within mutually agreed timelines then it would be deemed as accepted.
- If IWAI does object to the appointment, bidder shall not assign the individual to that position and shall seek an alternative candidate in accordance with this Section.
- The bidder has to ensure at least 1 week of overlap period in such replacements.

xi. High Attrition

- If in the first 3-month period from the Contract Effective Date or in any rolling 6 months period during the Term, 15 percent or more of the members of the Key Personnel cease or reduce their involvement in the Services for any reason other than with IWAI's prior written consent, bidder shall:
 - a. Provide IWAI with a reasonably detailed explanation as to the reasons for such change, including, where applicable and permitted, notes from any exit interviews conducted by bidder with any departing member of the Key Personnel; and
 - b. If such change to Key Personnel has or is likely to have any material adverse impact on the provision of the Services or any substantial part thereof, undertake, at its own costs, such remediation acts as are reasonably necessary in order to improve the retention of the Key Personnel including making reasonable changes to the human resources policies and procedures applicable to the Key Personnel (including those related to compensation, benefits and other conditions so that they are competitive with the market) as may be necessary to ensure that such policies and procedures comply with Best Industry Practice.
- xii. The MSP's program of work should be synchronized with the staff deployment plan proposed; the deployment plan shall clearly define onsite and offsite deployment plan and personals under each deployment category along with engagement period for the project.
- xiii. The System Integrator should use cloud-based project management tool and provide access to the same to key stakeholders identified by IWAI. The tool should provide all features related to project management requirements of the project. Also, the PM tool should have function to auto update stakeholders over Email/SMS
- xiv. The prepared project plan should allow teams to track the progress of various deliverables and milestones, through the scheduled review mechanisms.
- xv. The acceptance of the Project Plan by IWAI is necessary before proceeding to the next phase of the project.

- xvi. Approval by IWAI of the proposed plan shall not relieve the System Integrator of any of his duties or responsibilities under the Contract. However, if the System Integrator's work plans necessitate a disruption/shutdown in operation, the plan shall be mutually discussed and developed so as to keep such disruption/shutdown to the barest unavoidable minimum.
- xvii. The program so submitted by the System Integrator shall conform to the requirements and timelines specified in the RFP.
- xviii. Any time and cost arising due to failure of the System Integrator to develop/adhere such a work plan shall be to his account.

2.3 Requirement Elicitation and System Design

2.3.1 Solution Requirement Gathering & Analysis

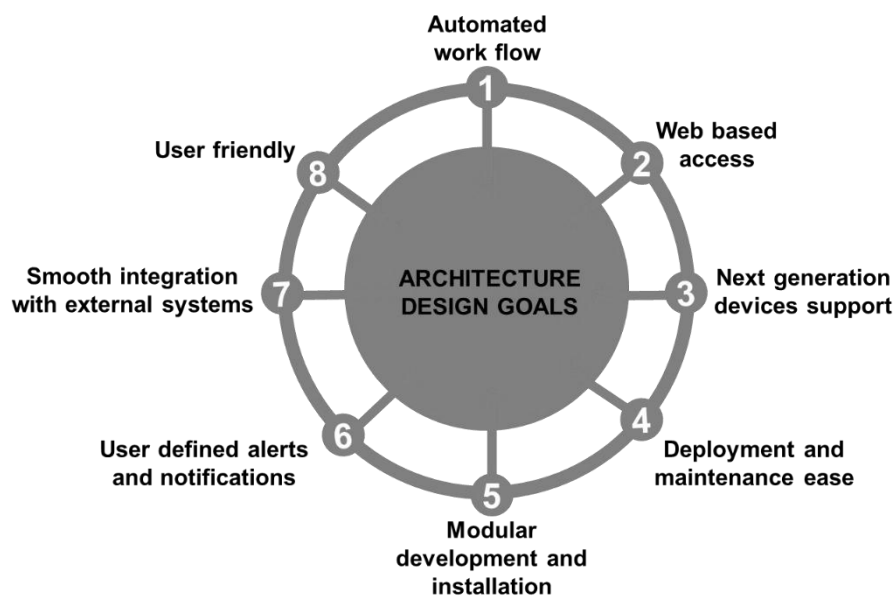
- i. Indicative functional requirements and process flow is provided in this RFP. System Integrator is required to validate and further elaborate the same based on discussion with IWAI and/or their designated agencies.
- ii. The requirement gathering should cover (but not be limited to) workflows, business rules, validations, regulatory / legal requirements/security requirements, etc. On basis of the requirements gathered, the System Integrator is required to prepare an SRS document.
- iii. SRS document shall comply with the latest and most relevant IEEE standards.
- iv. The System Integrator is also required to prepare structure of Requirements Traceability Matrix (RTM) to establish the design, development, testing and roll-out of various functionalities and non-functional (and Technical) requirements. It should include mapping of: SRS, LLD, DFD, and other relevant documents (as per need).
- v. The design document will be regularly updated to incorporate changes as applicable. All changes being done will be mutually discussed with relevant IWAI officials.
- vi. The Requirements Traceability Matrix will act as basis for analysis of change requests that may arise during the course of operations and maintenance of the solution.
- vii. The System Integrator is required to formal sign-off /approval on the SRS document in order to commence the design stage of the project
- viii. The system must necessarily fully support English, Hindi and Regional Languages (regional languages used as decided upon by IWAI) (read, write, print, alignment, report) at all levels.

2.3.2 Solution Design

- i. The System Integrator shall design the solution architecture and specifications to meet the functional and technical requirements mentioned as part of this RFP.
- ii. The system design should cater to requirements of all stakeholders including IWAI, IWTs, Maritime boards, Vessel owners, etc.
- iii. System Integrator shall be entirely responsible for the design and architecture of the system implemented to satisfy all requirements as described in this document including compute and storage sizing.

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- iv. Solution architecture description provided in the RFP is for reference and the System Integrator is expected to provide the best solution, which can address the requirements overall. The same should be finalized by System Integrator in consultation with IWAI.
- v. The System Integrator will design the system as a platform that can easily be scaled as and when required. Also, the system should be scalable and resilient. It should allow easy addition of devices (plug and play) with minimum customization and is ready for future systems.
- vi. Below are the key points that needs to be considered for solution designing:



The proposed architecture is based on proven open source technology. Open source technology is providing greater flexibility to end users to see and modify the source code of software. Open source promotes access through a free license to a product's design. Following are benefits of adopting open source technology:

- Flexibility
- Reliability
- Quality
- Large community Support group availability

The details of the defined goals are explained in detail below:

- a) Workflow Management:** The architecture supports the workflow to authorize and approve service.
- b) Web Based Access:** A secure multi layered architecture is proposed for accessing the System through the Intranet / Internet.
- c) Device Agnostic:** The architecture supports a wide range of devices including Mobile, Hand Held Tablets, etc.
- d) Ease of Deployment and Maintenance:** The solution should be built on layered architecture which provides a methodology of identifying the deployment patterns along

with a clear break-up of the roles and responsibilities of each layer. It allows developer to modify the functionalities at one layer without affecting other layers. Hence, the solution shall allow easy & quick deployment with no impact on the other components or the system.

- e) Modularity:** Modularity is designing a system that is divided into a set of functional units that can be composed into a larger application. Application shall be developed on modularity principle and allow module level implementation of application based on the requirement.
- f) Alerts and Notifications:** The solution allows users to sign up for e-mail and SMS notification. This can include both key performance indicator changes and changes in information. This feature will be configurable during implementation.
- g) Smooth Integration with External Interface:**
 - Seamless data transfer with external systems and the following standards shall be implemented
 - XML messages using SOAP over HTTPS
 - XML Web Services
 - API based Web Service Integration
 - Extend the system to external users to directly access the system and provide details
- h) User Friendly:** The Single window system should be easy to use, learn or understand. It will have simple user interface, well organized, intuitive with minimal requirement of explanation and reliable.
- i) Security:** The security of the solution developed and cloud provisioning should be compliant with the latest National Critical Information Infrastructure Protection Centre (NCIIPC) guidelines as well as the latest Meity guidelines.

Other design considerations are stated as follows:

- j) Reusability:** The solution shall re-use components to reduce the timeframe to develop new functionalities of SINGLE WINDOW SYSTEM applications.
- k) Document Management System:** Solution allows recording, retrieving, and searching document (using search utility like Knowledge Management which allows user to search document by Importer/export, office location, service request, date, etc.).
- l) Personalization:** The ability for groups and individual users to customize the way that the information is displayed. Filtering content to the information that a group is interested in and being able to change the location of the information on the screen is considered an important way in which application creates a user –friendly experience.
- m) Dashboard/ Portfolio Features:** Supports dashboard feature to streamline the task management and alerts.
- n) Multilingual Support:** Supports multiple languages and allows user to switch between languages at any time.

o) Security Management:

- Secure access over intranet/ Internet
- Provide data privacy, confidentiality and access control mechanism
- Use of digital signature to authorize end users
- Data encryption for to safeguard from data theft.

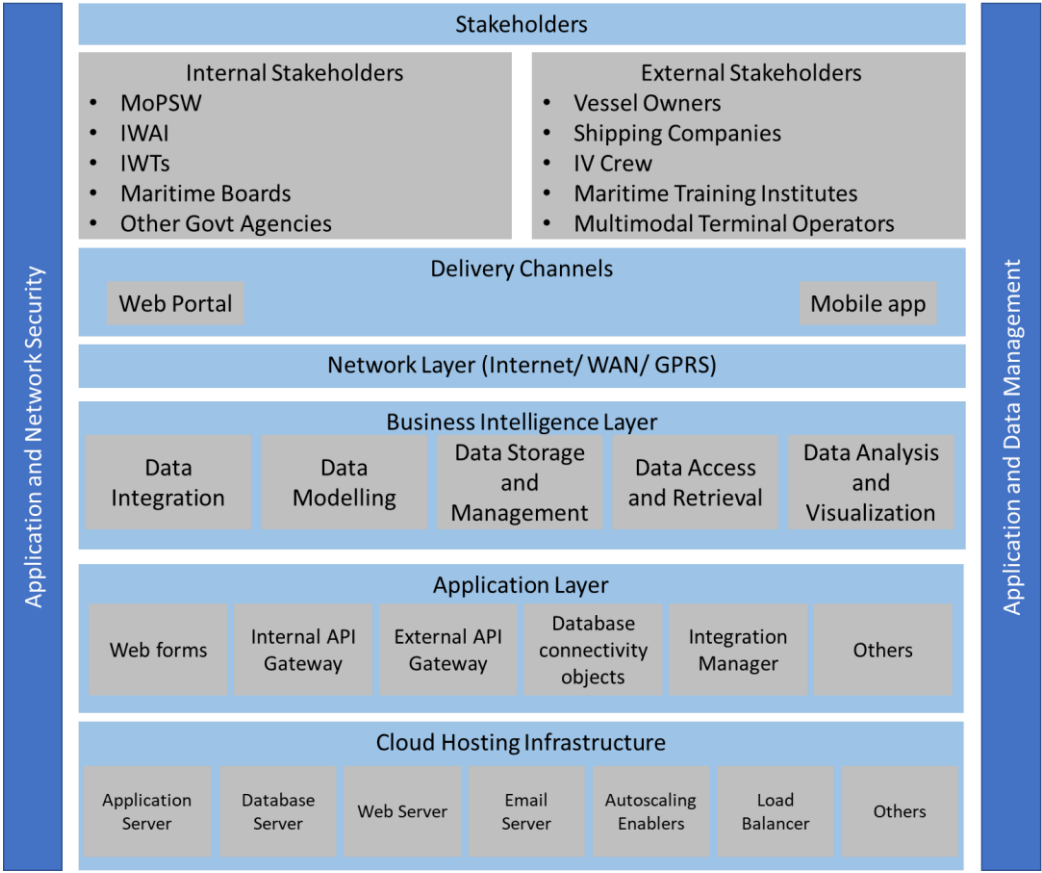
2.4 Envisaged solution architecture

SINGLE WINDOW SYSTEM is a multilayer architecture of the front-end web tier, security layer, the middle business tier, integration layer and the backend database layer. The key conceptual layers of the system are described below:

- **Presentation Layer** – It provides user interface to connect securely to the single window central database system solution using Web
- **Network Layer**-The user interface will be accessed through a series of network services such as Internet/ LAN/ WAN etc.
- **Application Layer** – This layer encapsulates all Application related components mostly technical components which are responsible for the system.
- **Business Intelligence Layer** – This layer encapsulates all Business logic components required to support the underlying functionality for transformation and routing of business information to relevant stakeholders' basis the rules defined.
- **Cloud Infra Layer** – The data layer comprises of the Data being stored in the cloud hosting platform, as well as logical representation of the data files where the data is being stored in the database.

Architecture should be scalable (to cater to increasing load of internal and external users and their transactions) and capable of delivering high performance for the entire life cycle of the applications. The solution should be based on Microservices and enterprise-based architecture, cloud native, provide cloud support and support for all major Open Source software products. Data model, interface designs, and other components should be designed as per industry standards and best practices. Below is the suggestive architecture for SINGLE WINDOW SYSTEM. However, the bidder is free to propose their architecture and components which shall be finalised after approval from IWAI:

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Front-end (Client-side):

- React.js: This is a popular JavaScript library for building user interfaces, particularly single-page applications. It's maintained by Facebook and a community of individual developers and companies.
- Redux: This is a predictable state container for JavaScript apps that helps you write applications that behave consistently in different environments (client, server, and native), and are easy to test.
- Material-UI: A popular React UI framework with a set of reusable components for faster and simpler web development.

Back-end (Server-side):

- Node.js: It's a JavaScript runtime built on Chrome's V8 JavaScript engine, and it's ideal for developing scalable network applications.
- Express.js: This is a minimal and flexible Node.js web application framework that provides a robust set of features for web and mobile applications.
- PostgreSQL: An open-source relational database that is highly reliable and robust, which can handle a high volume of data and complex queries.
- Redis: An in-memory data structure store used as a database, cache, and message broker, for handling real-time data operations.
- Sequelize: A promise-based Node.js ORM for Postgres, MySQL, SQLite, and Microsoft SQL Server. It features solid transaction support, relations, read replication and more.

Infrastructure:

- Docker: This is an open platform for developing, shipping, and running applications. Docker can be used to isolate your applications into separate containers so that you have minimal overhead and maximum portability.
- Kubernetes: It's an open-source platform designed to automate deploying, scaling, and operating application containers. Kubernetes can work with a range of container tools, including Docker.
- AWS / Google Cloud / Azure: Cloud platforms for deploying the application, ensuring scalability and reliability.

Version Control System:

- Git: It's a free and open-source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.

CI/CD:

- Jenkins / Travis CI / CircleCI: These are popular tools for implementing Continuous Integration and Continuous Delivery in your project.

API Testing & Monitoring:

- Postman: The API Development Environment which helps in designing, testing and documenting APIs.
- ELK Stack: Elasticsearch, Logstash, and Kibana for logging and monitoring your application.

2.5 Application design, development and implementation

The scope of work will comprise development of Central database Platform and other components including Business Services and Analytics.

2.5.1 Business Services

1. IV Crew management

Supporting all IV Crew related functions including IV Crew registration, IV Crew profile, pre & post training, discharge, Examination, Certification, Sea service records etc.

2. Vessel related processes

Vessel related processes such as Vessel registration, issuance of certificate, charter permissions and licenses, approval of plan, registration and survey of vessels

3. Vessel Registration

For a Vessel to be recognized as an Indian flag vessel, it has to be registered in India. Provisional certificate of registry, Technical clearance, Amendments to registry, registry Anew, Issuance of certificates from DA, Generations of certificates by DA, Transfer of port of registry, Registration and discharge of mortgage, Change of command, closure of registry are related activities for a Vessel registration.

4. Survey of Vessels

For a new build vessel to be accepted for registration, it has to be first surveyed for Carving and marking and then finally after completion of vessel construction and trials and ready for operation. The initial survey is carried out by Designed Authorities after which Declaration of Survey certificate is issued basis which the Provisional Certificate of Survey or Certificate of Survey is issued by Designated Authority. During vessels service life, Annual survey, Intermediate Docking Survey, Renewal Survey or Additional Survey is undertaken by Designated Authorities and / or Class if it is a Classed Vessel.

5. MTI

Maritime Training Institutes (MTIs) are educational institutions imparting pre-sea or/and post-sea training as per IWAI approved curriculum. Approval of MTI, Approval of MTI courses, Annual Fee Payment Change in Batch, Change in Affiliation, Update Batch Details, Update Placement Details, Certification Details, Correction of Details, Background Processes are the sub processes related to MTIs.

6. INDOS

INDOS No. is a unique number allocated to each IV Crew at the very start of their careers, when they enroll with an MTI. Both IV Crews and MTIs can apply for the same and the process is housed within the INDOS Cell (To be discussed if it can be linked with DGS or would be separate for IV Crew).

7. Exemptions

This is one of the sub-processes related to Vessels. Exemptions might be required when a vessel that has been constructed or is being constructed does not adhere to rules and requirements as mandated by the IV Act or those mandated by international conventions such

as SOLAS or MARPOL. All exemptions are handled by the Designated Authorities. Exemptions have been classified into Maritime safety & security, Environment pollution prevention, Licensing, Education & training of IV Crews.

8. CDC

A Continuous Discharge Certificate (CDC) certifies that the person holding it is a seaman as per The International Convention on Standards of Training, Certification and Watch keeping for IV Crews (STCW). A IV Crew may apply for the same after completing all aforementioned STCW courses from an approved MTI. Application for New CDC, Renewal of CDC, Replacement of CDC, Duplication of CDC, Discontinuation of CDC are the processes related to CDC. The process shall be undertaken by Designated Authorities.

9. Examination

It is necessary for an IV Crew to have a valid Certificate of Competency (COC) of some grade to work as crew on Inland Vessels. To get a particular grade COC, an IV Crew is required to clear all functions, written and oral of that grade. There is hierarchy in grade of COCs and an IV Crew needs to appear for examination at each level to get the next level COC. Online Eligibility Assessment, Examination Application (including eligibility verification), Question Paper setting, conduct of written exam and update of results, Conduct of oral exam and update of results, Updating of marks by external parties, Review of results are the sub processes related to examination.

10. Inspections

Inspections are of 2 types – flag state and port state. These inspections can be done on a surprise basis as well as on request from the Vessel owner. In India, port state control inspections are those inspections that are carried out by Indian surveyors when a foreign flag vessel is docked at an Indian port.

Flag state inspections are carried out by Indian surveyors when an Indian flag vessel is docked at an Indian port. Surveyors from the Maritime Boards & IWT's are appointed by respective Designated Authorities.

11. Certifications

IV Crews sailing on every Inland Vessels while going from any port or place within IV Limits, need to have a number of Certificates of Competency (COC) and Certificate of Proficiency (COP) as per IV ACT, 2021. A IV Crew is eligible for a COC once he has cleared all the functions (written and oral) of that particular grade/rank.

12. Rule change & ratification

Existing rules may need change or ratification with time to match the advancement in technology. The draft of the new/updated rule is updated on MoPSW website for comments from general public. Useful comments/suggestions are incorporated in the final draft. The final draft is approved by Chairman IWAI and later by the Ministry of Ports, Shipping & Waterways and subsequently published on the MoPSW & IWAI website.

13. Grievance Management System

The website has an online portal through which external stakeholder can convey his/her grievances or feedback. The feedback/grievance is auto directed to the concerned person in the Maritime Boards & IWT's. The concerned Maritime Boards & IWT's responds within two days. If not, the helpdesk coordinates with the concerned branch to get the query resolved at the earliest.

14. Charter Permissions

To traverse Indian waters, a Vessel requires permission from the Indian government. For Vessels owned by Indian entities and registered in India, a one-time 'General Trading License' is issued, usually as soon as registration is completed. A chartered foreign flag Vessel is not allowed to sail in Indian waters without a permission.

15. DMS

A centralized document management solution which will be used to store various documents scanned or created by users including word documents, excels, power points, pdfs, drawings, etc. and others as required for working of business process defined. Bidder is expected to define a document structure, indexing mechanism in coordination with IWAI and implement the same.

16. Service desk

Software to manage service requests, incidents, events from raising, assignment, resolution and closure. Software will also provide for creation of known error database and other functionalities as mentioned subsequently

The detailed business services are attached as Annexure A.

2.5.2 Analytics, Reporting Generation and Dynamic Dashboard/MIS Report

2.5.2.1 Data Analytics, Predictive Analytics and Reporting General Scope:

Data analytics based on artificial intelligence and machine learning can optimize specific terminal business processes and provide IWAI officials with insights on how to optimize their operations end-to-end, predict high-risk areas for attention and priorities the actions needed to manage disruption when it inevitably occurs.

Development of a MIS tool based on advanced analytics is to assist IWAI and other relevant agencies in planning and act as monitoring tool.

The system will provide analytics-based reports having Dynamic Dashboard and Management Information System (MIS).

- i. IWAI will have the sole ownership of all the data generated, stored and should be free to use it. The system will ensure data and information security meeting the industry standard.

- ii. The contents of the Dynamic Dashboard and MIS Reports will be print friendly, shareable over email, and downloadable in Excel, PDF, CSV and other relevant formats.
- iii. The Dynamic Dashboard and MIS will provide multi-platform support such as PC, tablets and phones. It will automatically render the platform specific view.

2.5.2.2 Dynamic Dashboard:

The dynamic dashboard will have the following features:

- i. The design of the dashboard will be visually appealing, have a unified look and provide for easy navigation. The dashboard will have configurable views based on the user roles as defined by the administrator.
- ii. The dashboard will be designed utilizing latest standards and should be compatible with all the modern browsers (Mozilla, Firefox, Explorer, Safari, Chrome, etc.)
- iii. The dashboard will have standard search function with various attributes. It will have the provision of filter-based searching.
- iv. The dashboard data will be presented in the forms of charts and graphs wherever needed and other interactive graphics on demand.

2.5.2.3 Management Information System (MIS)

The Management Information System meeting the Functional Requirement Specifications, will be implemented with features/ modules as given below:

- i. **User Management:** This module will provide for MIS User Role creation, MIS user password management and delegation of reporting roles.
- ii. **Cyber Security Information Management:** This module will provide information related to the cyber security threats encountered by the system during a specific time period. This must also include all the system vulnerabilities, remedial measures and an updated list of new vulnerabilities and threats.
- iii. **Cloud Infrastructure Information Management:** This module will have information related to the performance of various cloud resources. It should also provide utilization reports both segregated according to the modules and cloud resource.
- iv. **Value Added Services Information Management:** This module will provide information pertaining to the Value-added services ecosystem. It must have details of various such services being offered through the platform, any expenses being incurred by the platform on account of such services and any other relevant information.
- v. **Log Management:** This module provides for a unified repository of all the system logs for instance, admin logs, API request logs and Access logs etc.

- a) Reports Management:** This module will collate the data available from various sources as detailed above and provide functionality to generate user configurable reports. Reports should be configurable based on time (daily, weekly, monthly, annual reports) and various parameters as decided by IWAI.
- b) Notification Management:** The MIS will generate and relay important notifications to the defined users. It should also provide reminder/ pop up mechanism to gather any information required from users.

2.5.3 Communication Channel

2.5.3.1 SMS Gateway

An SMS gateway transforms application messages to mobile network traffic, and vice versa, allowing transmission and receipt of SMS messages. The application should utilize an SMS gateway to send SMS notifications to stakeholders. SMS gateway will also be used to send notices / alerts / reminders etc. to internal stakeholders as and when required. Bidder to size the SMS gateway based on the volume of services being availed.

2.5.3.2 EMAIL Gateway

A mail gateway provides the capability to send emails to internet-type email addresses. The application should utilize an SMTP gateway to send email communication to various internal and the external stakeholders

2.5.3.3 WHATSAPP

Intimation of validation codes, OTPs, alerts, notifications, etc. to all relevant over Whatsapp should also be enabled on the system

2.5.4 API Management

IWAI will provide an API ecosystem for integration with various stakeholder systems like ICEGATE, IWTs, MBs, etc. This must be built similarly to other Indian Digital Infrastructure projects like Digital Identity (Aadhaar), UPI etc. with the vision to create a vibrant eco-system around it.

IWAI intends to encourage independent application developers to develop tools (apps/portals) and other services for passengers relating to mentioned functions of IWAI. Such application developers (third party service providers) can be 3rd party service providers like cab, hotels, food, etc. To support this functionality, bidder should publish and maintain the APIs, which will be consumed by these service providers. The information or query received through such apps/portals shall be received and processed by IWAI.

IWAI is envisaged to be an API based solution where external agencies / eco system partners will also build & manage APIs as well as will set up secured networks to access the IWAI. Hence, it is important that the bidder sets up, manages and monitors the API services for IWAI.

2.5.5 Interfaces

2.5.5.1 Mobile App

Mobile application login module should enable the IWAI and exporter/importer to login into the mobile app. The users should be registered with the central database system.

- a) As part from application development, a mobile app will be developed for both internal and external users of IWAI.
- b) All the requirements for the mobile app will be studied thoroughly for the development of mobile app in consultation with IWAI.
- c) The mobile app will be designed, developed, tested and deployed on cloud for IWAI and other stakeholders
- d) The GUI (Graphic User Interface) of the mobile app will be user friendly and compatible on all latest and 3 previous versions of Android and IOS platform
- e) Mobile app for the respective platforms will be hosted at their official platforms namely Apple app store and Android play store and will be downloadable from official platforms only.
- f) The mobile app will not be hosted or mirrored elsewhere
- g) There will be usage of optimized content so that home page should be loaded quickly
- h) The mobile app will be designed, developed, tested and hosted at platforms including approval by platform owner and updates
- i) The mobile app will be provided free of cost at platforms and should be clearly highlighted as official app of IWAI
- j) Mobile app will have separate GUI (Graphic User Interface) for internal and external users and will provide role-based access control and will allow importers/ exporters and internal users of IWAI to register on mobile app to avail the services based on their access rights

2.5.5.2 Website and web App

A website should be developed for central database solution which should cater services to all external and internal stakeholders. It should be developed with logical and strategic user interface. Following are the principles for the user design experience that should be followed while developing UI/UX of the website and wasp:

- a) Design thinking should be followed which involves solving complex problems and finding desirable solutions using logic, imagination, and by exploring multi direction possibilities.
- b) Design with human considerations of all levels and society for making long term real differences
- c) Design development should follow hybrid model of both agile and strategic design development, making it both innovative and complaint to industry standards.

- d) User Designs should be developed by keeping in mind the bigger picture of the single window central database system, of integrating more services in future with the ease of use for customers.
- e) Industrial design and government design practice will be followed for development.
- f) The performance of the website and web-app should be considered while developing the same. Users/Stakeholders should reach the decision screen with minimum clicks for all the activities.
- g) Decisive part of the user journey on IWA website and web-app like consents, Govt. ID, mobile number etc. should be clearly visible to the user

2.5.6 Documentation of Solution

1. The Bidder must ensure that complete documentation of the system is provided with comprehensive user manuals and adhere to standard methodologies in the project life cycle as per ISO standard and/or CMM models. The following documents are the minimum requirements:
 1. Communication Plan listing all stakeholders in the project, defining their roles and responsibilities
 2. All Architecture documents, Design documents and, testing and deployment manuals etc.
 3. Quality Assurance Plan stating the planned actions to ensure satisfactory delivery conforming to functional and technical requirements of solution as stipulated in the tender document.
 4. Interface Control Document, documenting the interface characteristics of one or more systems and any previously documented information together with any agreements between interface owners.
 5. Test Plan containing information on the software test environment to be used for independent testing, the test cases to be performed, and the overall testing schedule. This includes, schedule, resources, tools, procedures, environment definition, test cases, and software test results.
 6. Operations Manual providing instructions for installing the application, troubleshooting, interpreting message logs, and FAQs (Frequently Asked Questions).
 7. User Manual (online or downloadable content) providing detailed instructions in the form of a narrative on how to use the application. In addition, it shall describe how to access, submit input to, and interpret outputs from the application.
 8. A data dictionary listing out all the data elements shall be prepared.
 9. The Bidder shall maintain all documentation related to the system including software artefact and database with adequate traceability matrix and version control.

2.5.7 General Application Features

Bidder shall build a complete audit trail of all transactions (for e.g. add, update and delete) using transaction log reports, so that errors in data, intentional or otherwise, can be traced and reversed.

The most appropriate level of security commensurate with the value to that function for which it is deployed must be chosen. Access Controls must be provided to ensure that the datasets are not tampered with or modified by the system operators. Implement data security to allow for changes in technology and business needs. Based on the requirements analysis conducted above, the bidder must develop a comprehensive system.

2.6 Design Principles

2.6.1 Architectural principles

1. Architecture should be highly flexible to support incremental upgrades in functionality across various services and functions delivered by the system. It should be able to accommodate changing business environment within Designated Authority of the States / UT.
2. Architecture should have highly modular design to enable addition / modification / suspension of new modules and functionalities
3. Bidder shall propose Service Oriented Architecture (SOA) based architecture while designing the solution. SOA defines integration architectures based on the concept of a service becomes relevant especially when there are multiple applications in an enterprise and point-to-point integration between them involves complexity. When multiple applications are involved services shall be able to communicate with each other which shall be achieved by implementation of SOA through web services where the services are exposed for other applications.
4. The system should be highly accessible and available through various devices across multiple locations
5. The principle of architecture should ensure keep data loss to a minimum
6. The architecture should be cloud ready and should support interoperability through cloud platforms
7. The Proposed solution should have a Data Centre and Business Continuity and Disaster recovery by taking the RTO and RPO and SLA as objective to achieve.
8. Each input should be formed as unique case in the system
9. There should be no single point of failure in the system
10. Bidder has to maintain principle of first-time-right data capture. System should provide for maker-checker functionality for all data inputs. System should allow multiple levels of checkers and approvals which may be configured within the system
11. All transactions and user activity being carried out within the system should be logged along with timestamp and client machine details in a format such they are searchable and allow for post mortem analysis as required. These should be recorded for future purpose for a defined period. In case of any judicial proceedings, the records should be maintained as long as the proceedings.
12. The system must be reliable against hardware and software failures and Disasters. Integrity, confidentiality and availability of data must be assured.
13. System should provide for seamless integration with various internal and external systems

through required interfaces. Unique identity of the user should be maintained across System should provide for single-sign-on facility avoiding the need for user to log into multiple systems without bypassing any security principles

14. The underlying technology needs to be user friendly. By having easy use-of-use principle, training can be kept to a minimum thereby aiding IT change management and the risk of using a system improperly can be minimized.

15. N-Tier model is the framework in which application user interface, logic, data, and their associated processing and repair are separated from each other in logical manner is more flexible in response to changes in internal logic, platforms, and structures; this isolates/minimizes the impact of change. Considering requirements of ease of support, scalability and interoperability, N-tier model shall be proposed.

16. Vendor lock-in should be avoided.

17. The bidder should minimize integration effort for the proposed solution.

18. The infrastructure management should be Directory services driven with DomainSchema

2.6.2 Security Principles

1 The bidder should follow security principles such as “defence in depth”; for numerous defence mechanisms (“layers”) in place, designed so that an attacker has to defeat multiple mechanisms to perform a successful attack. Multi-layer security must be employed starting with networks, perimeter, DMZ, Cloud enabled Data Centre, applications, databases, End User machines and Mobile computing devices.

2 Bidder has to ensure the cloud enabled security architecture model to facilitate effective incident response resolution, forensic investigation during incident analysis with best practices like real time internal network defence, etc.

3 Bidder has to be aware of threat and its mitigation for the application which include spoofing, tempering, repudiation, information disclosure, denied of service and elevation of privilege along with OWASP (Open web application security project) testing guidelines.

4 Bidder has to ensure hypervisor architecture security concern like virtual machine guest hardening, hypervisor security, inter VM attack blind spot, operation complexity from VM spawn, virtual machine encryption, VM data destruction, VM image tampering.

5 All the Applications and Infra changes has to be by secure SMLC and Change Management principle driven respectively.

6 The bidder should follow the principle of “*least privilege*”. Each user and program should operate using the fewest privileges possible. This principle limits the damage from an accident, error, or attack. It also reduces the number of potential interactions among privileged programs, so unintentional, unwanted, or improper uses of privilege are less likely to occur. This idea can be extended to the internals of a program: only the smallest portion of the program which needs those privileges should have them. The bidder will have to design its solution utilizing similar industry recognized security principles.

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7 All IT and IS operations will be governed by the IT and IS Policy which will be provided to the successful bidder. The bidder will have to prepare detailed procedures for the same and implement accordingly. All project documentation should be prepared by the bidder as per the policy and related regulations.

8 The privacy of data has to be ensured by the bidder at all times. The bidder has to ensure that data sharing is done as per the policy.

9 Bidder has to adopt technical, physical and administrative measure in order to protect personal data from loss, misuse or alteration based on global best practices for privacy and security such as OECD, APAC, IT act, Indian act compliance, CSA security guidance, ISO 27000 / ITIL standards

10 The system must follow a role based access control at all levels. The bidder should implement logical access control based on policy prepared by Purchaser for application, subsystem, or group of systems. All the access logs need to be captured and monitored.

11. Infrastructure and Application Access should follow 2 Factor Authentication

12. All databases and data stores must be encrypted.

13 Bidder has to ensure data security life cycle as a principle in securing data while creating, storing, sharing, archiving or destroy.

14 Bidder has to ensure database protection with database activity monitoring and file activity monitoring

15. The proposed MPLS should be a private and dedicated network

16 Security in design would encompass security risk assessment on user specifications, secure information architecture, proper role and based access design and secure application and database design.

17 The bidder has to ensure that their Application Development must follow secured SDLC process development and deployment by taking OWASP Top 10 and SANS top 25 into consideration. Similarly, Application maintenance should follow secured SMLC.

18 The system must be secure at all user touch points by using suitable security protocols and data protection methods

19 All types of network attacks must be identified and counter measures must be put in place.

20 All the ICT assets (virtual and physical) and non-digital Assets must also be secured throughout their life cycle as they may contain sensitive data with hardening, Asset disposal, data disposal principles.

21 The Network layer must have in depth packet inspection and intelligence in blocking attacks.

22 The bidder should provision for DDOS Free Bandwidth as a part of its solution.

23 For areas where Physical access controls have been implemented by the bidder as a part of the Scope of Work, the controls should address not only the area containing system hardware, but also locations of wiring used to connect elements of the system, supporting services (such as electric power), backup media, and any other elements required for the system's operation. The bidder should review the effectiveness of physical access controls in each area, both during normal

business hours and at other times, particularly when an area may be unoccupied.

24. The bidder will ensure that the critical data stores are minimized, and stored data has to be encrypted at all times.

25. The bidder has to ensure that access to data is given through application layer (via an application) at all times.

26. As a part of Service delivery process, the bidder has to ensure segregation of services and segregation of duties.

27. For operations phase security activities such as performing backups, holding training classes, managing cryptographic keys, keeping up with user administration and access privileges, and updating security software are some examples that have to be done by the bidder.

28. VPN and VLNS should be the principle of operations for remote access and isolation of internal traffic.

29. Service provider has to adopt metrics to measure risk management performance. E.g. Cyber security information exchange framework, security content automation protocol etc.

30. The bidder to propose for a temporary alternate workplace for operations Centre and Application management arrangement to manage the operations of the project in an event of loss of location in an event of a disaster.

31. The bidder should embed a security incident response plan within the Business continuity and disaster recovery plan to response in an efficient and effective manner in case of a disaster.

2.6.3 Management Principles

3.1 The management of system shall be SLA based.

3.2 SLA management will take place via SLA monitoring system which will provide system generated reports on level of compliance/non-compliance against defined SLA parameters

3.3 System should have an Enterprise Management Solution that provides end-to-end, comprehensive, modular and integrated management of IT infrastructure components to maximize the availability of IT services and SLA performance

3.4 System Management shall follow all processes as per to ISO 20000/ ITIL standards. This includes Asset Management, Vendor Management, Configuration Management, Incident Management, Performance Management and Capacity Management.

3.5 Management to have minimal overhead on the system

3.6 Management of ICT should be automated.

3.7 Extensive reporting to help management and administrators to take quick decisions

3.8 System should track all the assets in use or acquired for use in real time.

3.9 Real-time status of the system should be available at all times.

3.10 System Management should intelligently perform root-cause analysis to rapidly bring the system back to normal working conditions

3.11 The system should be upgradeable without affecting the production

3.12 It should be possible to proactively manage all the system hardware and software

components maintenance and licenses throughout their life cycle.

2.6.4 Technology Principles

4.1 The system should be built from best of breed components with no obsolescence and with futuristic designs.

4.2 The technology adopted should be periodically refreshed to achieve significant improvements in TCO.

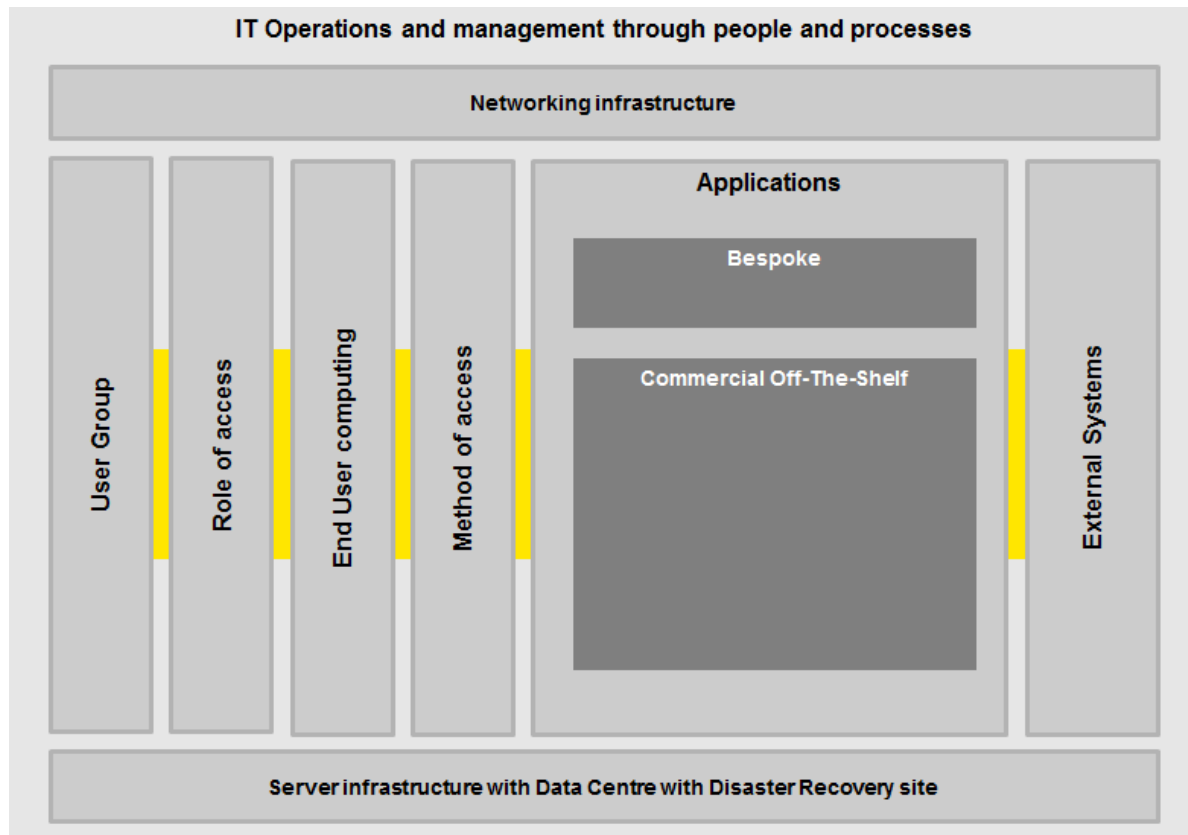
4.3 All the system components must follow open standards and open-source technologies. All application deployed should be OS platform agnostic

4.4 Interoperability of servers from different vendors is required at all levels.

4.5 Scalability, manageability to handle huge data volumes

4.6 Efficient Resource Utilization by separation of Compute and Storage resources and by distribution of load among all sites.

2.6.5 Core components in the solution



The above schematic depicts a high-level architecture of components envisaged under this project. Each component within the architecture has been explained below:

2.6.6 User group

This component refers to the various types of users that are expected to access the system. These have been further classified as:

- A. Employees: These are Maritime Boards / IWT's /IWAI staff which will be considered as internal staff working for as far as system is concerned.
- B. Customers: These are end users who will avail services from the portal. These include Vessel Owners, Shipping Companies and IV Crews. Customers may or may not be required to pay for the services they receive
- C. Government agencies: It is expected that the system will be access via various government agencies as a part of regulatory compliance or otherwise.

2.6.7 Role of access

This component refers to the type of access that will be applicable to the different types of users. Roles of access talks about the privileges that the various users within groups may be have within the system. These would include:

- D. External Users: These are all entities external to Designated Authority of the States / UT. This role will be further divided on the type of interaction required by the external users. For customers, depending on the type of registration, services offered will be different, access to reports, etc. will change. For government agencies, type of reports will differ. For ship builders, access roles types will change. Some partners may fall under this role category. System will provide for role-based access for each user group and this role may be further divided in the specific user group as per business requirement. Overall access control needs to be highly configurable feature of the system
- E. Customer Service Centre: This refers to a central customer service centre which will be manned by the States / UT officials. This will be front office for the States / UT operations. It is expected that users interact with Designated Authority of the States / UT over internal through portal however for certain category of users who are not net savvy, option of interaction through customer service centre will be available.
- F. Sub-Customer Service Centre: this refers to any touch point which will be spread across IWAI estate for cash collection, enrolment of visitors to IWAI premises or any other ancillary functions. It will be manned by IWAI staff.
- G. Service Desk Support: This will be a logical group formed within Designated Authority of the States / UT consisting of service providing departments to manage services/tasks/activities required to be accomplished for internal consumption. Groups will be formed within each IWAI department to resolve service requests raised, TAT for completion will be monitored and pendency will be tracked. It is expected that bidder will be one of the entities resolving requests related to grievances raised by Designated

Authority of the States / UT during the course of the contract.

H. Operational Support Group: This will be central team within IWAI which will assist core operations group in carrying out the task. It will provide necessary support for verification of documents, track recovery of payments, and other administration related work required as a part of operations.

I. Core Operations Group: This is the core operations team which carries out task for Ship Owners/IV Crews

J. Approving Authority: Authorities which will approve actions to be taken, carry out planning, assignment, etc. It is expected that approving authority may be part of operation support group or core operations group, but will have different roles in different workflows.

2.6.8 End user computing

This component refers to the end point devices which are expected to interact with the system. These will include:

K. Computers / laptops / thin clients: refers to all PCs, laptops being used by internal or external users interacting with the system

L. Handheld devices: refers to hand held devices which are envisaged as a part of the solution, which will be used by operators for access data and providing inputs to the system in case of Shipping and IV Crew operations

M. Mobile computing: system is expected to interact with multiple mobile computing devices such as cell phones, tablets, etc.

N. Printers and scanners

2.6.9 Method of access

This component refers to the various channels of access to IWAI system. These will include:

O. External portal: access channel for external users, all interactions will be made available through this portal

P. Internal portal: access channel for internal users, interactions related to Shipping and IV Crew operations will be carried out through this portal. Single-sign on facility will be available to eliminate requirement of logging on to different systems

Q. SMS and Emails will be another channel for access

R. Phones to call centre and letters may be used for interaction.

S. All letters which are responses will be barcoded to simplify tracking and collation.

2.6.10 Applications

This component refers to all applications, system software, etc. which will be a part of the

solution. These can be broadly classified as application / software with following capabilities:

T. Grievance management

Any grievance raised by the outside customer/ citizen on Designated Authority of the States / UT should be tracked through an online portal. Internal employee grievances should also be raised through internal portal. These grievances should be then directed to concerned authorities for redressal as per policies

U. Incident management

The incident management module should have provision to log any incident during operations like accident, emergency situation, security/ safety issue and breakdown. The incident categories should be well-defined and subsequent workflow should be mapped in the system.

V. Alerts and notifications

There would be provision to send SMS/ E-mail alerts to the users and authorized signatories as configured in the system. These alerts would be generated at various stages and hence would interact with all the modules of the core software. Alerts such as application status change, payment received, validity, survey due date, etc. would be sent by SMS/ E-mail to users.

W. General Application and Portal Requirements

- Should have the ability to have multilingual portal with regional & localization and Unicode support.
- Should support multiple browsers like IE, Mozilla, Google Chrome, etc.
- Should support virtualization
- Should support customization of Look and feel of the portal
- Should support a broad range of standards, for example: DOM 1.0, HTML 5, HTTP, HTTPS, MathML, ODBC , ODF (IS26300) , Open XML (IS29500), OpenSearch, OpenType, PDF 1.7, PDF/A, RTF, RSS, ATOM, SOAP, SVG, REST, UDDI, Unicode, URI/URN, W3C XML Schema, WCAG 2.0, WebDAV, WSDL, WSRP, XHTML, XML, XML Web Services, XMLDsig, XPATH, XPS, XSLT
- Should be able to connect to mobile devices.
- Should support presence information on the portal. It means Portal should have a visual indicator to show who is logged into portal.
- Should integrate with any other portal products through open standards such as HTML, XML, RSS, web services, and WSRP.

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- Should provide Cross Platform, Zero Footprint Client Access
- Role Based Access (Admin, General User, Power User, Backup User etc.)
- Should support encryption and compression features
- Should support multiple roles (e.g. editor, facilitator, community manager, and moderator) with associated access controls.
- Should support upload, store, organize and share documents
- Should support Template builder for reusing successful activity/project/team/community spaces or for building new ones - for developers/administrators (The functionality is expected to support generic Web Page-Template creation for the portal.).
- System needs to provide functions like community building, activities, ad-hoc document sharing, etc.
- Should support web traffic reports for administrators and community managers
- Should be XHTML 1.0/WCAG 2.0 A COMPLIANT?
- Should be authoring capabilities
- Should have workflow capabilities with regard to the content approval/publishing process
- Should support Publishing content in web viewable formats
- Should provide multi-channel output capabilities
- Should support editions (versions/rollback) of the web site managed
- Users should be able to upload documents in multiple formats
- Users should be able to upload multiple files at the same time
- Should support end-user control of access restrictions to shared repositories
- Should support check in/check out capabilities
- Should support version Control Capabilities (the number of major versions supported, minor versions, and branching)
- Should support document linking capabilities (static, dynamic, and/or other)
- Should support the import of content into the repository
- Should support document and text indexing capabilities
- Should support an offline capability
- Should be able to store images in the repository
- Should support features for caching and prefetching of images
- Should be able to support to store and manage documents in the same repository
- Should Support Managed Metadata
- Should support Records Management
- Should support content archiving capabilities
- Should Support Digital Asset Management
- Availability of document metadata when offline
- E-Forms should support standards based W3C's XML DSIG digital signatures.
- Should support creation of ad hoc query by users

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- User should be able to roll up and drill down the ad hoc query results
- Should support drill through reporting
- Should provide DHTML, Excel, PDF, MHTML, CVS, XML, Null, and Imagerendering extensions

X. Mobile Application / Integration with Mobile Devices

- i. Certain functions of the portal application will be available through an App- version of the Portal. SMS - The SMS service will be used to send alerts and reminders. It is proposed that from the day of Go-Live, the new application should be integrated with Mobile / Handheld devices to make the systemwidely reachable and accessible, especially from remote locations where connectivity is an issue, or from locations where the PC penetration is limited impacting the application accessibility. It is envisaged that in future the usage of mobile / smart phones as well as other handheld devices will increase significantly.
- ii. The Mobile app will provide access to simple features such as decided by IWAI. In addition to External users, the Mobile application will be accessed by internal users.
- iii. The Mobile App will allow the users with mobile devices to work on certain modules even when they are offline. It will allow users to synchronize with the system when they are back online. The SI will have to build the Mobile App with an end-to-end MAM (Mobile Application Management) functionality. The MAM solution should provide the ability to remotely: control the provisioning, updating and removal of mobile applications. The MAM should consist of features like: Single Sign On, Data Security, App usage restriction based on idle timeout, Push Services, Crash Log Reporting, App Updating, App Version Management, App Wrapping, etc.
- iv. Please Note: The SI needs to develop the necessary app/interface as per directions and requirements of the IWAI. SI has to select the proper architecture / platform for application. The selected application architecture / platform will support all Smart phone platforms. IWAI is looking forward for Mini App Store from where Designated Authority of the States / UT staff & end users can easily download the apps.

2.6.11 Enabling capabilities

A. Workflow management

Workflow management module shall enable the workflows for various businessprocesses. This shall include process tasks and routing. Workflow shall allow configuring various users such as officers from various locations of Designated Authority of the States / UT, IV Crews, other users, different roles etc. into the business processes for various kinds of approvals / rejections.

2.6.12 Key operational and performance dashboards

These dashboards would be linked with appropriate detail reports to do further analysis on the above

mentioned KPIs. There would be certain number of canned report for the timely consumption by various Designated Authority of the States / UT officials. The report should be presented in appropriate graphs, charts, tables etc.

In addition to above, standard canned reports will be required by various departments within Designated Authority of the States / UT. The system should also provide capability to carry out ad hoc queries. This would enable Designated Authority of the States / UT users with the capability to query and create customized analysis according to user requirement. The system should provide the flexibility to share this analysis with other users.

2.6.13 MIS

1. Internal Shipping and IV Crew Operations Reports
 - A. Department-wise, function-wise report on
 - i. Status of service requests received from external customers, and internal users.
 - ii. List of activities carried out towards that service fulfilment
 - B. Financial reports

2.6.14 Analytics and Forecasting

As maturity of users on reporting platform increases, Designated Authority of the States / UT is interested in using statistical analysis to derive deeper insights into the data. For the effective monitoring and expenditure planning, it is imperative to forecast the revenue collection/expenditure taking into account historic trends across locations/functions/cargo at micro level. Solution is expected to help Designated Authority of the States / UT to:

- A. Baseline revenue forecast & conduct sensitivity analysis
- B. Forecasting the revenue across various dimensions such as operational area, storage, open space, assets, investments, other financial instruments, etc.
- C. Revenue estimates of proposed changes to policies, distributional and incidence analysis
- D. Forecasting aided by causal modelling like the impact of particular policy introduced within a year on Terminal revenues
- E. Policy Implication Modelling – This will help department in analysing whether there are differential outcomes of applying any specific changes in port policies

2.6.15 DMS solution

Document Management System (DMS) would form integral part of the solution as the users would be uploading the supporting documents for various purposes on the web portal. Documents generated from any module would be stored and handled by Document management system. The DMS should allow personnel to easily store and retrieve data based on the certain identification number. The DMS should provide clear metadata for categorization of any document entering the system.

2.6.16 CMS solution

Content management system (CMS) is required to maintain the content on the web-portal. It should be possible to add content in form of Text, HTML, videos or Images on the port website. Along with the facility to easily publish content on the website, CMS would also have facility to maintain access logs for security and accountability purpose.

2.6.17 Email solution

Designated Authority of the States / UT users would be provided with provision for official mail to interact with each other at all the locations envisaged in the project or with external users. It is envisaged that mailing solution would be integrated with the application layer for exchange of information and it would be possible to move emails to Document Management System.

2.6.18 SMS solution

The application shall utilize an SMS gateway to send SMS notifications such as confirmations to user upon pass application receipt or approval or rejection, reminder to employer, user, etc. about submission of documents. SMS gateway will also be used to send notices / alerts / reminders etc. to internal Designated Authority of the States / UT officers or other terminal users as and when required.

2.6.19 IVR solution

IVRS shall be used to address the concerns, complaints, feedback, information and direct calls to other services etc. Bidder will size IVRS as per IWAI requirements and make it scalable for future. The menu options for the IVRS number will be finalized in consultation with Purchaser and other stakeholders.

2.6.20 Service Desk

Service desk module will facilitate end-to-end service support to the port users for carrying out administrative functions such as scanning, raising requests to resolve issues, forwarding requests of users to respective department representatives, etc. It will be used by Designated Authority of the States / UT departments for raising and resolving services requests related to port operations and internal administrative functions.

2.6.21 DSC

PKI should be used for the purpose of integrity (digital signing) and confidentiality (encryption). The solution should support digital certificates issued in India and should accept digital certificates based on criteria (Issuer, Class, Policy Identifiers). Procurement of DSC will be done by IWAI however installation and other technical implementation along with the maintenance will be done by SI.

2.6.22 Backup and Archival

Bidder should evolve a backup and archival strategy for Regular backups of project related data, tape transfers, handling service requests on backup and restoration, Generation of monthly report on the backup/restoration performance, etc. The solution shall help carry out backup and archival as per IWAI's policy.

2.6.23 Identity Management

System shall be able to identify and authorize the users and would allow access to the integrated applications and database. Identity and access management system would be able to identify the rights available with the user in terms of viewing, addition, deletion, modification of the data and generation of various reports through MIS.

2.6.24 Configuration management

Bidder shall manage identification of configuration items, responsibilities of configuration controller, access restrictions, directory structure needed for configuration management, procedure for change control, method of tracking the status of configuration items, backup procedure, configuration audits, release management, archival procedure, procedure for version / revision numbering

2.6.25 Enterprise management system

EMS solutions are required and should be available at the designated DC and DR. The Bidder is required to deploy the agents from the DC / DR as per the estimation and sizing. EMS solution should be implemented by the bidder which would be responsible for the following indicative components:

- F. Application
- G. Network
- H. Server
- I. Service desk
- J. Remote management
- K. Patch management
- L. Security operations
- M. SLA advisor
- N. Reporting

2.6.26 SLA management system

The bidder should design, develop and implement a web based SLA monitoring tool which contains customized reports as per the SLA requirements derived from the system modules and EMS. The bidder would be required to establish a dashboard customized as per the IWAI's requirements facilitating real time monitoring of all the SLA monitoring parameters. Periodic SLA reports are also

required to be generated by the bidder and submitted to IWAI. Indicative SLA modules which are to be made available by the bidder for the IWAI includes but is not limited to:

- O. Solution (modules) availability
- P. DC / DR server infrastructure availability
- Q. Network availability at various locations
- R. CPU utilization
- S. I/O utilization
- T. Quality of Service
- U. Audit observations and the action taken
- V. Training modules – Feedback, Number of sessions. Trainees
- W. Incidents report and Ticketing dashboard

2.6.27 Antivirus solution

The bidder shall provide an anti-virus security solution that protects Designated Authority of the States / UT entire network including the server and storage infrastructure including mailboxes, documents within DMS/CMS, etc. client side computing devices such as desktops, mails, handheld and tablets, mobile computing solutions provided etc.

2.6.28 CAPTCHA

Considering a wide number of e-forms available in the system, the system should be capable to allow genuine human users to make requests by having CAPTCHA and similar functionalities at the time of taking inputs from users

2.6.29 System Interfaces

X. Applications interface: This refers to all interfaces which will have to be built with all the sub-components within the solutions as mentioned in the core and enabling capabilities. Single-sign on, identity management, task tracking, unique transaction number generation. End to end traceability of transactions across systems are certain expectations from application interface. It is expected that user will be accessing one portal always to interact with systems behind.

Y. External system interfaces: This refers to interfaces which will have to be built to interact with systems not directly part of this solution but are required for supporting operations. Detail of the systems is provided subsequently. The interfacing with certain may be manual however seamless integration with systems is expected. Bidder is expected to suggest suitable interfacing and get IWAI's agreement on the type of interface for these systems.

2.6.30 External Systems

This component provides details of various systems central system is expected to interact with. It is assumed that all systems under this assignment will have seamless integration. Interfaces for

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integration for these systems will have to be looked at by the bidder and integration with these systems as possible after mutual discussion with IWA will have to be arrived at. It is possible that this integration will take place over time and after system goes live. Given below is a minimum indicative list of interfaces which are expected to be designed / built into the proposed system. Bidder may add to the list at the time of requirements gathering phase.

Sr. No	Application Name	Integration
1	ePariksha	2 way
2	LRIT	1 way
3	eLearning	2 way
4	Payment Gateway	2 way
5	Aadhar	2 way

There will be provision to integrate with any external interfaces (As required by Designated Authorities later)

2.6.31 Server infrastructure with Data Centre and Disaster recovery site

This component refers to server infrastructure that will be required for hosting the solution. This includes requirement of any system software. It also includes data centre and a functional disaster recovery site as per mutually agreed business continuity plan. It is expected that sufficient component level redundancy will be built in to ensure adherence to SLA conditions

2.6.32 Network infrastructure

This component refers to network infrastructure that will be required to support functioning of the entire setup. It covers networking within Data centre/DR, various network links through which users will connect to the system and VLAN management, etc under the scope of the bidder. Network will have sufficient redundancy built in to ensure a good connectivity adhering to SLA conditions

2.6.33 IT operations management through people and processes

This component refers to various operations management process which will have to be undertaken by bidder. This includes management of DC/DR operations, server and network infrastructure upkeep, end user computing upkeep, renewal of licenses, replenishment of consumables as required, bug fixes if any, ensuring IT service delivery as per SLA, etc.

2.6.33.1 Acceptance and certification requirements

1. The primary goal of Acceptance Testing and Certification is to ensure that the Project (including all the project components as discussed in the scope of work) meets the requirements, standards, specifications and performance detailed in the RFP, by ensuring that the following are associated with clear, quantifiable metrics for accountability:

- Functional and system requirements
- Infrastructure (including Hardware, server, storage, network, client-side computing, etc.) Compliance Review
- Availability of the project services within the defined locations
- Performance
- Security
- Manageability
- System adoption
- SLA Reporting System
- Project Documentation (Requirements, design, development, configuration, training and administration manuals etc.)
- Data Quality Review

2. As part of Acceptance testing, performed through a third party agency, IWAI shall review all aspects of project development and implementation covering software, hardware and networking including the processes relating to the design of solution architecture, design of systems and sub-systems, coding, testing, business process description, documentation, version control, change management, security, service oriented architecture, performance in relation to defined requirements, interoperability, scalability, availability and compliance with all the technical and functional requirements of the RFP and the agreement.

3. The procedures and parameters for testing will be laid down by the Third-Party Agency after approval from IWAI. The solution deployed by the vendor has to satisfy third party acceptance testing upon which the system shall provisionally go-live, subject to IWAI approval.

4. IWAI will establish appropriate processes for notifying the selected vendor of any shortcomings from defined requirements at the earliest instance after noticing the same so as to enable the selected vendor to take corrective action. All gaps identified shall be addressed by the vendor immediately prior to provisional "Go-live" of the solution. It is the responsibility of the bidder to take any corrective action required to remove all shortcomings, before the roll out of the project.

5. It is to be noted that the involvement of the third party for acceptance testing and certification, does not absolve the vendor of his bidder to meet all SLAs as laid out in this RFP document.

6. IWAI may get the solution audited through a Third Party before provisional and final "Go-Live" and periodically thereafter in order to ensure the success of the project. Such third-party agency for carrying out the acceptance testing and certification of the entire solution will be

nominated by IWAI.

7. Following subsections discuss the acceptance criteria to be adopted for the projects mentioned above. The list below is indicative and the activities will include but not be limited to the following:

2.6.33.2 Functional and Systems Requirements Review

The solution developed/customized by the bidder shall be reviewed and verified by the agency against the Functional and System Requirements signed-off between the IWAI and the bidder. All gaps identified shall be addressed by the bidder immediately prior to provisional "Go-live" of the solution. One of the key inputs for this testing shall be the traceability matrix to be developed by the bidder for the solution. Apart from Traceability Matrix, agency may develop its own testing plans for validation of compliance of system against the defined requirements. The acceptance testing w.r.t. the functional requirements shall be performed by the select internal department users (User Acceptance Testing) and the system has to satisfy internal user acceptance testing, upon which the system shall provisionally go-live.

For conducting the User Acceptance Testing, IWAI shall identify the employees from respective States/UT's, who shall be responsible for day-to-day operations of the functions automated through the project. The system, during the functional requirements review, shall necessarily satisfy the user acceptance testing process.

2.6.33.3 Infrastructure Compliance Review

IWAI's appointed third party agency / consultant shall perform the Infrastructure Compliance Review to verify the conformity of the Infrastructure (both IT, non IT as well as Network infrastructure etc.) supplied by the bidder against the requirements and specifications provided in the RFP and/or as proposed in the proposal submitted by the bidder. Compliance review shall not absolve the bidder from ensuring that proposed infrastructure meets the SLA requirements.

2.6.33.4 Security Review

The software developed/customized shall be audited by the agency from a security and controls perspective. Such audit shall also include the IT infrastructure and network deployed for the project. Following are the broad activities to be performed by the Agency as part of Security Review. The security review shall subject the solution, but not be limited, to the following activities.

- Audit of Network, Server and Application security mechanisms
- Assessment of authentication mechanism provided in the application /components/modules
- Assessment of data encryption mechanisms implemented for the solution
- Assessment of data access privileges, retention periods and archival mechanisms
- Server and Application security features incorporated etc.

- Application Security mechanisms should be in compliance with the IT Act 2000, 2008 Amendment and IT rules 2011 (and any other amendments thereto), such that it maintains data/information Integrity, Confidentiality, Non-repudiation etc.
- Audit of Security mechanisms so that they are in compliance with the latest Guidelines by Controller of Certifying authority (CCA), IT Act.

2.6.33.5 Performance

Performance is another key requirement for the project and the agency shall review the performance of the deployed solution against certain key parameters defined in SLA. Such parameters include request-response time, work-flow processing time, concurrent sessions supported by the system etc, Disaster Recovery drill etc. The performance review also includes verification of scalability provisioned in the solution for catering to the project requirements.

2.6.33.6 Availability

The solution should be designed to remove all single point failures. Appropriate redundancy shall be built into all the critical components to provide the ability to recover from failures. The agency shall perform various tests including network, server, security, DC/DR fail-over tests to verify the availability of the services in case of component/location failures. The agency shall also verify the availability of the project services to all the users in the defined locations.

2.6.33.7 Manageability Review

The agency shall verify the manageability of the solution and its supporting infrastructure deployed using the Enterprise Management System (EMS) proposed by the bidder. The manageability requirements include requirements such as remote monitoring, administration, configuration, inventory management, fault identification etc.

2.6.33.8 SLA Reporting System

The bidder shall design, implement/customize the Enterprise Management System (EMS) and shall develop any additional tools required to monitor the performance indicators listed as per the SLAs mentioned in the RFP. The Acceptance Testing and Certification agency shall verify the accuracy and completeness of the information captured by the SLA monitoring system implemented by the bidder and shall certify the same. The EMS deployed for the project, based on SLAs, shall be configured by the bidder to calculate the payment to be paid by IWAI after deducting the necessary penalties.

2.6.33.9 Project Documentation

The Agency shall review the project documents developed by the IWAI including requirements, design, source code, installation, training and administration manuals, version control etc.

Any issues/gaps identified by the Agency, in any of the above areas, shall be addressed by the bidder to the complete satisfaction of IWAI.

2.6.33.10 Data Quality

The Agency shall perform the Data Quality Assessment for the Data digitized by the bidder and the

data migrated by the bidder to the new system. The errors/gaps identified during the Data Quality Assessment shall be addressed by the bidder before moving the data into production environment, which is a key milestone for provisional Go-live of the solution.

2.7 Cloud Provisioning and Commissioning

2.7.1 Overall Cloud requirements:

- i. CSP (Cloud Service Provider) should be empaneled under MeitY's Empaneled and STQC audited Cloud Service providers (CSPs)"
- ii. Meet all security requirements published (or to be published) by MeitY or any standards body setup / recognized by Government of India from time to time and notified to the CSP by MeitY as a mandatory standard
- iii. Neither the current organization nor the holding company should have been Debarred and / or blacklisted by any organizations of Govt. of India/ Central PSU/ State Govt. entities as on bid submission date
- iv. Meet the ever-evolving security requirements as specified by CERT-In (<http://www.cert-in.org.in/>)
- v. Should be compliant with Guidelines for the Protection of National Critical Information Infrastructure
- vi. The CSP environment/Cloud facilities considered for cloud services should be located within India
- vii. The CSP environment/Cloud should conform to at least Tier III standard (preferably certified under TIA 942 or Uptime Institute certifications by a 3rd party) and implement tool-based processes based on ITIL standards
- viii. The primary DC and the disaster recovery site/ secondary data centre should be in different physical locations within India.
- ix. The CSP environment/Data Centre should be certified for the latest version of ISO 27001:2013 and provide service assurance and effectiveness of Management.
- x. Bidder should maintain a MeitY empaneled CSP for the entire duration of the project
- xi. Data Centres should be compliant at a minimum with the following:
 - Either Uptime Institute Tier III or ANSI/TIA-942-A RATING 3 compliant.
 - ISO 9001
 - ISO/IEC 27001
 - ISO/IEC 27017
 - ISO/IEC 27018

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- PCI DSS Level 1
- xii. In case the CSP is unable to meet the service level requirements, unable to renew the empanelment, unable to meet the data confidentiality, etc. the bidder has to ensure that the CSP is able to migrate the solution to the new CSP without any cost transfer to the purchaser. The bidder has also to ensure that the new CSP fulfills all the conditions listed in the RFP.
- xiii. IWAI retains ownership of all virtual machine, templates, clones, and scripts/applications including application code (all versions) created for the SINGLE WINDOW SYSTEM, and all perpetual licenses purchased during the contractual period. IWAI retains the right to request (or should be able to retrieve) full copies of these virtual machines at any time.

2.7.2 Cloud service requirements

- i. System integrator should develop cloud native Central Database Management System
- ii. The cloud services should provide scalable, redundant, dynamic compute and storage
- iii. Considering IWAI comes under critical infrastructure, the bidder is required to comply to the latest version of National Critical Information Infrastructure Protection Centre guidelines.
- iv. Service shall provide users with the ability to procure and use compute and storage capabilities remotely over the SSL with two factor authentications.
- v. Perform an Image backup of Customer VM Image information or support the ability to take an existing running instance or a copy of an instance and import / export the instance into a MeitY approved image format.
- vi. Configuration and Management of the Virtual Machine shall be enabled via a web browser over the SSL VPN clients only as against the public internet
- vii. The bidder shall ensure that VMs receive OS patching, health checking, Systematic Attack Detection and backup functions.
- viii. Monitor VM up/down status and resource utilization such as RAM, CPU, Disk, IOPS and network
- ix. The purchaser retains ownership of all virtual machines, templates, clones, and scripts/applications created for the organization's application
- x. The purchaser retains the right to request full copies of these virtual machines at any time.
- xi. The purchaser retains ownership of loaded business solutions / bespoke software installed on the VMs
- xii. Support a secure administration interface - such as SSL/TLS or SSH - for the purchasing organization's designated personnel to remotely administer their virtual instance
- xiii. Provide the capability to dynamically allocate virtual machines based on load, with no service interruption

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- xiv. Provide the capability to copy or clone virtual machines for archiving, troubleshooting, and testing
- xv. The bidder should provide tools and mechanism to the purchaser or its appointed agency for defining their backup requirements & policy.
- xvi. The bidder should provide tools and mechanism to the purchaser or its appointed agency for configuring, scheduling, performing and managing back-ups and restore activities (when required) of all the data including but not limited to files, folders, images, system state, databases and enterprise applications in an encrypted manner as per the defined policy.
- xvii. Transfer data back in-house either on demand or in case of contract or order termination for any reason
- xviii. Bidder shall not delete any data at the end of the agreement (for a minimum of 90 days beyond the expiry of the Agreement) without the express approval of the purchaser.
- xix. Provide capability to perform live migrations (ability to move running VM's) from one host to another.
- xx. Provide support to all Application Programming Interfaces (APIs) including REST API that bidder develops/provides.
- xxi. Prospective bidder will offer fine-grained access controls including role-based access control, use of SSL certificates, or authentication with a multi-factor authentication.
- xxii. Cloud service should support auditing with features such as what request was made, the source IP address from which the request was made, who made the request, when it was made, and so on.
- xxiii. Purchasing organization should be permitted to bring and upload additional properly licensed non-operating system software for operation in cloud as required for the Purchasing organization solution for use within the Services by installing it directly on a VM.
- xxiv. RAM or CPU of virtual machine should scale automatically whenever there is spike in load to deliver application availability even during spike in load
- xxv. Provide facility to configure virtual machine of required vCPU, RAM and Disk.
- xxvi. Data Storage: Native cloud-based solution can be used if it adheres to the requirements. These components should be cited with the specifications and customer references.
- xxvii. System Integrator is responsible for Disaster Recovery Services to ensure continuity of operations in the event of failure of primary site of the purchasing organization and meet the RPO and RTO requirements. The CSP should offer dashboard to monitor RPO and RTO of cloud infrastructure and systems.

- xxviii. The System Integrator should design the solution adhering to RTOs, RPOs and the SLAs. Based on the requirements, System Integrator is free to construct a solution mix of MeitY empaneled Public and MeitY empaneled Private Cloud setup in order to meet the requirements of the RFP but should also ensure that fundamental principal of cloud of scalability, elasticity and agility is maintained.
- xxix. The System Integrator should offer switchover and switchback of individual applications instead of entire system.
- xxx. Support replication of data between primary and DR cloud environment
- xxxi. Allow replication of data between cloud and on-premise sites
- xxxii. When the purchaser or System Integrator (with prior approval of the purchaser) scales down the infrastructure services, System Integrator/CSP is responsible for deleting or otherwise securing purchaser's content/data prior to VM deletion and in case deleted, shall ensure that the data cannot be forensically recovered.

2.7.3 Cloud operational requirements

- i. Manage the network, storage, server and virtualization layers, to include performance of internal technology refresh cycles applicable to meet the SLAs
- ii. Provide a secure, dual factor method of remote access which allows the purchaser's designated personnel (privileged users) the ability to perform duties on the hosted infrastructure
- iii. Upgrade and periodically replace hardware without financial impact to the purchaser. All the data within it shall be immediately deleted/destroyed and certify the VM and data destruction to the purchaser as per stipulations and shall ensure that the data cannot be forensically recovered.
- iv. Bidder to perform patch management appropriate to the scope of their control including:
 - a. Alerts on the upcoming patches via email and management portal, and ability to defer or reject patches before they are applied in the next patch cycle
 - b. Patch approved VMs on the next available patch management change window
 - c. Application of automated OS security patches, unless deferred or rejected by purchaser or designated agency
 - d. Send regular approval reminders to purchaser or authorized agency designated email address five (5) days prior to patch cut-off dates
- v. Bidder should undertake OS level vulnerability management – all OS images created within the cloud platform are regularly patched with the latest security updates

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- vi. Provide the artefacts, security policies and procedures demonstrating its compliance with the Security Assessment and Authorization requirements as described in Security Requirements in the RFP.
- vii. Monitor availability of the servers, CSP -supplied operating system & system software, and CSP's network
- viii. The system integrator will be fully responsible for tech refreshes, patch management and other operations of infrastructure with regards to the cloud environment (DC and DR).
- ix. Investigate outages, perform appropriate corrective action to restore the hardware, operating system, and related tools
- x. System integrator should manage CSP provisioned infrastructure including VMs as per the ITIL or equivalent industry standards.
- xi. Comply with technology refresh requirements as mandated by CERT-IN and MeitY
- xii. Software within the CSP's scope will never be more than two versions behind unless deferred or rejected by MeitY / Purchaser / Purchaser's authorized agency

2.7.4 Cloud management reporting requirements

- i. Provide service level management reports (as per the service levels agreed in the Service Level Agreement between the purchaser and the CSP)
- ii. description of major outages (including description of root-cause and fix) resulting in breach of SLA terms as defined in the RFP
- iii. Helpdesk tickets reports submitted
- iv. Monthly and quarterly utilization reports (peak and average volumetric details)
- v. System integrator should provide a portal for the purchaser (administration role) which should provide data related to:
 - a. Utilization reports (with threshold limits defined by the user)
 - b. SLA reports
 - c. Cloud service usage
 - d. Helpdesk and tickets
 - e. User profile management
- vi. The bidder should set the threshold limits for cloud infra utilization.

- vii. In the event of cloud infra utilization breaching the threshold limits, the CSP is required to notify the purchaser and system integrator with adequate justifications for increasing cloud infrastructure capacity.

2.7.5 Scope of work for infrastructure provisioning on cloud for data centre

- i. System integrator to ensure scalability of the DC cloud environment considering the future growth for next 5 -7 years.
- ii. Installation and commissioning of Servers as per solution requirement.
- iii. Installation and provisioning of Storage and backup as per solution requirement.
- iv. Installation and commissioning of Software (OS/VM/backup software) along with relevant and requisite patches
- v. Installation and commissioning of requisite Clusters for High Availability.
- vi. Installation and commissioning of Network and Security equipment for providing secured network environment.

2.7.6 Scope of work for infrastructure provisioning on cloud for disaster recovery

- i. The CSP should propose Disaster Recovery Data centre site.
 - a. For continuous adoption of rapidly evolving technology the entire system would be built to be open (standards, open API, plug-n-play capabilities), components coupled loosely to allow changes in sub-system level without affecting other parts, architected to work completely within a heterogeneous compute, storage, and multi-vendor environment.
 - b. The solution would be done keeping in mind the scalability of the system. Every component of system needs to scale horizontally to very large volume of data
 - c. The Disaster Recovery Site should host all the critical production Landscape.
- ii. The bidder shall be responsible for Disaster Recovery Services to ensure continuity of operations in the event of failure of IWAI Data Centre and meet the RPO and RTO requirements.
- iii. Design and document an efficient disaster recovery solution in line with the RFP requirements & ensuring best practices on disaster recovery.
- iv. System integrator shall meet the RPO/RTO as per the RFP for entire contract duration. However, during the change from Primary DC to DRC or vice-versa (regular and planned changes), there should not be any data loss. There shall be asynchronous replication of data between Primary DC and DR and the bidder shall be responsible for sizing and providing the DC-DR replication link to meet the RTO and the RPO requirements.
- v. DC/DR would operate in an active passive state with 100% storage replicated from primary to DR site

- vi. During normal operations, the Primary Data Centre will serve the requests. The application environment shall be installed and ready for use. DR Database/Storage shall be replicated on an ongoing basis and shall be available in full (100% of the PDC) as per designed RTO/RPO and replication strategy. The storage should be 100% of the capacity of the Primary Data Centre site
- vii. In the event of a site failover or switchover, DR site shall take over the active role, and all requests shall be routed through DR site. Application data and application states will be replicated between data centre so that when an outage occurs, failover to the surviving data Centre can be accomplished within the specified RPO/RTO.
- viii. During any failover or DR drill compute environment for the application shall be equivalent to DC or as configured for DR & bandwidth at the DR shall be scaled to the level of data centre requirement. Users of application should be routed seamlessly from DC site to DR site.
- ix. The bidder shall conduct DR drill half yearly wherein the Primary DC has to be deactivated and complete/partial operations will be run from DR.
- x. The bidder shall clearly define the procedure for announcing DR, based on the proposed DR Cloud solution. The bidder shall also clearly specify the situations in which disaster shall be announced along with the implications of disaster and the time frame required for migrating to DR.
- xi. The bidder shall plan all the activities to be carried out during the Disaster Drill and issue a notice to IWAI at least two weeks before such drill.
- xii. The CSP should offer dashboard to monitor RPO and RTO of each application and database.
- xiii. The bidder should offer switchover and switchback of individual applications instead of entire system. Any lag in data replication should be clearly visible in dashboard of the replication tool and alerts of same should be sent to respective authorities.
 - o Do DR Drills without impacting the production systems and provide reports to IWAI
 - o Number of drills will be done twice in the year during the project duration:
 - o Help build best practices for Disaster Recovery by training IWAI IT Team on best practices for Disaster Recovery and contributing to any processes

2.7.6.1 Data Management

- i. Manage data isolation in a multi-tenant environment.
- ii. The CSP should provide tools and mechanism to IWAI or its appointed agency for defining their backup requirements & policy.
- iii. The CSP should provide tools and mechanism to IWAI or its appointed agency for configuring, scheduling, performing and managing back-ups and restore activities (when required) of all the data including but not limited to files, folders, images, system state, databases and enterprise applications in an encrypted manner as per the defined policy.
- iv. Transfer data back in-house either on demand or in case of contract or order termination for any reason
- v. Provide and implement security mechanisms for handling data at rest and in transit.

- vi. System integrator shall not delete any data at the end of the agreement (for a min of 90 days beyond the expiry of the Agreement) without the approval of IWAI.
- vii. When IWAI or CSP (with prior approval of IWAI) scales down the infrastructure services, CSP is responsible for deleting or otherwise securing IWAI's Content/data prior to VM deletion and in case deleted, shall ensure that the data cannot be forensically recovered.

2.7.7 Network Requirements

- a. CSP shall have the capability to provide adequate bandwidth between Primary Data Centre and Disaster Recovery Centre for data replication purpose.
- b. Provide infrastructure that is IPv6 compliant.
- c. The data centre and disaster recovery centre facilities (where applicable) should support connection to the wide area network through high bandwidth links of appropriate capacity to take care of the needs of various types of user entities. Provision must be made for segregation of access path among various user categories.

2.8 Integration capabilities

The bidder is expected to develop and provide necessary software interfaces with internal and external systems. The interfaces are expected to help seamless workflow and interactions as far as possible. Single-sign on and other user friendly integration features are expected as part of the solution. Bidder shall also provide interface for uploading data in CSV formats for manual data upload. The list of indicative integrations (not limited to) are as follows:

- State/ UT systems
- ICEGATE
- NLP Marine
- ULIP
- AADHAR
- Payment Gateways
- Others (as required)

2.9 System Configuration and Testing

Under the Testing stage, system integrator shall carryout Integration Planning & Testing as well as System Test Planning & Testing phases. The following sections explain the scope of each phase Bidder shall perform.

- a. Bidder shall maintain a software configuration management system with appropriate version control for the software deployed
- b. Bidder shall adopt leading practices for releasedeployment in production environment
- c. Bidder shall be responsible to carry out white box and black box testing, unit testing, integration testing, volume testing, performance testing, penetration and vulnerability testing
- d. Testing cases executed, testing logs, bugs fixed, testing results, etc. will be maintained by bidder and shall be made available to IWAI on request if required.

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- e. Comprehensive development and rollout plan for each of the software component will be provided by bidder and status updates against planned milestones will be provided in project status update reports periodically
- f. Post deployment bug fixing, patches, fine-tuning, minor changes, etc. will have to be carried out by bidder as a part of ongoing support and maintenance of the software
- g. While writing the source code for application modules the bidder should ensure high-quality documentation standards to improve the readability of the software module. An illustrative list of comments that each module contained within the source file should be preceded by is outlined below –
 - a. The name of the module
 - b. The date when module was created
 - c. A description of what the module does
 - d. A list of the calling arguments, their types, and brief explanations of what they do
 - e. A list of required files and/or database tables needed by the module
 - f. Error codes/Exceptions
 - g. Operating System (OS) specific assumptions
 - h. A list of locally defined variables, their types, and how they are used
 - i. Modification history
indicating who made modifications, when the modifications were made, and what was done.
- h. Apart from the above bidder needs to follow appropriate coding standards and guidelines inclusive of but not limited to the following while writing/configuring the system –
 - a. Proper and consistent indentation
 - b. Inline comments
 - c. Structured programming
 - d. Meaningful variable names
 - e. Appropriate spacing
 - f. Declaration of variable names
 - g. Meaningful error messages
- h. The system integrator shall demonstrate the following mentioned acceptance criteria prior to acceptance of the solution as well as during project operations phase, in respect of scalability and performance etc.
- i. The system integrator may propose further detailed Acceptance criteria which the IWAI will review. Once IWAI provides its approval, the Acceptance criteria can be finalized.
- j. In case required, parameters might be revised by IWAI in mutual agreement with system integrator and the revised parameters shall be considered for acceptance criteria.
- k. The system integrator would set up a testing environment in its own facility which may be separate from the development, staging and production environment.
- l. A comprehensive system should be set up that would have the capability to log & track the testing results, upload & maintain the test cases and log & track issues/bugs identified.

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m. The following table depicts the details for the various kinds of testing envisaged for the project.

Type of Testing	Responsibility	Scope of Work
Unit Testing	The bidder	<ol style="list-style-type: none"> 1. The bidder shall perform System testing in its own premises where the development work is being executed 2. The bidder shall prepare test plan and test cases and maintain it. IWAI may request the bidder to share the test cases and results 3. Should be performed through manual as well as automated methods 4. Automation testing tools to be provided by the bidder. IWAI doesn't intend to own these tools
Integration Testing	The bidder	<ol style="list-style-type: none"> 1. The bidder shall perform Integration testing in its own setup 2. The bidder shall prepare and share with IWAI the Integration test plans and test cases 3. The bidder to perform Integration testing as per the approved plan 4. Integration testing to be performed through manual as well as automated methods 5. Automation testing tools to be provided by the bidder. IWAI doesn't intend to own these tools
Performance and load Testing	The bidder/ Third Party Auditor	<ol style="list-style-type: none"> 1. The bidder shall do 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 SINGLE WINDOW SYSTEM to be performed on business transaction volume 4. Test cases and test results to be shared with IWAI. 5. The bidder needs to use performance and load testing tool for testing. IWAI doesn't intend to own these tools. IWAI if required, could involve third party auditors to monitor/validate the performance testing. <p>Note: Before Go-Live of the project, the bidder needs to do load</p>

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Type of Testing	Responsibility	Scope of Work
		<p>testing in the production environment to showcase the capability of the system to handle 10,000 concurrent user connections of the first year as per the SLAs specific to performance of the system. In case the system fails to handle the expected loads, the bidder will have to take corrective action (e.g. hardware ramp-up, tuning of application / middleware / hardware, etc.) at no extra cost to IWAI.</p> <p>This exercise would continue yearly (at beginning of every year of O&M) basis wherein the bidder will certify IWAI that the system is capable of handling 2x of the envisaged concurrent peak load of that year (but not less than 50,000 concurrent users). IWAI / IWAI appointed agency may validate the test results.</p>
Security Testing (including Penetration and Vulnerability Testing)	The bidder/ Third Party Auditor	<ol style="list-style-type: none"> 1. The solution should demonstrate the compliance with security requirements which will be mentioned in the RFP including but not limited to security controls in the application, at the network layer, network, data centre(s), security monitoring system deployed by the bidder 2. The solution shall pass vulnerability and penetration testing for rollout of each iteration. The solution should pass web application security testing for the portal and security configuration review of the baseline infrastructure. 3. The bidder should carry out security and vulnerability testing on the developed solution. 4. Security testing to be carried out in the production environment. 5. Security test report and test cases should be shared with IWAI 6. Testing tools if required, to be provided by the bidder. IWAI doesn't intend to own these tools 7. During O&M phase, penetration testing to be conducted on yearly basis and vulnerability assessment to be conducted on half-yearly basis.

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Type of Testing	Responsibility	Scope of Work
		IWAI will also involve third party auditors to perform the audit/review/monitor the security testing carried out by the bidder.
User Acceptance Testing of SINGLE WINDOW SYSTEM	IWAI or IWAI appointed Third Party Auditor	<ol style="list-style-type: none"> 1. IWAI/IWAI appointed third party auditor to perform User Acceptance Testing 2. The bidder to prepare User Acceptance Testing test cases 3. The bidder should fix bugs and issues raised during UAT and get approval on the fixes from IWAI / third party auditor before production deployment 4. Changes in the application as an outcome of UAT shall not be considered as Change Request. The bidder must rectify the observations.
Application Benchmarking	The bidder	<p>The bidder needs to do benchmarking of the application software including API's to meet the scalability requirements provided below:</p> <ol style="list-style-type: none"> 1. Before Go-Live (a) the bidder needs to benchmark the application software for 2x of the envisaged concurrent peak load (minimum 10,000 concurrent users). (b) SINGLE WINDOW SYSTEM system API's should also be benchmarked for 10X of first year projected API transaction volumes. 2. One year after Go-Live (a) the bidder needs to benchmark the application software for the peak load 2x of the concurrent peak load of that year (but not less than 50,000 concurrent users). (b) The bidder also needs to benchmark the SINGLE WINDOW SYSTEM API's for 100X of the first-year transaction volumes. 3. The benchmarking of the application software shall be done by a third party engaged by the IWAI. The bidder will bear the costs of such benchmarking exercises. The third party will certify the system's ability to handle the requisite load. In case the system fails to handle the expected loads, the bidder will have to take corrective action. IWAI doesn't intend to own the benchmarking tools and/or the IT infrastructure.

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Type of Testing	Responsibility	Scope of Work
		4. The bidder, in its bid and during project initiation needs to share the details of the benchmarking plan including the parameters to be tested with IWAI. Inputs from IWAI will be incorporated by the bidder before performing the benchmarking exercise.

Note:

- a. Bidder needs to provide the details of the testing strategy and approach including details of intended tools/environment to be used by the bidder for testing in its technical proposal. IWAI does not intend to own the tools.
- b. The bidder shall work in a manner to satisfy all the testing requirements and adhere to the testing strategy outlined. The bidder must ensure deployment of necessary resources and tools during the testing phases. The 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 bidder to ensure that the product delivered by the bidder meets all the requirements will be specified in the RFP. The bidder shall take remedial action based on outcome of the tests.
- c. The bidder shall arrange for environments and tools for testing and for training as envisaged. Post Go-Live; if the production environment is used for testing and training purpose, it should be masked, and should be protected. Detailed process in this regard including security requirement should be provided by the bidder in its technical proposal. The process will be finalized with the selected bidder.
- d. If IWAI wishes to additionally engage any Third-Party Auditors (TPA) as mentioned above, these will be paid by IWAI directly. The bidder can also suggest the auditors who may be appointed by IWAI at its sole discretion. All tools/environment required for testing shall be provided by the bidder.
- e. STQC/Other agencies appointed by IWAI shall perform the role of TPA. The bidder needs to engage with the TPA at the requirement formulation stage itself. This is important so that unnecessary re-work is avoided, and the audit is completed in time. The audit needs to be completed before Go-Live of different modules. The bidder needs to prepare and provide all requisite information/documents to third party auditor and ensure that there is no delay in overall schedule.
- f. The cost of rectification of non-compliances shall be borne by the bidder.

2.10 Change Management, Training, Migration and Transition

Bidder is expected to manage all activities related to change management, training,

and migration of data and transitioning to new system. This includes

1. Change Management and Capacity Building strategy for effective use of the system
2. Carrying out training of various internal and external users of the system
3. Creation of user manuals/ tutorials for using the system
4. Data Migration of legacy data (both physical stored documents and electronic) including designing templates for data capture from existing systems / manual forms which are required in the existing system
5. And other as mentioned subsequently

2.10.1 Migration

- A. Bidder will be required to carry out migration of data, business rules, checks, etc. as required for functioning of the solution.
- B. Data migration including entry and validation of legacy data, and porting is the responsibility of the bidder. The Bidder needs to migrate complete legacy records available in electronic format.
- C. Data shall be migrated from the current application and media to the new application prior to the 'go-live' of the respective location.
- D. Data which is required by Maritime Boards/IWT's users but not directly related to functioning of solution may be done post go-live with consent from IWAI. Decision of IWAI with regards to documents which have to be migrated before go-live remains final.
- E. The Bidder needs to do the following on data migration from the existing legacy systems and/or
 - i. Data stored otherwise
 - ii. Design the data migration & acceptance methodology and plan
 - iii. Risk Identification and Mitigation Plan for Data Migration
 - iv. Mapping of the data
 - v. Identifying the data gaps
 - vi. Perform data cleansing for incorrect/ incomplete data
 - vii. Providing templates for data collection
 - viii. Extraction and Loading of the data
 - ix. Listing of errors during data migration
 - x. Corrections of the migrated data during Data Quality Assessment and Review
 - xi. Final porting of the data into the solution
 - xii. Meta tagging of key words
 - xiii. Testing and obtain sign off on migrated data.
 - xiv. The tool / utility for performing data migration must be designed by the Bidder after adequate study of the data to be migrated.

F. Data Assessment: The study of the source/legacy systems must provide comprehensive insights into the content, structure, quality and integrity of the source/legacy systems.

G. Risk Identification and Mitigation Plan for Data Migration: The Bidder shall identify all risks associated with the data migration and enumerate mitigation measures and prepare a Risk Identification and Mitigation plan for Data Migration. The plan must address the contingency measures to be adopted during the event of a data migration failure. It must also clearly specify measures to be taken to prevent data loss. It may be preferable to consider migration of data to a backup system at the same time as the new system to address data loss due to system failures.

H. Data Mapping and cleansing: Since there would be significant difference between existing database table structures and database table structures of new application, there must be mapping done between existing tables and proposed tables and database made compatible for migration into new tables. A comprehensive data mapping exercise must be undertaken by the Bidder before embarking on data migration. A good data map will detail an in-depth cross-referencing of all mutual fields across the source system and the target system. It must include the following (but not limited to):

- i. Names of applicable to and from fields
- ii. Lengths and data types of these fields
- iii. Mapping of relationship between entities
- iv. Check on the constraints, unique fields and integrity checks
- v. Any logic involved in mapping such as string truncations or validations against any business rules.

I. The Bidder shall be responsible for migration of operational data as required, including financial transaction data such as ongoing contracts, employee transaction data etc.

J. In the event of any gaps in data migration, the Bidder shall discuss with IWAI, document the findings and get it signed-off from IWAI. Bidder shall then promptly carry out required migration and close the gaps identified during the duration of contract.

K. Bidder shall run mock data migration tests to validate the conversion programs that have been written.

L. Bidder shall validate the data before uploading the same to the production environment.

M. Bidder shall support in conducting the acceptance testing and verifying the completeness and accuracy of the data migrated from the legacy systems to the proposed solution.

2.10.2 Transitioning

1. States / UT's are expected to provide necessary support for transitioning to the new system. Bidder will make data entry as required to populate information as required. This includes but is not limited to defining asset masters, making maintenance schedules,

creation/modification of policy rules, etc.

2. Certain data which is recorded in registers / papers / files which needs to be captured in the system as master / configuration / operations data
3. Bidder is expected to design and provide templates in excel for capturing this data. Bidder will make data entry in the excel template provided
4. Sufficient time needs to be provided to bidder to digitize the data. Bidder is expected to regularly follow-up in case of delays and provide timely escalations, in absence of which the delay will be considered on part of bidder
5. In addition, as users get used to the new system, bidder is expected to generate MIS reports based on the details submitted in the system. These need to be factored in change management and appropriate training sessions need to be planned and conducted for the same

2.10.3 Change management and capacity building

1. Scope of work for training and capacity building for bidder includes:
 - A. IWAI
 - B. States and UT's
 - C. Customers and end users (limited user sample)
2. The bidder's scope of work also includes preparing the necessary documentation, presentations, flowcharts, training aids as required for successful delivery of such trainings.
3. The details provided in this section are indicative and due to the complex nature of the project the number of training sessions may increase. Over and above the team considered for performing the training as detailed in subsequent sections, bidder has to provision for two personnel to handle additional training needs.
4. Further the bidder has to provide cost for additional and optional training sessions in its commercial proposal in case more training sessions are required. Bidder has to conduct such additional training sessions on IWAI's request.
5. The bidder shall impart training to Maritime Boards/IWT's staff and other key stakeholders on the usage and maintenance of the system. Bidder will develop a training and capacity building strategy that will also include a detailed plan of implementation. The strategy has to be multi-pronged and training may need to be repeated for better understanding of the systems and its applications.
6. The Bidder shall propose different training modules for different user profiles at appropriate timelines.
7. The Bidder shall provide such additional training as they deem necessary in order to ensure that the training imparted is comprehensive and complete.
8. The Bidder shall provide a change management plan to IWAI which addresses the various aspects of capacity building and training. Bidder will provide tentative number of sessions envisaged

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by bidder for each type of user considering their function and interaction with system.

9. IWAI reserves right to reasonably increase number of trainings being conducted for particular / all type of users. The training schedule will have to be modified accordingly and that will be considered as basis for further trainings till go-live and thereafter.

10. The bidder must also prepare Training Modules/content to enable the users for self-learning.

11. IWAI envisages that the training and capacity building sessions for all stakeholders would primarily be based on 'Train the Trainer' concept. These master trainers will further train the respective users. Training will happen in decentralized manner. Trainer will visit the respective locations and will carry out training activity. Only the conference room/space for the training including one projector would be arranged by Maritime Boards/IWT's. IWAI along with the bidder shall identify key resources to impart skill-based training to allow the "Train-the-Trainer" program.

a. Training will happen at Following Locations

i. IWAI HQ

ii. 4 locations in 4 different zones (Final locations will be provided by IWAI)

12. The training material prepared by bidder will be owned by IWAI and cannot be used without prior approval of IWAI.

13. The below table provides an indicative list of different types of training that the bidder needs to impart.

Training Area	Relevant stakeholder	Scope
Functional	End users, operators, office staff interacting with the system	<ul style="list-style-type: none"> • Carrying out user desired function through system • Additional training on handheld devices, etc. • Function-wise workflow, screen flow, user inputs required, checking status updates, etc. • Working of each screen in order to carry out respective functions as per roles and responsibilities • Deviation handling through system • Accessing various systems available to the users • Trainings should necessarily include: <ul style="list-style-type: none"> ➤ Leadership access

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		<ul style="list-style-type: none"> ➤ Customer groups ➤ Functional heads ➤ Process supervisors ➤ Process operators ➤ Shipping and IV Crew operations ➤ ERP related functions ➤ Service desk users ➤ DMS users ➤ Office workflows
Techno-functional	Only one power user which have special access of maintaining masters, create new workflows, etc.	<ul style="list-style-type: none"> • Steps to carry out functions related to special privileges as defined • Workflow definition and creation • Second level roles & responsibility assignment • Trainings should necessarily include: <ul style="list-style-type: none"> ➤ User access control ➤ Managing masters and controls ➤ Workflow advanced users ➤ Advanced users for other functions ➤ Future maintenance including configuration, Master Data maintenance and other administrative works of the system ➤ Address future functional queries of user

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Technical	IWAI's/ Maritime Boards/IWT's IT users	<ul style="list-style-type: none"> • System architecture design covering interactions / interfaces between various components • System operations and maintenance • Code structure, infrastructure details, configuration details, carrying out minor edits/changes, etc. • Administration training on specialized technology skills like <ul style="list-style-type: none"> ➤ Database management ➤ Application management ➤ Troubleshooting ➤ Data backup, ➤ Networking, etc.
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14. Functional and techno-functional training needs to be carried out before Go-live of the solution. Technical training needs to be completed within 3 months from go-live. All training sessions will require sign-off from minimum 80% of attendees failing which IWAI may ask that session to be carried out again at no extra cost.
15. Training schedule needs to be provided at least one week in advance to IWAI along with pre-reading material and prerequisites for attendees
16. Feedback from each training session will have to be maintained by bidder and submitted along with invoices.

Refresher trainings needs to be provided on an annual basis for functional and techno-functional and quarterly basis for technical area

2.11 Operations & Maintenance

The scope of work will comprise development of SINGLE WINDOW SYSTEM Platform and other components including Business Intelligence and Analytics.

2.11.1 Application Support and Maintenance

Application support includes, but not limited to, production monitoring, troubleshooting and addressing functionality/availability and performance issues and implementing system change requests etc. The bidder shall maintain the application software in good working conditions; and perform changes and upgrades to the applications as requested by the authority. All tickets related to any issue/complaint/observation about the system should be maintained in an ITIL compliant comprehensive ticketing solution. Key activities to be performed by the bidder during

the application support phase are as follows:

a) Compliance to SLA

The bidder should ensure compliance with SLAs as indicated in the RFP and any upgrades/major changes to the software should be planned by the bidder while ensuring that the SLA requirements are met at no additional cost to the authority/IWAI

b) Annual Technology Support

The bidder should be responsible for arranging annual technology support to the SINGLE WINDOW SYSTEM for the OEM products provided by respective OEMs during the entire O&M phase. It is mandatory for the bidder to take enterprise level annual support over the entire contract duration at minimum for the software(s) mentioned below:

- Operating System
- Virtualization layers
- Database
- Analytics tool
- All third-party products/ engines deployed in the SINGLE WINDOW SYSTEM

c) Application Software Maintenance

The bidder shall provide continuous and indefinite support through on-site team/telephone/E-mail/Video Conferencing/installation visits as required. The bidder shall address all the errors/bugs/gaps in the functionalities of the solution (vis-a-vis the FRS and SRS signed off) at no additional cost during the O&M phase.

All patches and upgrades from OEMs shall be implemented by the bidder. Technical upgrades of installation to the new version, as and when required, shall be done by the bidder. Any version upgrades of the software/tool/application will be done by the bidder after seeking prior approval from the IWAI and submitting the impact assessment of an upgrade as such.

Any changes/upgrades to the software performed during the support phase shall be subject to comprehensive and integrated testing by the bidder in order to ensure that the changes implemented in the system meet the specified requirements and do not impact any other existing functions of the system. A detailed process in this regard will be finalized by the bidder in consultation with the IWAI.

An Issue log shall be maintained by the bidder for the errors and bugs identified in the solution as well as any changes implemented in the solution and shall be periodically submitted to the IWAI.

The bidder will inform the IWAI (at least on a monthly basis) about any new updates/upgrades available for all software components of the solution along with a detailed action report. In case of critical security patches/alerts, the bidder shall inform the IWAI immediately along with any relevant recommendations. The report shall also contain the bidder's recommendations on

update/upgrade, benefits, impact analysis etc. The bidder needs to execute updates/upgrades through a formal change management process and subsequently update all documentations and Knowledge databases etc. The bidder will carry out all required updates/upgrades by following defined processes at no additional cost.

d) Database Administration, Maintenance and Management Services

- a) Management of database environment to maintain performance at optimum levels
- b) End-to-end management of database on an ongoing basis to ensure smooth functioning of the same.
- c) Tasks including, but not limited to, managing changes to database schema, disk space, storage, user roles etc.
- d) Conduct code and configuration reviews to provide inputs to IWAI in order to improve the performance or resolve bottlenecks if any.
- e) Performance monitoring and tuning of the databases on a regular basis including preventive maintenance of the database as required.
- f) Report backup status on a regular basis and ensure prompt problem resolution in case of failures in the backup processes.
- g) Manage database upgrade or patch upgrade as and when required with minimal downtime.
- h) Regular backups for all databases in accordance with the backup and archive policies and recovery whenever required with appropriate permissions. Testing of backup media should be undertaken from time to time to ensure availability of data. Bidder should coordinate with IWAI for back-up activities.

e) Problem identification and Resolution:

- a) Errors and bugs that persist for a long time, impact a wider range of users and are difficult to resolve in turn lead to application hindrances. The bidder shall resolve all the application problems through implementation of the identified solution (e.g. system malfunctions, performance problems and data corruption etc.)
- b) Monthly reports on problems identified and resolved would be submitted to the IWAI team along with recommended solutions.

f) Change and Version Control

All planned or emergency changes to any component of the system shall be carried out through the approved Change Management process which shall be formulated in consultation with IWAI. The bidder always needs to follow all such processes (based on industry ITSM framework). For any change, bidder shall ensure:

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- a) Detailed impact analysis is conducted
- b) All Change plans are backed by Roll back plans
- c) Appropriate communication on change required has taken place
- d) Requisite approvals have been received
- e) Schedules have been adjusted to minimize impact on the Production environment
- f) All associated documentation is updated post stabilization of the implemented change
- g) Version control is maintained for all software changes

The bidder shall define the Software Change Management and Version Control Process. For any changes to the solution, the bidder must prepare detailed documentation including proposed changes and impact to the system in terms of functional outcomes/additional features added to the system etc. The bidder shall ensure that software and hardware version control is carried out for the entire contract duration.

g) Maintain configuration information

The bidder shall maintain version control and configuration information for application software and any relevant system documentation.

h) Maintain System documentation

The bidder shall design, update and maintain all the System documentations of the SINGLE WINDOW SYSTEM. These documents shall be up to date and shall be shared IWAI on the regular basis. The bidder should follow latest industry standards to design and maintain the documentations.

The bidder shall maintain at least the following minimum documentation with respect to the SINGLE WINDOW SYSTEM:

- a) High level design of whole system
- b) Low level design for whole system/module design level
- c) System Requirements Specifications (SRS)
- d) Any other explanatory notes about system
- e) Traceability matrix
- f) Compilation environment

The bidder shall also ensure that any software system documentation is updated about the following:

- a) Source code is documented

- b) Functional specifications are documented
- c) Application documentation is updated to reflect on-going maintenance and enhancements in SRS in accordance with the defined standards
- d) User manuals and training manuals are updated to reflect on-going changes/enhancements
- e) Standard practices of version control and management are adopted and followed
 - i. All project documents need to follow a proper version control mechanism. The bidder will be required to keep all project documentation updated and ensure the updated project documents are submitted to the IWAI by the end of next quarter in case of any change.
 - ii. For application support, the bidder shall assign a dedicated software support team as a single point of contact for resolution of all application related issues. This team will receive and resolve all the application related tickets/incidents. In the technical proposal, the bidder needs to provide the proposed application support team structure including the number of team members proposed to be deployed along with roles and skills of each. The Application support team shall comprise of the bidder's employees.
 - iii. Any software changes required due to problems/bugs in the developed software/application will not be considered as part of change control and will have to be completed by the bidder at no additional cost (even if it requires any enhancements/customizations).

2.11.2 System Administration, Maintenance & Management Services

The objective of this service is to support and maintain all the Systems provided as a part of this project by MSP, and shall include:

- i. Regular monitoring of all the applications hosted.
- ii. Operating System administration, including but not limited to management of users, processes, preventive maintenance and management of servers including updates, upgrades and patches to ensure that the system is properly updated.
- iii. Installation and Re-installation of the server and other hardware in the event of system crash/failures.
- iv. Regular analysis of events and logs generated in all the sub-systems including but not limited to servers, operating systems, security devices, etc. to identify vulnerabilities. Necessary Action shall be taken by the MSP in accordance with the results of the log analysis. Suitable mechanism has to be maintained for security and forensic related logs or as per requirement of IT Act and that of other government regulations issued from time to time.
- v. Adoption of policies and procedure, compliances, guideline or international standard as defined by the IWAI.
- vi. Troubleshoot problems with web services, mail services, applications software, desktop/server relationship issues and overall aspects of a server environment.

- vii. Problems shall be logged in at the Help Desk and resolved as per the SLAs defined.
- viii. Manage and monitor server configuration, performance and activity of all servers. Performance optimization and reporting - Process and Memory Management, Monitoring CPU performance, Monitoring Memory performance, Monitoring Input / Output performance, Monitoring Ethernet Traffic, etc.
- ix. Prepare and keep up to date document containing configurations of all server, IT infrastructure etc.
 - x. Hardening servers in line with security policies like ISO 27001:2013 information security control.
- xi. Carry out the DC and DRC failure testing and periodic BCP real drills.
- xii. Configuration of server parameters, operating systems administration and tuning
- xiii. Operating system administration, including but not limited to management of users, processes, resource contention, preventive maintenance and management of upgrades including migration to higher versions and patches to ensure that the system is properly updated.
- xiv. Periodic health check of the systems, troubleshooting problems, analysing and implementing rectification measures
- xv. Perform Database Administration activities for Database. The system integrator agrees that all databases of the IWAI will be administered as per standards and requirements. The service covers all the databases running on servers / SAN at DC including but not limited to: -
 - Start-up and shutdown of databases.
 - Daily / Weekly / Monthly backup of databases.
 - Database recovery when required.
 - Weekly database recovery checks.
 - Required logs maintenance as per policies of the IWAI.
 - Documentation upkeep and records maintenance.
 - User account management.
 - Database problem resolution.
 - Performance tuning.

2.11.3 Master Data Maintenance

The bidder should be responsible for maintaining all the master data for the platform as per IWAI

The final list of masters shall be provided by the system integrator after finalization of the SRS

2.11.4 Web based SLA Monitoring Tool

- a) The SLA Monitoring tool should be tested, audited and certified for its accuracy, reliability and completeness before it is implemented by the bidder.
- b) The selected tool must be from latest Gartner's magic quadrant leader's list/equivalent position in Forrester wave/ leader in IDC market space (As a supporting document the bidder must

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provide for relevant report of latest Gartner's magic quadrant leader's list/ equivalent position in Forrester wave/report of IDC).

- c) System integrator shall periodically conduct quality reviews (preferably quarterly) to ensure that the tool is monitoring SLAs properly.
- d) The bidder will work with IWAI officials to design the SLA reports as per specific requirements. The solution provides both real time dashboards and historical view reporting of the SLA's at to the relevant stakeholders of IWAI.
- e) The SLA monitoring tool should be able to monitor all the service levels defined in the service level agreement.
- f) The SLA Monitoring tool should be web based
- g) The tool should be also accessed by smart devices over internet/local LAN
- h) The SLA monitoring tool will be tested in the Acceptance Phase for acceptance
- i) The proposed tool should use smart visualization and graphics

Some of the minimum indicative features of the SLA Monitoring tool includes

- i. Integrated performance view of all the SLAs along with various threshold violations for each service level.
- ii. Indicate the baseline, breach, lower and high-performance scores against each of the service level metric in a graphical form.
- iii. Dashboard must show bidder action taken on each of the SLA breach/ timelines for resolution etc.
- iv. The proposed tool should enable users to generate Pre-defined, Standard and Ad-hoc reports
- v. Allow users to generate report with pre-defined fields to get a real-time view of the system from the portal;
- vi. Pre-defined Reports will be generated at pre-defined frequencies and will be available for to the users
- vii. Standard reports would include reports where report generation criteria are fixed and options for the same are available to the User. The User can select a combination of options and submits a request for generation of a report. The system generated the report and the same would be made available on the User dashboard;
- viii. Ad hoc Reports: These reports can be generated by the User by raising ad hoc queries. These would provide the ability to generate ad hoc reports as and when required by selecting any field, table or column (as per Database design) by drag and drop feature from the table.

2.11.5 Application Monitoring Services

The bidder should ensure exceptional end-user experience and consistently high service levels that meet business objectives by monitoring all end-user transactions 24x7 with low overhead. The application performance monitoring solution should accurately measure end-user transaction performance to prove IT is delivering against SLAs, business objectives and vendor commitments. APM should be deployed with the objective of improving IT productivity and control costs by quickly and accurately diagnosing problems occurring deep within the application and infrastructure, pinpoint failures and speed problem resolution.

The services to be provided by the bidder for Application Monitoring which includes following but not limited to:

- a. Web/ API services
- b. Application server
- c. Database server
- d. Middleware
- e. Value Added Services
- f. Other components as proposed by bidder

Application monitoring should map all transactions to the dependent infrastructure in real time for a single view of application health, business process flow and the entire transaction path to quickly triage issues

2.11.6 Storage Administration & Management Services

- a. Management of storage environment to maintain performance at optimum levels.
- b. Management of the storage solution including, but not limited to, storage management policy, configuration and management of disk array, SAN, tape library, etc.
- c. Storage management, including but not limited to management of space, volume, Redundant Array of Inexpensive Disks configuration, LUN, zone, security, business continuity volumes, performance, etc.

2.11.7 Workflow Management

Workflow management module should enable the workflows for various business processes. This should include process tasks and routing. Workflow shall allow configuring various internal and external Stakeholders. into the business processes for various kinds of approvals / rejections.

2.11.8 Backup and Archival Services

- a. The services to be provided by bidder should include:
- b. Backup of storage as per the defined policies.
- c. Monitoring and enhancing the performance of scheduled backups, schedule regular testing of backups and ensuring adherence to related retention policies as defined by IWAI.

- d. Prompt execution of on-demand backups of volumes and files whenever required or in case of upgrades and configuration changes to the system.
- e. Real-time monitoring, log maintenance and reporting of backup status on a regular basis.
- f. Media management tasks, including, but not limited to, tagging, cross-referencing, storing, logging, testing, and vaulting in fireproof cabinets (onsite and offsite).
- g. 365x24x7 support for file and volume restoration requests at the DC

2.11.9 User Profiles & Account Management

Access management provides the right for users to be able to use a service or group of services. Access management is the process of granting authorized users the right to use a service, while restricting access to non-authorized users. The system should be able to identify and authorize the users and would allow access to IWAI and database. The user access management system would be able to identify the rights available with the user in terms of viewing, addition, deletion, modification of the data and generation of various reports through MIS.

2.11.10 Content management system

Content management system (CMS) is required to maintain the content on the IWAI web-portal/ Mobile App. It should be possible to add content in form of Text, HTML, videos or Images on the department website. Along with the facility to easily publish content on the website, CMS would also have facility to maintain access logs for security and accountability purpose.

- a. Configuration management and Version Control
 - As the application undergoes enhancements and modifications due to problem requests, defect fixes and change requests, it becomes increasingly important to keep the source code under version control and the system under configuration management.
 - With the objective of keeping track of the version updates in the application, Bidder should adhere to the configuration management process defined in conjunction with IWAI.
 - Bidder should ensure that a copy of the production environment is backed up and stored in the repository before the new / modified components are copied to Production.
- b. Release management
 - Release management procedure should be defined in conjunction with IWAI to ensure smooth transition of the application changes from release environment to production environment.
 - As part of the release management Bidder should perform the following activities:
 - Bidder should group the related change requests, assess their development progress and accordingly prepare a schedule for their release

o Bidder should in consultation with IWAI prepare a detailed release plan for every release. This plan should include the release number and date of release. It should also contain details about the change request to be released.

2.11.11 IT Infrastructure/Hardware/Equipment Support and Maintenance

The bidder shall define, develop, implement and adhere to the IT Service Management (ITSM) processes aligned to ITIL framework for all IT Services defined and managed as part of this project. IT infrastructure support and maintenance include but not limited to the following:

I. Warranty support for deployed Hardware/Equipment/IT infrastructure

- a) The bidder shall provide comprehensive on-site warranty for the entire project duration.
- b) The bidder needs to have/ procure OEM support for all the components for the entire duration of the contract. Proof of this support needs to be submitted to IWAI on a yearly basis.
- c) The bidder shall take adequate steps to ensure that none of the Hardware/Equipment/IT Infrastructure proposed is declared "End-of-Sale" by the respective OEM during the entire project duration. In case it happens, bidder shall replace the component with equivalent or better component and ensure that there is no impact on the operations and performance.
- d) The bidder should also make sure that the Devices/Hardware/Equipment/IT Infrastructure are not less than N-1 model during the entire project duration, where N is the latest model available in the market. In such a case, the device should be replaced with the latest model, and ensure that there is no impact on the operations and performance.
- e) The bidder shall provide comprehensive & on-site manufacturer's warranty about proper design and quality of all hardware, equipment, accessories etc. covered by the RFP. The bidder must warrant all hardware, equipment, accessories, spare parts, software etc. procured and implemented per this RFP against any manufacturing defects during the warranty period.
- f) The bidder shall warranty the performance of the installed hardware and software to meet the performance requirements and service levels in the RFP.
- g) The bidder is responsible for sizing and procuring the necessary hardware and software licenses per the performance requirements provided in the RFP. During the warranty period, the bidder shall replace/augment/procure new higher-level equipment or additional licenses/hardware at no additional cost to the IWAI in case the procured hardware or software is not enough or is undersized to meet the service levels and the project requirements.
- h) During the project period, the bidder shall maintain the systems and repair/replace all defective components that are brought to the bidder 's notice at the installed site, at no additional cost to the IWAI
- i) The bidder shall carry out Corrective Maintenance for maintenance/troubleshooting of supplied hardware/software and support infrastructure problems including network (active/passive) equipment, security and rectification. The bidder shall also maintain complete

- documentation of problems identified, isolation, cause and rectification procedures for building knowledge base for known problems in the centralized repository, accessible to the IWAI team as well.
- j) The bidder shall monitor warranties to check adherence to preventive and repair maintenance terms and conditions.
 - k) The bidder shall ensure that the warranty complies with the agreed technical standards, security requirements, operating procedures, and recovery procedures.
 - l) Any component that is reported to be down on a given date should be either fully repaired or replaced by a temporary substitute (of equivalent configuration) within the time frame indicated in Service Level Agreement (SLA).
 - m) The bidder shall introduce a comprehensive Asset Management process to manage the entire lifecycle of every component of the SINGLE WINDOW SYSTEM.

II. OEM Support services

Involving the OEMs of the critical components (hardware and software) to ensure that installations/ configurations/ integrations of the various components are performed according to the best practices/ OEM guidelines and seeking the professional support of the OEMs during any contingency is a key requirement of this RFP.

- a) Bidder shall ensure requisite support from the OEM for various aspects of project including configuration, customization, sizing, performance tuning and implementation support.
- b) Bidder shall, before the commissioning of the system shall provide for teaming agreement between bidder and the respective OEM, which provides for professional support services of the OEM during the contract period.
- c) Bidder shall assess the requirement of professional services from OEMs for all components of the solution, and provision for requisite support from OEMs. For the removal of all doubts it is clarified that this requirement shall commence from the start of the project (during the transition period as well). It is clarified that these are the minimum requirements and bidder shall procure additional man-days of support in case the same is exhausted due to any requirements
- d) The bidder shall ensure that there is 24x7 support from the OEMs of all the components, which will be proposed by bidder.
- e) Bidder shall give an un-priced break-up of the professional services support procured and its nature from the OEMs as part of the technical bid.
- f) The system software licenses mentioned in the Bill of Materials shall be genuine, perpetual, full use and should provide upgrades, patches, fixes, security patches and updates directly from the OEM. All the licenses and support (updates, patches, bug fixes, etc.) should be in the name of IWAI.

- g) The bidder shall involve the trainers of OEMs in conducting training of specialized COTS products/ modules.

III. Cloud Services Support & Network Maintenance and Management

The following would be roles and responsibility of the bidder in relation to cloud services

- a) Plan and Size the service on Cloud Service Provider as per the requirements
- b) Build out Cloud Infrastructure according to specifications (sized earlier) and provision resources
- c) Provision and De-Provision as per the requirements
- d) Ensure smooth running of Operations with proactive maintenance and minimal disruption
- e) Optimize Performance and Security as per best practices
- f) Adherence to defined SLAs
- g) Automate service, change management and chargeback
- h) Maintain Transparency and proper metering
- i) Ensure proper disaster recovery and Mitigation
- j) Publish and update the Service catalogue for the list of services for use

IV. Information Security Services

The bidder is responsible for implementing measures to ensure complete security of the SINGLE WINDOW SYSTEM (including its entire environment) and confidentiality of the related data, in conformance with the security policy of NCIIPC. The bidder shall constantly monitor the SINGLE WINDOW SYSTEM \and production systems for events or activities, which might compromise (fraudulently or accidentally) the confidentiality, integrity, availability and security of the system and take necessary remedial and preventive measures. This monitoring shall be through the security controls including:

- Real-time intrusion detection tools
- Audit review tools
- Manual processes

Bidder shall develop a detailed security policy for SINGLE WINDOW SYSTEM implementation & maintenance. The security policy developed by the bidder should be updated regularly to keep the security recommendations current and the same shall be implemented.

The bidder shall produce and maintain system audit logs on the system for a period agreed by the bidder and IWAI. The bidder will regularly review the audit logs for relevant security exceptions. The service provider will have to maintain strict privacy and confidentiality of all the data it gets access to. Adequate provisions to be made not to allow unrestricted access to the data – the bidder cannot give access to data to people in the organization who have not signed the NDA. Bidder cannot sell or part with any data in any form

2.11.12 Setting Up and Management of Centralized Helpdesk

This will include providing manpower & other field support staff.

- a. The Bidder shall be required to provide Helpdesk services (Technical and Operational Helpdesk) to enable effective support to the users for technical issues regarding the SINGLE WINDOW SYSTEM.
- b. Centralized Helpdesk should be operated 24x7 across 365 days
- c. Bidder shall ensure helpdesk facility shall have following:
 - Call logging mechanism through Phone / Mobile
 - Call logging mechanism through email
 - Call logging mechanism through portal
- d. The Bidder shall provide at least the following services:
 - Provision and supervision of personnel for the helpdesk.
 - All grievances shall be assigned a ticket number and the number shall be made available to the user along with the identification of the agent, without the user having to make a request in this regard, at the beginning of the interaction.
 - Helpdesk shall provide support for technical queries and other software related issues arising during day to day operations
 - The Physical space for the helpdesk and any other required infrastructure shall be provided by the Bidder
 - The Bidder shall adhere to the service level agreement with respect to the resolution of issues at various levels.
 - The interactions shall also be recorded, and the records maintained for reference for a period of 1 month from the date of resolution of the problem.
 - All complaints/ grievances of users shall be recorded and followed up for resolution and an escalation matrix to be developed for any delay in resolution.
 - The Technical team must register the complaints to the Helpdesk for the server/network/Application related problems. It shall be ensured that the complaints lodged by the technical team must be on High Priority Basis.
 - There shall be multi-lingual helpdesk support. The multi-lingual helpdesk support shall be in Hindi, English, and shall include more languages as per the requirement
- e. The Bidder shall provide the following helpdesk performance monitoring reports–
 - Calls per week, month or another period;

- Numeric and graphical representation of call volume
- Calls for each interaction tracked by type (calls for information on specific service, calls for specific enquiries)
- Number of dropped calls after answering, including:
 - Calls that ended while on hold, indicating that the caller hung-up;
 - Call that ended due to entry errors using the automated system, indicating difficulty in using the system

Helpdesk:

The scope of work for the Helpdesk for SINGLE WINDOW SYSTEM can be broadly categorized under the following areas:

- Business Services – Technical Helpdesk and Operational Helpdesk
- Call Centre infrastructure and technology
- Resources onboarding and training
- Monitoring and Reporting

Below provides a broad overview of the scope of work:

- i. Business Services
 - Technical helpdesk
 - Operational helpdesk
- ii. Resources on-boarding and training
 - Selection of manpower
 - Decide help desk model
 - Provide required training
- iii. Monitoring and Reporting
 - Maintain unique call ID
 - Generate regular reports of calls
 - Respond to statutory bodies and law enforcement agencies

2.11.13 Technical Support

The technical support track includes running centralized helpdesk setup and operations for SINGLE WINDOW SYSTEM project for a period of XX years from the date of Go Live.

- i. The help desk will primarily handle technical queries of all stakeholders
- ii. Bidder will deploy at least one handholding staff as the L1 support at all locations from the day of Go Live of the application. Handholding staff shall be deployed for the minimum period of 6 months from the date of Go-Live.

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- iii. The bidder shall follow the implementation plan for the helpdesk launch as specified in the project timelines.
- iv. Helpdesk is required to ensure that the above-mentioned stakeholders can log calls and complaints for any technical issues they face while using the SINGLE WINDOW SYSTEM. The following is included in the scope of work of bidder
- v. Landline/mobile number will be taken by bidder in IWAI's name. This number will be published, and internal stakeholders can call this number for their issues.
- vi. Help Desk to have Interactive Voice Response (IVR) system for first level of call segregation.
- vii. In addition to the telephone call, the bidder shall also provide other channels for call logging like email and web interface.
- viii. Language Capabilities: Hindi, English
- ix. The bidder shall deploy helpdesk application accessible to all users through the SINGLE WINDOW SYSTEM for logging issues.
- x. The service window for Help Desk is 365X24X7 (Monday to Sunday).
- xi. The helpdesk is also expected to handle queries after their go live. The help desk will serve as single point of contact for reporting/resolution of all tickets (queries, errors, incidents, issues either application or infrastructure or operations related).
- xii. Considering the nature of the services, the bidder should decide for imparting proper training in soft skills; call handling, exposure to related application to prepare the Customer Service Executives to answer different types of queries, and on other aspects of Help Desk.
- xiii. The bidder should ensure that all the staffs are put on actual duty only after providing them proper training
- xiv. Before deployment of staff, he/she need to undergo training for at least a week time covering above areas. Certificate of such training need to be submitted on quarterly basis to IWAI.

The helpdesk would have following major activities and tasks:

- a. Issues logged by users through Helpdesk should be accessed and serviced by the helpdesk personnel.
- b. Track and route requests for service and to assist end users in answering questions and resolving problems. Assign severity level to each ticket as per the SOPs.
- c. Acknowledgement should be sent to user along with service ticket number through an email immediately on call logging.
- d. Routing the query received to the concerned team of the bidder for resolution of tickets

- e. Notifying users, the problem status and resolution through the tickets over email.

2.11.14 Chatbot Support

The features of the Chabot are as follows:

- i. Responding to all the passenger queries related to registration, creation, etc. on SINGLE WINDOW SYSTEM website/ mobile application. If the passenger is not satisfied, Chatbot solution should have the capability to forward the query to help desk official and update the status of query to customer after its resolution.
- ii. Leveraging technologies like Natural Learning Process (NLP) and Artificial Intelligence (AI) to enhance contextual understanding, generative responses and learning abilities while doing end to end conversation with passengers.
- iii. Providing an analytical tool which can analyse the passenger data created during conversations based on various parameters like sentimental analysis, etc.
- iv. Interacting with the user and responding to various level queries raised in English.
- v. Understanding& executing compound query, at the same time ability to identify different intents and act upon both simultaneously.
- vi. Not storing any of the information entered by user anywhere locally on device and it should be stored in encrypted format on servers only.

2.11.15 Manpower

Post Go-Live of the SINGLE WINDOW SYSTEM, bidder shall deploy onsite manpower for supporting operations of SINGLE WINDOW SYSTEM, only after consultation and at the discretion of IWAI. This manpower will perform data entry if required on the system and shall facilitate all stakeholders in processes as per the scope of the SINGLE WINDOW SYSTEM. Bidder shall estimate the requirement of manpower. Bidder shall provide minimum SINGLE WINDOW SYSTEM data entry/facilitation manpower as defined in RFP. Please note that one shall be allotted as Supervisor.

2.12 Training and Capacity Building

The bidder shall be responsible for capacity building and training activities regarding the SINGLE WINDOW SYSTEM at following levels:

- i. **Senior Officers:** Officers from IWAI and other departments
- ii. **Functional users:** The staff of IWAI
 - a. The bidder shall provide necessary documents and training aids required for successful and effective delivery of the training programs.
 - b. The number of trainings provided here are indicative. The bidder may be required to conduct additional trainings free of cost in case more training sessions are required.
 - c. Types of training the bidder shall provide:

Training	Type of Training	Content
Functional Training	Role based	SINGLE WINDOW SYSTEM, SOPs and usage of technology
	MIS Software	Generation and usage of the following: <ul style="list-style-type: none"> Officer's Login/Logout Reports Queue Reports Incident Volume Reports Incident Investigation reports
	Train the trainer	<ul style="list-style-type: none"> Overview of SINGLE WINDOW SYSTEM Process flow Role based training for SINGLE WINDOW SYSTEM SOPs

(i) Documentation:

The bidder shall provide following training documents:

a. System Manual:

- This manual is intended for all the concerned stakeholders
- Details out the system architecture including all the modules of the SINGLE WINDOW SYSTEM Application, Mobile Application, Analytics, Passenger Services, API manager etc.
- The manual shall also provide details of Data layer, System and software layer, IT infrastructure, IT Security, Control and monitoring system and support services like SLA Monitoring, Audit mechanism and log management.

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b. Customer User Manual:

- This manual is intended for Customer (Trader/CHA/Passenger) awareness
- Details out all the Customer Services of the SINGLE WINDOW SYSTEM.

c. Administrator Manual:

- This manual is intended for Administrator Users
- Details out all the Administrator functionalities of the system.

d. Other Training aids:

In addition to the documents stated above, the bidder shall develop and provide following training aids:

- i. Interactive digital training content to be made available online on the SINGLE WINDOW SYSTEM Portal and Mobile App
- ii. Computer based training modules
- iii. Video for SINGLE WINDOW SYSTEM functionalities, back end modules, analytics, reporting etc.
- iv. Module specific presentations
- v. Operations and maintenance manuals
- vi. Regular updates to the training content as and when system undergoes changes

(ii) Number of Trainings:

Stakeholders	Mode	No. of Sessions	No. of days for each session	Type
IWAI HQ Officials	Offline	10	2	Functional
IWT, MB Officials, Others	Offline	30	3	Technical
Customers	Online	On going	On going	Functional
Regulatory Body Officials	Offline	30	2	Functional

Batch size: 20 officials

- a. The IWAI shall have all the rights regarding the usage, distribution and storage of the digital content.

- b. The bidder shall be responsible for timely updating the training documents, digital content as and when the system undergoes a change during the operation.
- c. The bidder is expected to impart minimum number of trainings as mentioned above.
- d. The bidder shall merge the cost of CB&T in the Operations and Maintenance phase as listed in the financial bid format in Part I of the RFP

(iii) Training Effectiveness:

The bidder must ensure the effectiveness of training sessions, for this:

- a. The bidder shall prepare a comprehensive feedback form that will capture the necessary parameters for measuring the effectiveness of the training. This format shall be finalized with IWAI.
- b. The bidder shall provide printed copy and online link of the feedback form.
- c. The bidder shall categorize feedback quantitatively on a scale of 1 to 10, with 1 being least effective and 10 being the most effective.
- d. The training session will be considered effective only if the cumulative score of feedback is 7.5 or more.
- e. The bidder shall comply with the defined training SLAs.

2.12.1 Training to the IWAI officials

- a. The bidder shall arrange in person training sessions for the IWAI officials. Number of training sessions shall be as per detailed above. The training to the IWAI officials shall be on the format of train the trainer.
- b. The bidder shall provide training help to clarify any issues submitted by the trainee officials.
- c. The bidder shall also organize annual refresher courses throughout the operation of the contract.

2.13 Scanning and digitization services as per Maritime Boards / IWT's requirements

- 1. As part of its initiatives, IWAI plans to digitize the Old Records available to preserve their life and ease the search and retrieval of the documents when needed. The various Maritime Boards/IWT's offices have the following size Pages for digitization.

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S. No	Size of Document
1	A0
2	A1
3	A2
4	A3
5	A4 & Legal

2. The bidder shall procure the necessary hardware and software required for digitizing the old records. Each department as the need be shall request e-governance team to seek services of the bidder's personnel for scanning and digitizing the required documents.
3. The bidder shall set up the necessary infrastructure at required Maritime Boards/IWT's locations for the execution of the project. Parallel scanning of documents should happen at required Maritime Boards/IWT's locations.
4. Some of the documents are very old and fragile. These need to be handled carefully by the bidder to ensure no damage to the documents.
5. After receiving the document and before starting the scanning of document, the bidder in support with the respective department shall be required to do pre- scanning preparation.
6. The documents will then be scanned by the bidder. The bidder and Nodal Officer are required to take due precaution that no page is scanned more than once. The bidder will also be required to generate the Metadata file from DMS for these documents. The bidder will be responsible to upload the documents and metadata file on the local machine & the central DMS Server in Data Centre. The representative of the bidder should check the accessibility of the documents from DMS, contents of scanned copy against physical document, and quality of scanned document.
7. The Document management system should be able to store scanned documents, index these documents (by attaching multilingual metadata tags to each of them), retrieve and display the stored scanned documents upon searching for the relevant metadata tags.
8. The successful bidder shall add/replace poor quality scanned images/documents on its own, for which it shall not be entitled to get any extra payment.
9. It is the absolute responsibility of the successful bidder to ensure that the contents of the digitized documents shall be an exact replica of the original paper document maintained as part of the records in the books. This will be a mandatory condition for the successful bidder.
10. The files / documents will not be allowed to be removed from premises allocated to successful bidder. Suitable hardware infrastructure/facilities have to be established onsite at the premises that shall be allocated to do the digitization work.
11. Under no circumstances shall the documents be changed, mutilated, destroyed or replaced by some other documents
12. The DMS proposed should be able to integrate with the electronic work flow (e-File) system that is proposed as part of this tender.

13. The bidder shall at its own cost provide the necessary consumables, including paper, ink and spares required for maintaining and operating its machinery/equipment smooth execution of scanning/digitization of records. The firm shall make its own arrangements for safety/security of the equipment and also keep them insured against theft, fire and damages.

2.13.1 Collection of physical documents from the record rooms and the individual departments

1. The individual departments at any of office locations shall present their documents to the bidder. The bidder would also have to make note of the document details in their log register while collecting these documents. The log register should contain at least following details:

- A. Name of document collected
- B. Number of pages in the document (A4/Legal, A3/A2, A1/A0)
- C. Collected from (State / UT Official)
- D. Collected by and signature (Bidder Representative)
- E. Date of collection
- F. Expected date of return
- G. Returned to (State / UT Official) – Name & Signature
- H. Returned by (Bidder Representative)
- I. Actual Date of Return

2. After collection of the documents by the bidder, it would be the responsibility of the bidder to maintain and return the documents in their original form to the department concerned. Any damage to the documents collected shall make the bidder directly responsible for the same.

2.13.2 Pre-scanning preparation

1. Pre-processing of document would be the activities that are to be performed on the documents collected before they can be scanned. It shall include (but is not restricted to)

- A. Removal of tags, pins, threads, rubber bands, etc.
- B. Sorting of pages in the document in the correct order
- C. Special preparation of documents that may not be in a good physical condition and may not be directly scanned. This may include pasting of torn pages, straightening of pages, unbinding of files that cannot be scanned directly. Documents should be prepared such that normal scanner can scan it.

2. The vendor shall take extreme care towards handling of documents so that their chronology is not disturbed or to maintain the sequence of records in the files. For example, multi-page documents that must be kept together (e.g., a letter with an attachment).

2.13.3 Scanning and indexing

These documents that have been pre-processed would have to be scanned. Further, the documents

could be in the form of individual pages or books. Thus the scanner employed should be of flatbed, overhead, V shape cradle etc. to facilitate scanning of documents in any form. After scanning, the documents would have to be indexed. Indexing is to be done by attaching metadata tags to each of the documents.

2.13.4 Backup

The successful bidder is required to take backup of incremental data at the end of the day. The backup shall be taken on a hard disk drive and shall be stored in a secured place for data retrieval during emergency.

2.13.5 Handover of documents

After scanning and indexing, the documents would have to be handed over to the department concerned in their original condition. Appropriate entries would also have to be made by the successful bidder in their register.

2.13.6 Reports

1. The successful bidder shall also provide tools for checking the scanning progress. This shall include the daily, weekly, monthly and overall progress (number of images/pages scanned, percentage scanned, etc.). The tool should also display department-wise and record room wise progress. The tool should be able to provide reports on the status of scanning on a periodic basis.
2. The successful bidder will maintain a register that will serve a purpose of evidence for the number of documents and pages entered by the successful bidder on each day. The details of this register would have to be entered into the tool mentioned on a daily basis.
3. The format, content, periodicity and other information related to reports shall be discussed and finalized with the successful bidder before the commencement of the project.

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Annexure A

2.14 Business Services

IV Crew Related Processes	Description
Apply for INDOS	INDOS No. is a unique number allocated to each IV Crew at the very start of their careers, when they enroll with an MTI. Both IV Crews and MTI's can apply for the same and the process is housed within the INDOS Cell,(To be decided if can be linked with DGS INDOS Cell for IV Crew).
CDC	
New CDC	A CDC certifies that the person holding it is a seaman as per The International Convention on Standards of Training, Certification and Watch keeping for IV Crews (STCW). A IV Crew may apply for the same after completing all aforementioned STCW coursed from an approved MTI.
Renewal of CDC	CDC's need to be renewed every 10 years.
Replacement of CDC	CDC's may be replaced in case the existing CDC is torn, filled up or needs a correction.
Duplication of CDC	Duplicate CDC's may be issued in case an existing CDC is misplaced.
Discontinuation of CDC	Discontinuation of CDC occurs when a IV Crew intends to end his seafaring career. It is necessary for the said IV Crews to cancel their registration in order to receive their PF and gratuity amounts. Cancellation is carried out under the following circumstances: a) Retirement on attaining the age of superannuation (60) years or voluntary retirement on attaining 50 years of age b) On being declared permanently unfit or seamen's own request c) Death d) Disciplinary grounds - as recommended by the Disciplinary Sub-Committee of the S.E.B
New COC as Cook	COC as Cook is issued to certified cooks in place of CDC's.
Replacement of COC as Cook	COC as Cook may be replaced in case the existing COC as Cook is torn or needs a correction.
Duplication of COC as Cook	Duplicate COC as Cook may be issued in case an existing COC as Cook is misplaced.
Examinations	
Online Eligibility Assessment	IV Crew have to meet the minimum requirement in form of training, courses and sea-service for being eligible for any grade of examination. IV Crew shall have an option to check whether he is eligible for particular grade of examination on a single click

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Examination Application (including eligibility verification)	IV Crew need to get eligibility verification before applying for any Examination. This Assessment is usually a complete assessment of IV Crew starting from his basic education, Pre-sea training, Sea-service, Post sea training and other requirements which differ from one exam to another. If a IV Crew gets the approval in eligibility verification then only he can apply for any examination.
Question Paper setting	The respective departments at the directorate is responsible for setting question paper for the examination which will be conducted by them
Conduct of written exam and update of results	Written Examination is conducted every month by Maritime Boards/IWT's
Conduct of oral exam and update of results	Oral examination in all the cases is conducted at exam centre of Maritime Boards/IWT's
Update marks from external parties	Results for examination conducted by external third parties like NINI, IME or IMU have to be updated on system. So they need to forward the list of results to assigned Maritime Boards/IWT's staff to upload and update on system
Review of results	IV Crew are eligible to apply for review of results until 30 days from issue of results
Certifications	
Issue of fresh COC	IV Crew on every Inland Vessel going from any port or place, need to have a number of Certificates of Compliance (COC) and Certificate of Proficiency (COP) as per IV ACT, 2021. A IV Crew is eligible for a COC once he has cleared all the functions (written and oral) of that particular grade/ rank.
COC Revalidation	The Certificate of Competency issued by the Maritime Boards/IWT's shall be valid for a period of 5 years. They are required to be revalidated after every 5 years after the candidate meets the requirements
COC Extension	There might be cases where a IV Crew is on board vessel despite the fact that his COC is getting invalid during that tenure. In that case either IV Crew or the Shipping company gets extension of validity of the COC
COC Suspension	There might be cases where a IV Crew might have been caught in malpractices by Marine Training Institute. In such cases third party can make a complaint against that IV Crew. Case can lead to suspension of certification if the IV Crew is found guilty
COC Debarment	IV Crew can be caught in any malpractices during examination. In such cases the examiner can complain against that IV Crew and if the concerned IV Crew is found guilty, he may be debarred from appearing for examination for a specified duration

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COC Duplication	IV Crew can apply for a duplicate COC in case he has lost or damaged his current COC. He needs to make a police complaint and also publish it on two local newspaper and 30 days post making the both; a IV Crew can request for duplicate COC in case of loss.
COP- Dangerous Cargo Endorsement	Dangerous cargo endorsement is a certificate of authorization for a IV Crew, qualifying him/her for working on any vessel dealing with cargo that are categorized as maritime dangerous goods
COS- Naval	Armed Forces (Indian Navy, Coast guard, regular Army) holding valid certificate of service can apply for COC to work on merchant Vessels after mandatory courses
Watch keeping Certificate	
Sea Service	
Engagement & Disengagement	Crew management company / Owner to map all functional requirement of crew profile
	Crew sign on and sign off dates
	MIS reports. List of application with status and other details (all metadata) for specified time period.
Other Processes	Description
MTI	
Approval of MTI	This process allows the Maritime Training Institutes (MTI) to get recognized and approved by IWAI or recognized by DG Shipping to impart pre-sea or/and post-sea training according to NINI approved curriculum.
Approval of courses	This process allows the Maritime Training Institutes (MTI) to get recognized and approved additional courses as per NINI approved curriculum.
Fee payment by MTI	MTI's are liable to pay 1% of the tuition fee earned throughout the year to IWAI.
Change in Batch Details	This process allows the Maritime Training Institutes (MTI) to request for additional batches or increase in the frequency of batches for a particular IWAI approved course.
Change in Affiliation	This process allows the Maritime Training Institutes (MTI) to request for any change in affiliation to be made and revised in the MTI database.
Update Batch Details	MTI's are required to submit the details of all the enrolled IV Crews batch-wise within a day of the start date of the batch.

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Update Placement Details	MTI's are required to submit the placement details of all the enrolled IV Crews within a specified time limit from the day of placement.
Certifications issued	MTI's are required to submit the certification details of all the enrolled IV Crews as and when they complete a certain course.
Correction of profile & IV Crew's details	MTI's shall accept application for correction of profile and IV Crew details. Only after approval will the correction be applicable in database.
Vessel Related Processes	Description
Vessel Registration	
Technical Clearance	<ul style="list-style-type: none"> ▶ Technical clearance is required for trading of vessel that is more than 25 years old to ensure that it is not harmful to the environment and is structurally sound.
Name Allocation, Call Sign, Official number, Carving & Marking Note	<ul style="list-style-type: none"> ▶ Each Vessel is assigned a name, Call Sign and Official Number. ▶ All the aforementioned items are issued together at once. Once a Vessel has a name, its Name, Port of Registry and Official Number must be carved and marked on various locations of the Vessel's body ▶ The specifications and fashion in which this carving and marking is done is based on the carving and marking note issued by the Designated Authority
Amendments to Registry	<ul style="list-style-type: none"> ▶ There are certain fields in the Vessel's profile which can be edited without prior approval from Designated authorities. However, a few amendments require approval of Designated authorities
Declaration of Owner Vessel	<ul style="list-style-type: none"> ▶ The Vessel owner needs to sign a declaration stating that he is, infact, the owner of the Vessel. This is a requirement of the IV Act.
Issuance of Certificates	<ul style="list-style-type: none"> ▶ Certificates are of 2 types: the statutory certificates are issued by Designated Authority of the States / UT, while the class certificates are issued by the classification societies. ▶ For unclassified vessels all certificates are issued by Designated Authority of the States / UT.

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Certificate of Registry	<ul style="list-style-type: none"> ▶ For a Vessel to be recognized as an Indian flag vessel, it has to be registered in India. ▶ A Vessel can be bought at a foreign port/yard or at an Indian port/yard. If the Vessel is bought outside India, a provisional certificate of registry is issued to the Vessel by Recognized Organizations so that the Vessel can travel to India. This is valid for 6 months. ▶ If vessel is built in India, the registration process can be done under any Designated Authority of the States / UT. ▶ A provisional certificate of registry is issued when the Vessel is not currently at the intended port of permanent registration or if the Designated authority finds that not all the documents of the vessel are fulfilling the requirements.
Closure of Registry and Issuance of Deletion Certificate	<p>An owner applies for closure of registry of his vessel under the following circumstances:</p> <ol style="list-style-type: none"> 1. Vessel is being registered under a foreign flag 2. Vessel is being scrapped 3. Exception: Vessels that are intended to be used as river-sea vessels
Plan Approval	
	<ul style="list-style-type: none"> ▶ A Vessel's architectural plan must be approved by Designated Authorities according to the IV Rules ▶ All passenger Vessel plans are approved by IACS or authorities
FSI/ PSC inspection	
	<ul style="list-style-type: none"> ▶ As the title suggests, inspections are of 2 types – flag state and port state ▶ These inspections can be done on a surprise basis as well as on request from the Vessel owner. ▶ In India, port state control inspections are those inspections that are carried out by Indian surveyors when a foreign flag vessel is docked at an Indian port. ▶ Flag state inspections are carried out by Indian surveyors when an Indian flag vessel is docked at an Indian port. Surveyors are appointed by respective Designated Authority of the States / UT.
Survey of Vessels	▶
Survey during Construction	When an Owner orders a vessel for construction; the construction process is surveyed either by IACS member or Designated Authority of the States / UT or both as per agreed QAP with Shipyards.
Initial Survey	Is the first survey of the new building vessel by Designated Authority of the States / UT after which the final registration is done

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Annual Survey	To ensure the safety and material state of the vessel as well as crew preparedness for eventualities, all safety checks and crew drill are surveyed by Designated Authority of the States / UT. And survey certificate endorsed.
Intermediate Survey	Is the first docking survey after 30-36 months after commissioning of the vessels.
Renewal Survey	Is undertaken after every 5 years to examine the material state of the vessel both in drydock and internally and safety check outs along with crew preparedness for emergencies.
Special Survey	Is ordered by Designated Authority of the States / UT in case of accident or if the material state of the vessel is poor.
Charter Permissions & Licenses	
	<ul style="list-style-type: none"> ▶ Charter permissions and licenses are given when an Indian entity charters a foreign Vessel to facilitate trading from one port to another within India, from India, to India ▶ A chartered foreign flag Vessel is not allowed to sail in Indian waters without a permission. This includes even near coastal vessels
Exemptions	
	▶ All exemptions are granted only by Designated Authority of the States / UT as per provisions of IV Act 2021
IV Rule	
Rule change and ratification	There is an ever emerging need for developing new rules and changing the existing rule with time. Advisory committee studies the proposals / comments of various stakeholders before sending the recommendation to Chairman, IWAI as final proposal. While amendments in IV ACT may involve in-depth consultation with all stakeholders, issuing new small circulars may involve consultation with limited stakeholders. On acceptance, IWAI send the final recommendation to the ministry for approval of changed or renewal of rules.
Concurrent Feedback Mechanism	
Grievances redressal	An online portal through which external stakeholder may convey their grievances and feedback and Designated Authority of the States / UT addresses their grievances in a time bound manner

PART III

MASTER SERVICE AGREEMENT

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MASTER SERVICES AGREEMENT

THIS MASTER SERVICE AGREEMENT (“Agreement”) is made on this the <***> day of <***>2023 at Noida, India.

BETWEEN

----- having its office at -----
----- India hereinafter referred to as **‘Inland Waterways Authority of India’/‘IWAI’** or **‘-----’**, which expression shall, unless the context otherwise requires, include its permitted successors and assigns);

AND

<***>, a Company incorporated under the Companies Act, 1956, having its registered office at <***> (hereinafter referred to as **‘System Integrator/Implementation Agency’** which expression shall, unless the context otherwise requires, include its permitted successors and assigns).

Each of the parties mentioned above are collectively referred to as the **‘Parties’** and individually as a **‘Party’**.

WHEREAS:

IWAI is desirous of undertaking **‘development of a world class application for central database for seamless integration of information’s and migration of data’**

In furtherance of the same, IWAI undertook the selection of a System Integrator through a competitive bidding process for implementing the Project and in this behalf issued Request for Proposal (RFP) dated <***>.

The successful bidder has been selected as the System Integrator on the basis of the bid response set out as Annexure D of this Agreement, to undertake the Project of the development and implementation of the solution, its roll out and sustained operations.

Parties now wish to enter into this Agreement to govern their mutual rights and obligations with respect to provision of goods and services and implementation of the Project.

NOW THEREFORE, in consideration of the mutual covenants, promises, assurances, representations and provisions set forth herein, the Parties hereto agree as follows:

1 DEFINITIONS AND INTERPRETATIONS

1.1 Definitions

Terms and expressions used in this Agreement (including the Introduction) shall have the meanings set out in Schedule I. Other terms used in this Agreement are defined where they are used and have the meanings there indicated. Unless otherwise specifically defined, those terms, acronyms and phrases in this Agreement that are utilized in the information technology services industry or other pertinent business context shall be interpreted in accordance with their generally understood meaning in such industry or business context.

1.2 Interpretation

In this Agreement, unless otherwise specified:

- (a) references to Clauses, Sub-Clauses, Paragraphs, Schedules and Annexures are to clauses, sub-clauses, paragraphs, schedules and Annexures to this Agreement;
- (b) use of any gender includes the other gender;
- (c) references to a '**company**' shall be construed so as to include any company, corporation or other body corporate, wherever and however incorporated or established;
- (d) references to a '**person**' shall be construed so as to include any individual, firm, company, government, state or agency of a state, local or municipal authority or government body or any joint venture, association or partnership (whether or not having separate legal personality);
- (e) a reference to any statute or statutory provision shall be construed as a reference to the same as it may have been, or may from time to time be, amended, modified or re-enacted;
- (f) any reference to a '**day**' (including within the phrase 'business day') shall mean a period of 24 hours running from midnight to midnight;
- (g) references to a '**Business day**' shall be construed as a reference to a day (other than Saturday, Sunday and other gazette holidays) on which IWAI is generally open for business.
- (h) references to times are to Indian Standard Time;

- (i) a reference to any other document referred to in this Agreement is a reference to that other document as amended, varied, novated or supplemented at any time; and all headings and titles are inserted for convenience only. They are to be ignored in the interpretation of this Agreement.
- (j) System Integrator (SI) or Implementation Agency (IA) has been used for the same entity i.e. bidder selected for the project.

1.3 Measurements and Arithmetic Conventions

All measurements and calculations shall be in the metric system and calculations done to 2 (two) decimal places, with the third digit of 5 (five) or above being rounded up and below 5 (five) being rounded down except in money calculations where such amounts shall be rounded off to the nearest INR.

1.4 Ambiguities within Agreement

In case of ambiguities or discrepancies within this Agreement, the following principles shall apply:

- (a) as between two Clauses of this Agreement, the provisions of a specific Clause relevant to the issue under consideration shall prevail over those in a general Clause;
- (b) as between the provisions of this Agreement and the Schedules/Annexures, the Agreement shall prevail, save and except as expressly provided otherwise in the Agreement or the Schedules/Annexures; and
- (c) as between any value written in numerals and that in words, the value in words shall prevail.

1.5 Priority of documents

This Agreement, including its Schedules and Annexures, represents the entire agreement between the Parties as noted in this Clause. If in the event of a dispute as to the interpretation or meaning of this Agreement it should be necessary for the Parties to refer to documents forming part of the bidding process leading to this Agreement, then such documents shall be relied upon and interpreted in the following descending order of priority:

- (a) This Agreement along with the SLA agreement, NDA agreement, Schedules and Annexures;
- (b) Request for Proposal and Addendum / Corrigendum to the Request for Proposal (if

any).

For the avoidance of doubt, it is expressly clarified that in the event of a conflict between this Agreement, Annexures / Schedules or the contents of the RFP, the terms of this Agreement shall prevail over the Annexures / Schedules and Annexures / Schedules shall prevail over the contents and specifications of the RFP.

2 SCOPE OF THE PROJECT

The Bidder shall be required to do IT enablement at IWAI for the period of 5 years from the Phase II Go-Live date of the Project.

The roles and responsibilities of the Parties under this Agreement have been set out in detail as Annexure F of this Agreement.

For the avoidance of doubt, it is expressly clarified that this Agreement shall govern the provision of the contracted professional services under the SLA to IWAI and its nominated agencies. It is anticipated that new or renewal agreements may be undertaken by creating a separate SLA, with schedules and annexures as required, under this Agreement for each additional engagement.

Detailed scope of work for the selected bidder is defined in Part II of the RFP.

3 TERM AND DURATION OF THE AGREEMENT

This Agreement shall come into effect on <***> (hereinafter the "Effective Date") and shall continue till operation and maintenance completion date which shall be the date of the completion of the operation and maintenance to the IWAI or its nominated agencies. The project shall continue for a period of 5 years from the date of Go-Live ('Term') extendable at the option of IWAI for a period of up to two years (or part thereof) on mutually agreed terms and conditions. The Term, for the purposes of any payments to bidder, does not include (a) any extension arising out of breach of any obligations by bidder, (b) unless otherwise agreed, time duration for implementation of exit management plan. In the case of such extension of contract beyond the stipulated period, the warranties, Performance Bank Guarantee, Exit management protocol, insurance etc. shall be extended for equivalent period.

4 CONDITIONS PRECEDENT & EFFECTIVE DATE

4.1 Provisions to take effect upon fulfillment of Conditions Precedent

Subject to express terms to the contrary, the rights and obligations under this Agreement shall

take effect only upon fulfillment of all the Conditions Precedent set out below. However, IWAI may at any time at its sole discretion waive fully or partially any of the Conditions Precedent for the System Integrator.

4.2 Conditions Precedent of the Bidder

The Bidder shall be required to fulfill the Conditions Precedent which are as follows:

- (a) to provide a Performance Security/Guarantee and other guarantees/ payments as and when required to IWAI or its nominated agencies; and
- (b) to provide IWAI or its nominated agencies certified true copies of its constitutional documents and board resolutions authorizing the execution, delivery and performance of this Agreement by the System Integrator.
- (c) For the avoidance of doubt, it is expressly clarified that the obligations of the Parties except the financial obligations of IWAI under this Agreement shall commence from the fulfillment of the Conditions Precedent as set forth above.

4.3 Extension of time for fulfillment of Conditions Precedent

The Parties may, by mutual agreement extend the time for fulfilling the Conditions Precedent and the Term of this Agreement.

For the avoidance of doubt, it is expressly clarified that any such extension of time shall be subject to imposition of penalties on the System Integrator linked to the delay in fulfilling the Conditions Precedent.

4.4 Non-fulfilment of the Bidder's Conditions Precedent

- (a) In the event that any of the Conditions Precedent of the System Integrator have not been fulfilled within 15 days of signing of this Agreement and the same have not been waived fully or partially by IWAI or its nominated agencies, this Agreement shall cease to exist;
- (b) In the event that the Agreement fails to come into effect on account of non fulfillment of the Bidder's Conditions Precedent, IWAI or its nominated agencies shall not be liable in any manner whatsoever to the Bidder and IWAI shall forthwith forfeit the Performance Guarantee.
- (c) In the event that possession of any of IWAI or its nominated agencies facilities has been delivered to the Bidder prior to the fulfillment of the Conditions Precedent, upon the termination of this Agreement such shall immediately revert to IWAI or its

nominated agencies, free and clear from any encumbrances or claims.

5 OBLIGATIONS UNDER THE SLA

The SLA shall be a separate contract in respect of this Agreement and shall be entered into concurrently with this Agreement between IWAI and Bidder;

In relation to any future SLA entered into between the Parties; each of the Parties shall observe and perform the obligations set out herein.

5.1 Change of Control

- (a) In the event of a change of control of the Bidder during the Term, the Bidder shall promptly notify IWAI of the same in the format set out as Annexure A of this Agreement.
- (b) In the event that the net worth of the surviving entity is less than that of Bidder prior to the change of control, IWAI may within 30 days of becoming aware of such change in control, require a replacement of existing Performance Guarantee furnished by the Bidder from a guarantor acceptable to IWAI (which shall not be Bidder or any of its associated entities).
- (c) If such a guarantee is not furnished within 30 days of IWAI requiring the replacement, IWAI may exercise its right to terminate the SLA and/ or this Agreement within a further 30 days by written notice, to become effective as specified in such notice.
- (d) Pursuant to termination, the effects of termination as set out in Clause 14.2 of this Agreement shall follow.

For the avoidance of doubt, it is expressly clarified that the internal reorganization of the Bidder shall not be deemed an event of a change of control for purposes of this Clause unless the surviving entity is of less net worth than the predecessor entity.

5.2 Final testing and certification

The Project shall be governed by the mechanism of final acceptance testing and certification to be put into place by IWAI and Bidder as under:

- (a) Final testing and certification criteria will lay down a set of guidelines following internationally accepted norms and standards for testing and certification for all aspects of project development and implementation covering software, hardware and networking including the processes relating to the design of solution architecture, design of systems and sub- systems, coding, testing, business process description, documentation, version control, change management, security, service

oriented architecture, performance in relation to compliance with SLA metrics, interoperability, scalability, availability and compliance with all the technical and functional requirements of the RFP and this Agreement;

- (b) Final testing and certification criteria will be finalized from the development stage to ensure that the guidelines are being followed and to avoid large scale modifications pursuant to testing done after the application is fully developed;
- (c) Final testing and certification criteria will consider conducting specific tests on the software, hardware, networking, security and all other aspects;
- (d) Final testing and certification criteria will establish appropriate processes for notifying the Bidder of any deviations from the norms, standards or guidelines at the earliest instance after taking cognizance of the same to enable Bidder to take corrective action; etc.

The Parties shall each ensure that the range of the Services under the SLA shall not be varied, reduced or increased except with the prior written agreement between IWAI and Bidder in accordance with the Change Control Schedule set out in Schedule II of this Agreement. Save for the express terms of the Terms of Payment Schedule set out as Schedule VI of this Agreement, IWAI and its users may purchase any particular category of Services that may become necessary as per the Change Control Schedule set out in Schedule II of this Agreement, without the need to go for a separate procurement process.

6 REPRESENTATIONS AND WARRANTIES

6.1 Representations and warranties of the Bidder

The Bidder represents and warrants to IWAI and its allied offices that:

- (a) it is an organization under the Government of India, and has full power and authority to execute and perform its obligations on behalf of the Government of India under this Agreement and other agreements and to carry out the transactions contemplated hereby;
- (b) it is a competent provider of a variety of information technology and business process management services;
- (c) it has taken all necessary corporate and other actions under laws applicable to its business to authorize the execution and delivery of this Agreement and to validly exercise its rights and perform its obligations under this Agreement;

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- (d) from the Effective Date, it will have the financial standing and capacity to undertake the Project in accordance with the terms of this Agreement;
- (e) in providing the Services, it shall use reasonable endeavors not to cause any unnecessary disruption to IWAI's normal business operations
- (f) this Agreement has been duly executed by it and constitutes a legal, valid and binding obligation, enforceable against it in accordance with the terms hereof, and its obligations under this Agreement shall be legally valid, binding and enforceable against it in accordance with the terms hereof;
- (g) the information furnished in the tender documents and as updated on or before the date of this Agreement is to the best of its knowledge and belief true and accurate in all material respects as at the date of this Agreement;
- (h) the execution, delivery and performance of this Agreement shall not conflict with, result in the breach of, constitute a default by any of the terms of its Memorandum and Articles of Association or any Applicable Laws or any covenant, contract, agreement, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
- (i) there are no material actions, suits, proceedings, or investigations pending or, to its knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the breach of this Agreement or which individually or in the aggregate may result in any material impairment of its ability to perform any of its material obligations under this Agreement;
- (j) it has no knowledge of any violation or default with respect to any order, writ, injunction or decree of any court or any legally binding order of any Government Instrumentality which may result in any adverse effect on its ability to perform its obligations under this Agreement and no fact or circumstance exists which may give rise to such proceedings that would adversely affect the performance of its obligations under this Agreement;
- (k) it has complied with Applicable Laws in all material respects and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have an Adverse Effect on its ability to perform its obligations under this Agreement;
- (l) no representation or warranty by it contained herein or in any other document furnished by it to IWAI in relation to the Required Consents contains or shall contain

any untrue or misleading statement of material fact or omits or shall omit to state a material fact necessary to make such representation or warranty not misleading; and

- (m) no sums, in cash or kind, have been paid or shall be paid, by it or on its behalf, to any person by way of fees, commission or otherwise for entering into this Agreement or for influencing or attempting to influence any officer or employee of IWAI in connection therewith. For this purpose, IWAI will sign integrity pact separately with Bidder enclosed with this agreement.

6.2 Representations and warranties of IWAI

IWAI represent and warrant to the System Integrator that:

- (a) it is duly organized and validly existing under laws of India and has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated herein and that it has taken all actions necessary to execute this Agreement, exercise its rights and perform its obligations, under this Agreement and carry out the transactions contemplated hereby;
- (b) it has taken all necessary actions under Applicable Laws to authorize the execution, delivery and performance of this Agreement and to validly exercise its rights and perform its obligations under this Agreement;
- (c) it is subject to the laws of India, and hereby expressly and irrevocably waives any immunity in any jurisdiction in respect of this Agreement or matters arising thereunder including any obligation, liability or responsibility hereunder;
- (d) this Agreement has been duly executed by it and constitutes a legal, valid and binding obligation enforceable against it in accordance with the terms hereof and its obligations under this Agreement shall be legally valid, binding and enforceable against it in accordance with the terms thereof;
- (e) it has complied with Applicable Laws in all material respects;
- (f) all information provided by it in the RFP in connection with the Project is, to the best of its knowledge and belief, true and accurate in all material respects; and
- (g) upon the Bidder performing the covenants herein, it shall not at any time during the term hereof, interfere with peaceful exercise of the rights and discharge of the obligations by the Bidder, in accordance with this Agreement.

7 OBLIGATIONS OF IWAI

Without prejudice to any other undertakings or obligations of IWAI under this Agreement, IWAI shall perform the following:

- (a) To provide any support through personnel to test the system during the Term;
- (b) To provide any support through personnel and/or test data during development, rollout, steady state operation, as well as, for any changes/enhancements in the system whenever required due to scope change that may arise due to business, delivery or statutory/regulatory reasons;
- (c) IWAI shall provide the data (including in electronic form wherever applicable / available) to be migrated.
- (d) To authorize the Bidder to interact for implementation of the Project with external entities such as the authorized banks, trademark database etc.

8 OBLIGATIONS OF THE BIDDER

- 8.1 It shall provide to IWAI, the Deliverables as set out in Annexure C of this Agreement.
- 8.2 It shall perform the Services as set out in Part II of this Agreement and in a good and workmanlike manner commensurate with industry and technical standards which are generally in effect for international projects and innovations pursuant thereon similar to those contemplated by this Agreement, and so as to comply with the applicable Service Levels set out with this Agreement.
- 8.3 It shall ensure that the Services are being provided as per the Project Timelines set out as **Annexure C** to this Agreement.

9 APPROVALS AND REQUIRED CONSENTS

- 9.1 The Parties shall cooperate to procure, maintain and observe all relevant and regulatory and governmental licenses, clearances and applicable approvals (hereinafter the "Required Consents") necessary for the Bidder to provide the Services. The costs of such Approvals shall be borne by the Party normally responsible for such costs according to local custom and practice in the locations where the Services are to be provided.
- 9.2 IWAI shall use reasonable endeavors to assist Bidder to obtain the Required Consents. In the event that any Required Consent is not obtained, the Bidder and IWAI will co-operate with each other in achieving a reasonable alternative arrangement as soon as reasonably practicable for IWAI to continue to process its work with as minimal interruption to its

business operations as is commercially reasonable until such Required Consent is obtained, provided that the Bidder shall not be relieved of its obligations to provide the Services and to achieve the Service Levels until the Required Consents are obtained if and to the extent that the Bidder's obligations are not dependent upon such Required Consents.

10 USE OF ASSETS BY THE IMPLEMENTATION AGENCY

10.1 During the Term the Bidder shall:

- (a) take all reasonable and proper care of the entire hardware and software, network or any other information technology infrastructure components used for the Project and other facilities leased / owned / operated by the Bidder exclusively in terms of ensuring their usability for the delivery of the Services as per this Agreement (hereinafter the "**Assets**") in proportion to their use and control of such Assets; and keep all the tangible Assets in as good and serviceable condition (reasonable wear and tear excepted) as at the date the Bidder takes control of and/or first uses the Assets and during the entire Term of the Agreement.
- (b) ensure that any instructions or manuals supplied by the manufacturer of the Assets for use of the Assets and which are provided to the Bidder will be followed by the Bidder and any person who will be responsible for the use of the Assets;
- (c) take such steps as may be properly recommended by the manufacturer of the Assets and notified to the Bidder or as may, in the reasonable opinion of the Bidder, be necessary to use the Assets in a safe manner;
- (d) ensure that the Assets that are under the control of the Bidder, are kept suitably housed and in conformity with Applicable Law;
- (e) procure permission from IWAI and any persons duly authorized by them to enter any land or premises on which the Assets are for the time being sited so as to inspect the same, subject to any reasonable third-party requirements;
- (f) not, knowingly or negligently use or permit any of the Assets to be used in contravention of any statutory provisions or regulation or in any way contrary to Applicable Law.
- (g) use best efforts to ensure that no lien, mortgage, hypothecation or any other charge is created over the Assets, Bidder agrees that they will inform IWAI immediately if bidder feels or comes to know that a charge may be/ has been created over any Asset(s). In the event a charge is created over any of the Assets/Goods which are owned by IWAI, IWAI shall have the right to get the charge removed at the risk, cost,

expense of the Bidder and bidder shall make good all losses, damages, costs, fees, cess, duties, etc. borne or suffered by IWAI due to creation of such charge and/or in removal of such charge and/or in discharging the obligations for removal of such charge

11 ACCESS TO IWAI/STATES/UT'S LOCATIONS

11.1 For so long as the Bidder provides services to IWAI/ State / UT's location, as the case may be, on a non-permanent basis and to the extent necessary, IWAI / State / UT's as the case may be shall, subject to compliance by the Bidder with any safety and security guidelines which may be provided by IWAI/ State / UT's as the case may be and notified to the Bidder in writing, provide the Bidder with:

- (a) reasonable access with prior approval of State / UT's, in the same manner granted to State / UT's employees, to State / UT's as the case may be location twenty-four hours a day, seven days a week;
- (b) reasonable work space, access to office equipment as mutually agreed and other related support services in such location and at such other State / UT's as the case may be location, if any, as may be reasonably necessary for the Bidder to perform its obligations hereunder and under the SLA.

11.2 Access to locations, office equipment and services shall be made available to the Bidder on an "as is, where is" basis by State / UT's as the case may be. The Bidder agrees to ensure that its employees, agents and contractors shall not use the location, services and equipment referred to in RFP for the following purposes:

- (a) for the transmission of any material which is defamatory, offensive or abusive or of an obscene or menacing character; or
- (b) in a manner which constitutes a violation or infringement of the rights of any person, firm or company (including but not limited to rights of copyright or confidentiality).

12 MANAGEMENT PHASE

12.1 Governance

The review and management process of this Agreement shall be carried out in accordance with the Governance Schedule set out in Schedule V of this Agreement and shall cover all the management aspects of the Project.

12.2 Use of Services

IWAI as the case may be, will undertake and use the Services in accordance with any instructions or procedures as per the acceptance criteria as set out in the SLA or this Agreement or any agreement that may be entered into between the Parties from time to time; State / UT's as the case may be shall be responsible for the operation and use of the Deliverables resulting from the Services.

12.3 Changes

Unless expressly dealt with elsewhere in this Agreement, any changes under or to this Agreement or under or to the SLA shall be dealt with in accordance with the Change Control Schedule set out in Schedule II of this Agreement.

12.4 Security and Safety

- (a) The Bidder shall comply with the technical requirements of the relevant security, safety and other requirements specified in the Information Technology Act or Telegraph Act including the regulations issued by dept. of telecom (wherever applicable), IT Security Manual of IWAI as specifically stated in the RFP and follow the industry standards related to safety and security (including those as stated in the RFP), in so far as it applies to the provision of the Services.
- (b) Each Party to the SLA/Agreement shall also comply with IWAI or the Government of India's security standards and policies in force from time to time at each location of which IWAI make the Bidder aware in writing insofar as the same apply to the provision of the Services.
- (c) The Parties to the SLA/Agreement shall use reasonable endeavours to report forthwith in writing to each other all identified attempts (whether successful or not) by unauthorized persons (including unauthorized persons who are employees of any Party) either to gain access to or interfere with IWAI / State / UT's as the case may be or any of their nominee's data, facilities or Confidential Information.
- (d) The Bidder shall upon reasonable request by IWAI as the case may be or their nominee(s) participate in regular meetings when safety and information technology security matters are reviewed.
- (e) As per the provisions of the SLA or this Agreement, the Bidder shall promptly report in writing to IWAI, any act or omission which they are aware that could have an adverse effect on the proper conduct of safety and information technology security at the facilities of IWAI as the case may be.

12.5 Cooperation

Except as otherwise provided elsewhere in this Agreement or the SLA, each Party ("**Providing Party**") to this Agreement or to the SLA undertakes promptly to provide the other Party ("**Receiving Party**") with all such information and co-operation which the Receiving Party reasonably requests, provided that such information and co-operation:

- (a) does not require material expenditure by the Providing Party to provide the same;
- (b) is reasonably required by the Receiving Party in order for it to comply with its obligations under this Agreement or the SLA;
- (c) cannot be construed to be Confidential Information; and
- (d) is capable of being provided by the Providing Party.

Further, each Party agrees to co-operate with the contractors and subcontractors of the other Party as reasonably requested in order to accomplish the purposes of this Agreement.

13 FINANCIAL MATTERS

13.1 Terms of Payment and Service Credits and Debits

- (a) In consideration of the Services and subject to the provisions of this Agreement and of the SLA, IWAI shall pay the Bidder for the Services rendered in pursuance of this Agreement, in accordance with the Terms of Payment Schedule set out as Schedule VI of this RFP.
- (b) All payments are subject to the application of service credits and debits as may be provided for in the SLA. For the avoidance of doubt, it is expressly clarified that IWAI will pay the service credits as stated in accordance with the Schedule VI of this Agreement and IWAI may also calculate a financial sum and debit the same against the terms of payment as set out in Schedule VI of this Agreement as a result of the failure of the Bidder to meet the Service Level as defined in SLA.
- (c) Save and except as otherwise provided for herein or as agreed between the Parties in writing, IWAI shall not be required to make any payments in respect of the Services (or, without limitation to the foregoing, in respect of the Bidder performance of any obligations under this Agreement or the SLA) other than those covered in Schedule VI of this Agreement. For the avoidance of doubt, it is expressly clarified that the payments shall be deemed to include all ancillary and incidental

costs and charges arising in the course of delivery of the Services including consultancy charges, infrastructure costs, project costs, implementation and management charges and all other related costs including taxes which are addressed in this Clause.

13.2 Invoicing and Settlement

- (a) Subject to the specific terms of the SLA, the Bidder shall submit its invoices in accordance with the following principles:
 - (i) IWAI shall be invoiced by the Bidder for the Services. Generally, and unless otherwise agreed in writing between the Parties or expressly set out in the SLA, the Bidder shall raise an invoice as per Schedule VI of this Agreement; and
 - (ii) Any invoice presented in accordance with this Article shall be in a form agreed with IWAI.
- (b) The Bidder alone shall invoice all payments after receiving due approval from the competent authority. Such invoices shall be accurate and all adjustments to or changes in the terms of payment as stated in Schedule VI of this Agreement. The Bidder shall waive any charge for a Service that is not invoiced within six months after the end of the month in which the charge relating to such Service is (i) authorized or (ii) incurred, whichever is later.
- (c) Payment shall be made within 60 working days of the receipt of invoice along with supporting documents by IWAI subject to penalties. The penalties are imposed on the Bidder as per the penalty criteria specified in the SLA.
- (d) IWAI shall be entitled to delay or withhold payment of any invoice or part of it delivered by the Bidder under Schedule VI of this Agreement where IWAI disputes/withholds such invoice or part of it provided that such dispute is bona fide. The withheld amount shall be limited to that which is in dispute. The disputed / withheld amount shall be settled in accordance with the escalation procedure as set out in Schedule V of this Agreement. Any exercise by IWAI under this Clause shall not entitle the Bidder to delay or withhold provision of the Services.
- (e) IWAI shall be entitled to delay or withhold part of the payment of any invoice which is under a dispute. The withheld amount shall be limited to that which is the disputed amount. The disputed amount shall be referred to the escalation procedure as set out in Schedule V of this Agreement. Any exercise by IWAI under

this Clause shall not entitle the Bidder to delay or withhold provision of the Services.

- (f) The Bidder shall be solely responsible to make payment to its sub-contractors.

13.3 Tax

- (a) IWAI shall be responsible for withholding taxes from the amounts due and payable to the Bidder wherever applicable. The Bidder shall pay for all other taxes in connection with this Agreement, SLA, scope of work and any other engagement required to be undertaken as a part of this Agreement, including, but not limited to, property, sales, use, excise, value-added, goods and services, consumption and other similar taxes or duties.
- (b) IWAI shall provide Bidder with the original tax receipt of any withholding taxes paid by IWAI on payments under this Agreement. The Bidder agrees to reimburse and hold IWAI harmless from any deficiency including penalties and interest relating to taxes that are its responsibility under this paragraph. For purposes of this Agreement, taxes shall include taxes incurred on transactions between and among IWAI, the Bidder and third-party subcontractors.
- (c) In the event of any increase or decrease of the rate of taxes, duties or levies, changes in currency exchange rates etc. due to any statutory notification/s during the Term of the Contract the consequential effect shall be to the account of the Bidder. However, in case of any increase or decrease in the rate of service tax or imposition of new or fresh tax or levy on the invoice raised to IWAI after submission of the proposal, the consequential effect after determination of the nature of the new tax or levy by IWAI shall be to the account of IWAI on submission of proof by SI.
- (d) The Parties shall cooperate to enable each Party to accurately determine its own tax liability and to minimize such liability to the extent legally permissible. In connection therewith, the Parties shall provide each other with the following:
- (i) any resale certificates;
 - (ii) any relevant information regarding out-of-state or use of materials, equipment or services; and
 - (iii) any direct pay permits, exemption certificates or information reasonably requested by the other Party.

14 TERMINATION

14.1 Material Breach

- (a) In the event that either Party believes that the other Party is in Material Breach of its obligations under this Agreement, such aggrieved Party may terminate this Agreement upon giving a one month's notice for curing the Material Breach to the other Party. In case the Material Breach continues, after the notice period, IWAI or Bidder, as the case may be will have the option to terminate the Agreement. Any notice served pursuant to this Clause shall give reasonable details of the Material Breach, which could include the following events and the termination will become effective:
- (i) If the Bidder is not able to deliver the services as per the SLAs defined in RFP which translates into Material Breach, then IWAI may serve a 30 days written notice for curing this Material Breach. In case the Material Breach continues, after the expiry of such notice period, IWAI will have the option to terminate this Agreement. Further, IWAI may after affording a reasonable opportunity to the Bidder to explain the circumstances leading to such a breach.
 - (ii) If there is a Material Breach by IWAI or its nominated agencies which results in not providing support for effecting data migration or not providing the certification of User Acceptance, not keeping the site ready for the work as agreed, not providing the required approvals/sign-offs due from IWAI and / or failing to make payment of undisputed amount within 60 working days from date of submission of invoice, then the Bidder will give a one month's notice for curing the Material Breach to IWAI. After the expiry of such notice period, the Bidder will have the option to terminate the Agreement.
- (b) IWAI may by giving a one month's written notice, terminate this Agreement if a change of control of the Bidder has taken place. For the purposes of this Clause, in the case of Bidder, change of control shall mean the events stated in Clause 5.3, and such notice shall become effective at the end of the notice period as set out in Clause 5.3 (c).
- (c) In the event that Bidder undergoes such a change of control, IWAI may, as an alternative to termination, require a full Performance Guarantee for the obligations of Bidder by a guarantor acceptable to IWAI. If such a guarantee is not furnished within 30 days of IWAI's demand, IWAI may exercise its right to terminate this

Agreement in accordance with this Clause by giving 15 days further written notice to the Bidder.

- (d) The termination provisions set out in this Clause shall apply mutatis mutandis to the SLA.

14.2 Effects of termination

- (a) In the event that IWAI terminates this Agreement pursuant to failure on the part of the Bidder to comply with the conditions as contained in this Clause and depending on the event of default, Performance Guarantee furnished by Bidder may be forfeited.
- (b) Upon termination of this Agreement, the Parties will comply with the Exit Management Schedule set out as Schedule III of this Agreement.
- (c) In the event that IWAI or the Bidder terminates this Agreement, the compensation will be decided in accordance with the Exit Management Schedule set out as Schedule III of this Agreement.
- (d) IWAI agrees to pay Bidder for
 - i. all charges for Services Bidder provide and any Deliverables and/or system (or part thereof) Bidder delivers through termination till the date of termination, and
 - ii. reimbursable expenses Bidder incurs through termination
- (e) Bidder incurs as a result of such termination (which Bidder will take reasonable steps to mitigate).

14.3 Termination of this Agreement due to bankruptcy of Bidder

IWAI may serve written notice on Bidder at any time to terminate this Agreement with immediate effect in the event that the Bidder reporting an apprehension of bankruptcy to IWAI or its allied offices.

15 INDEMNIFICATION & LIMITATION OF LIABILITY

- 15.1 Subject to Clause 15.2 below, Bidder (the "Indemnifying Party") undertakes to indemnify IWAI (the "Indemnified Party") from and against all Losses on account of bodily injury, death or damage to tangible personal property arising in favour of any person, corporation or other entity (including the Indemnified Party) attributable to the Indemnifying Party's negligence or willful default in performance or non-performance under this Agreement. If the

Indemnified Party promptly notifies Indemnifying Party in writing of a third-party claim against Indemnified Party that any Service provided by the Indemnifying Party infringes a copyright, trade secret or patents incorporated in India of any third party, Indemnifying Party will defend such claim at its expense and will pay any costs or damages that may be finally awarded against Indemnified Party. Indemnifying Party will not indemnify the Indemnified Party, however, if the claim of infringement is caused by

- (a) Indemnified Party's misuse or modification of the Service;
- (b) Indemnified Party's failure to use corrections or enhancements made available by the Indemnifying Party;
- (c) Indemnified Party's use of the Service in combination with any product or information not owned or developed by Indemnifying Party;
- (d) Indemnified Party's distribution, marketing or use for the benefit of third parties of the Service; or information, direction, specification or materials provided by Indemnified Party or any third party contracted to it. If any Service is or likely to be held to be infringing, Indemnifying Party shall at its expense and option either
 - i. procure the right for Indemnified Party to continue using it,
 - ii. replace it with a non-infringing equivalent,
 - iii. modify it to make it non-infringing. The foregoing remedies constitute Indemnified Party's sole and exclusive remedies and Indemnifying Party's entire liability with respect to infringement

15.2 The indemnities set out in Clause 15.1 shall be subject to the following conditions:

- (i) the Indemnified Party as promptly as practicable informs the Indemnifying Party in writing of the claim or proceedings and provides all relevant evidence, documentary or otherwise;
- (ii) the Indemnified Party shall, at the cost of the Indemnifying Party, give the Indemnifying Party all reasonable assistance in the Defense of such claim including reasonable access to all relevant information, documentation and personnel provided that the Indemnified Party may, at its sole cost and expense, reasonably participate, through its attorneys or otherwise, in such Defense;
- (iii) if the Indemnifying Party does not assume full control over the Defense of a claim as provided in this Article, the Indemnifying Party may participate in such Defense at its sole cost and expense, and the Indemnified Party will have the

- right to defend the claim in such manner as it may deem appropriate, and the cost and expense of the Indemnified Party will be included in Losses;
- (iv) the Indemnified Party shall not prejudice, pay or accept any proceedings or claim, or compromise any proceedings or claim, without the written consent of the Indemnifying Party;
 - (v) all settlements of claims subject to indemnification under this Clause will:
 - a. be entered into only with the consent of the Indemnified Party, which consent will not be unreasonably withheld and include an unconditional release to the Indemnified Party from the claimant or plaintiff for all liability in respect of such claim; and
 - b. include any appropriate confidentiality agreement prohibiting disclosure of the terms of such settlement;
 - (vi) the Indemnified Party shall account to the Indemnifying Party for all awards, settlements, damages and costs (if any) finally awarded in favor of the Indemnified Party which are to be paid to it in connection with any such claim or proceedings;
 - (vii) the Indemnified Party shall take steps that the Indemnifying Party may reasonably require to mitigate or reduce its loss as a result of such a claim or proceedings;
 - (viii) in the event that the Indemnifying Party is obligated to indemnify an Indemnified Party pursuant to this Article, the Indemnifying Party will, upon payment of such indemnity in full, be subrogated to all rights and defenses of the Indemnified Party with respect to the claims to which such indemnification relates; and
 - (ix) if a Party makes a claim under the indemnity set out under Clause 15.1 above in respect of any particular Loss or Losses, then that Party shall not be entitled to make any further claim in respect of that Loss or Losses (including any claim for damages).

15.3 The liability of Bidder (whether in contract, tort, negligence, strict liability in tort, by statute or otherwise) for any claim in any manner related to this Agreement, including the work, deliverables or Services covered by this Agreement, shall be the payment of direct damages only which shall in no event in the aggregate exceed two (2) times average annual fees payable under this Agreement calculated over a reasonable period of months before the

cause of action arose with respect to the work involved under the applicable Schedule/Annexure. The liability cap given under this Clause 15.3 shall not be applicable to the indemnification obligations set out in Clause 15.1 and breach of Clause 12.4 and 17.

- 15.4 In no event shall either party be liable for any consequential, incidental, indirect, special or punitive damage, loss or expenses (including but not limited to business interruption, lost business, lost profits, or lost savings) nor for any third-party claims (other than those set-forth in Clause 15.1) even if it has been advised of their possible existence.
- 15.5 The allocations of liability in this Section 15 represent the agreed and bargained-for understanding of the parties and compensation for the Services reflects such allocations. Each Party has a duty to mitigate the damages and any amounts payable under an indemnity that would otherwise be recoverable from the other Party pursuant to this Agreement by taking appropriate and commercially reasonable actions to reduce or limit the amount of such damages or amounts.

16 FORCE MAJEURE

16.1 Definition of Force Majeure

The Bidder or IWAI as the case may be, shall be entitled to suspend or excuse performance of its respective obligations under this Agreement to the extent that such performance is impeded by an event of force majeure ("Force Majeure").

16.2 Force Majeure events

A Force Majeure event means any event or circumstance or a combination of events and circumstances referred to in this Clause, which:

- (a) is beyond the reasonable control of the affected Party;
- (b) such Party could not have prevented or reasonably overcome with the exercise of reasonable skill and care;
- (c) does not result from the negligence of such Party or the failure of such Party to perform its obligations under this Agreement;
- (d) is of an incapacitating nature and prevents or causes a delay or impediment in performance; and
- (e) may be classified as all or any of the following events: Such events include:

Non-Political Events

- a) act of God, including earthquake, flood, inundation, landslide, exceptionally adverse weather conditions, storm, tempest, hurricane, cyclone, lightning, thunder, volcanic eruption, fire or other extreme atmospheric conditions;
- b) radioactive contamination or ionizing radiation or biological contamination except as may be attributable to the Service provider's use of radiation or radio-activity or biologically contaminating material;
- c) strikes, lockouts, boycotts, labor disruptions or any other industrial disturbances as the case may be not arising on account of the acts or omissions of the Bidder and which affect the timely implementation and continued operation of the Project; or
- d) any event or circumstances of a nature analogous to any of the foregoing.

Political Events

- a) Change in Law, other than any Change in Law for which relief is provided under this Agreement;
- b) expropriation or compulsory acquisition by IWAI or any of their nominated agencies of any material assets or rights of the Bidder;
- c) unlawful or unauthorized revocation of, or refusal by IWAI or any of their nominated agencies, Government of India or any of its agencies to renew or grant any clearance or Required Consents required by the Bidder to perform its obligations without valid cause, provided that such delay, modification, denial, refusal or revocation did not result from the Bidder's inability or failure to

comply with any condition relating to grant, maintenance or renewal of such Required Consents applied on a non- discriminatory basis;
- d) any judgment or order of any court of competent jurisdiction or statutory authority in India made against the Bidder in any proceedings for reasons other than failure of the Bidder to comply with Applicable Laws or Required Consents or on account of breach thereof, or of any contract, or enforcement of this Agreement or exercise of any of its rights under this Agreement;
- e) expropriation or compulsory acquisition by IWAI or any of their nominated agencies of any material assets or rights of the Bidder;
- f) unlawful or unauthorized revocation of, or refusal by any authority other than IWAI or any of their nominated agencies to renew or grant any Required Consents required by the Bidder to perform its obligations without valid cause, provided that such delay,

- modification, denial, refusal or revocation did not result from the Service provider's inability or failure to comply with any condition relating to grant, maintenance or renewal of such Required Consents applied on a non-discriminatory basis;
- g) any requisition of the Project by any other authority; or
 - h) any requisition of the Project by IWAI or any of their nominated agencies.
 - i) For the avoidance of doubt, suspension of the Project in accordance with the provisions of this Agreement shall not be considered a requisition for the purposes of Force Majeure event.

Other Events

- j) an act of war (whether declared or undeclared), hostilities, invasion, armed conflict or act of foreign enemy, blockade, embargo, prolonged riot, insurrection, terrorist or military action, civil commotion or politically motivated sabotage, for a continuous period exceeding seven (7) days.

For the avoidance of doubt, it is expressly clarified that the failure on the part of the Bidder under this Agreement or the SLA to implement any disaster contingency planning and back-up and other data safeguards in accordance with the terms of this Agreement or the SLA against natural disaster, fire, sabotage or other similar occurrence shall not be deemed to be a Force Majeure event. For the avoidance of

doubt, it is further clarified that any negligence in performance of Services which directly causes any breach of security like hacking aren't the forces of nature and hence wouldn't be qualified under the definition of "Force Majeure". *In so far as applicable to the performance of Services, Bidder will be solely responsible to complete the risk assessment and ensure implementation of adequate security hygiene, best practices, processes and technology to prevent any breach of security and any resulting liability there from (wherever applicable).*

16.3 Notification procedure for Force Majeure

- (a) The affected Party shall notify the other Party of a Force Majeure event within seven (7) days of occurrence of such event. If the other Party disputes the claim for relief under Force Majeure it shall give the claiming Party written notice of such dispute within thirty (30) days of such notice. Such dispute shall be dealt with in accordance with the dispute resolution mechanism in accordance with Clause 25.
- (b) Upon cessation of the situation which led the Party claiming Force Majeure, the

claiming Party shall within seven (7) days hereof notify the other Party in writing of the cessation and the Parties shall as soon as practicable thereafter continue performance of all obligations under this Agreement.

16.4 Allocation of costs arising out of Force Majeure

- (a) Upon the occurrence of any Force Majeure Event prior to the Effective Date, the Parties shall bear their respective costs and no Party shall be required to pay to the other Party any costs thereof.
- (b) Upon occurrence of a Force Majeure Event after the Effective Date, the costs incurred and attributable to such event and directly relating to the Project ("**Force Majeure Costs**") shall be allocated and paid as follows:
- upon occurrence of a Non-Political Event, the Parties shall bear their respective Force Majeure Costs and neither Party shall be required to pay to the other Party any costs thereof.
 - upon occurrence of an Other Event of Force Majeure, all Force Majeure Costs attributable to such Other Event, and not exceeding the Insurance Cover for such Other Event, shall be borne by the Implementation Agency and to the extent Force Majeure costs exceed such Insurance Cover, one half of such excess amount shall be reimbursed by Nodal Agency to the Implementation Agency (optional clause – to be used, if relevant).
 - upon occurrence of a Political Event, all Force Majeure Costs attributable to such Political Event shall be reimbursed by IWAI to the Implementation Agency.
 - For the avoidance of doubt, Force Majeure Costs may include interest payments on debt, operation and maintenance expenses, any increase in the cost of the Services on account of inflation and all other costs directly attributable to the Force Majeure Event.
 - Save and except as expressly provided in this Clause, neither Party shall be liable in any manner whatsoever to the other Party in respect of any loss, damage, costs, expense, claims, demands and proceedings relating to or arising out of occurrence or existence of any Force Majeure Event or exercise of any right pursuant hereof.

16.5 Consultation and duty to mitigate

Except as otherwise provided in this Clause, the affected Party shall, at its own cost, take all

steps reasonably required to remedy and mitigate the effects of the Force Majeure event and restore its ability to perform its obligations under this Agreement as soon as reasonably practicable. The Parties shall consult with each other to determine the reasonable measures to be implemented to minimize the losses of each Party resulting from the Force Majeure event. The affected Party shall keep the other Parties informed of its efforts to remedy the effect of the Force Majeure event and shall make reasonable efforts to mitigate such event on a continuous basis and shall provide written notice of the resumption of performance hereunder a continuous basis and shall provide written notice of the resumption of performance hereunder

17 CONFIDENTIALITY

- 17.1 IWAI shall allow the Bidder to review and utilize highly confidential public records and the Bidder shall maintain the highest level of secrecy, confidentiality and privacy with regard thereto.
- 17.2 Additionally, the Bidder shall keep confidential all the details and information with regard to the Project, including systems, facilities, operations, management and maintenance of the systems/facilities.
- 17.3 IWAI shall retain all rights to prevent, stop and if required take the necessary punitive action against the Bidder regarding any forbidden disclosure.
- 17.4 The Bidder shall ensure that all its employees, agents and sub-contractors execute individual non-disclosure agreements, which have been duly approved by IWAI with respect to this Project.

For the avoidance of doubt, it is expressly clarified that the aforesaid provisions shall not apply to the following information:

- (a) information already available in the public domain;
 - (b) information which has been developed independently by the Bidder;
 - (c) information which has been received from a third party who had the right to disclose the aforesaid information;
 - (d) Information which has been disclosed to the public pursuant to a court order.
- 17.5 To the extent the Bidder shares its confidential or proprietary information with IWAI for effective performance of the Services, the provisions of the Clause 17.1 to 17.3 shall apply

mutatis mutandis on IWAI.

18 AUDIT, ACCESS AND REPORTING

The Bidder shall allow access to IWAI to all information which is in the possession or control of the Bidder and which relates to the provision of the Services as set out in the System Audit, Access and Reporting Schedule and which is reasonably required by IWAI to comply with the terms of the Audit, Access and Reporting Schedule set out as Schedule IV of this Agreement.

19 INTELLECTUAL PROPERTY RIGHTS

- 19.1 Products and fixes: All products and related solutions and fixes provided pursuant to this work order shall be licensed according to the terms of the license agreement packaged with or otherwise applicable to such product. Bidder would be responsible for arranging any licenses associated with products. "Product" means any computer code, web-based services, or materials comprising commercially released, pre-release or beta products (whether licensed for a fee or no charge) and any derivatives of the foregoing which are made available to IWAI for license which is published by product owner or its affiliates, or a third party. "Fixes" means product fixes that are either released generally (such as commercial product service packs) or that are provided to you when performing services (such as workarounds, patches, bug fixes, beta fixes and beta builds) and any derivatives of the foregoing.
- 19.2 Bespoke development: Subject to the provisions of Clause 19.3 and 19.4 below, upon payment, the IPR rights for any bespoke development done during the implementation of the project will lie with IWAI. The bidder shall provide source code, object code and all other relevant materials, artefacts etc of all be spoke development to IWAI and IWAI shall own all the IPR's in them. All material related to such bespoke development shall be treated as confidential information by the bidder.
- 19.3 Pre-existing work: For the purpose of this Agreement, 'pre-existing work' shall mean such pre-existing work of bidder and that of its subcontractors, agents, representatives:
- i. that were identified by the bidder in its Proposal
 - ii. for which bidder had provided sufficient documentary proof to establish that such work belongs solely to bidder (or its subcontractors, agents, representatives)
 - iii. which were accepted by IWAI (based on the documentary proof) as pre-

existing work of bidder.

To the extent bidder uses any of pre-existing work of the bidder (or its subcontractors, agents, representatives) in provision of services/ Deliverables under this Agreement, the bidder hereby transfers (for itself and on behalf of its subcontractors, etc.) all rights, title and interest (including all intellectual property rights) for the customization / development that happens on such pre-existing work to IWAI. Bidder shall provide to IWAI (to the satisfaction of IWAI) all documentation including, without limitation, source code, object code, SRS, FRS, operational documents etc. for the customization / development that happens on such pre-existing work.

- 19.4 Residuals: In no event shall Bidder be precluded from independently developing for itself, or for others, anything, whether in tangible or non-tangible form, which is competitive with, or similar to, the deliverables, set-out in this Agreement or Annexure. In addition, subject to the confidentiality obligations, Bidder shall be free to use its general knowledge, skills and experience, and any ideas, concepts, know-how, and techniques that are acquired or used in the course of providing the Services.
- 19.5 Training and other material: The ownership of all IPR rights in any and all documents, artefacts, etc. (including all training material) made during the Term for implementation of the Project under this Agreement will lie with IWAI.

20.0 Warranty & Maintenance

20.1 The System Integrator warrants that the Project, including all the system(s), materials and goods supplied pursuant to the Agreement, shall be free from any defect or deficiency in the material, design, engineering, and workmanship that prevent the system and/or any of its systems(s) from fulfilling the technical requirements or that limit in a material fashion the performance, reliability, or extensibility of the system and/or any of its sub-system(s). Commercial warranty provisions of products supplied under the Agreement shall apply to the extent they do not conflict with the provisions of the Contract Agreement.

- i. The System Integrator also warrants that the products, materials and other goods supplied under the Agreement are new, unused and incorporate all recent improvements in design that materially affect the system's or subsystem's ability to fulfil the technical requirements specified in the RFP.
- ii. In addition, the System Integrator warrants that: (i) all Goods components to be incorporated into the System form part of the System Integrator and/or Subcontractor's current product lines.

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Selection of System Integrator for Design, Development, Implementation, Hosting and
Maintenance of Single Window System for Central Database for Inland Vessels

iii. The warranty period shall commence from the date of Go Live of the project or of any major component or subsystem for which phased Go-Live is provided for in the Agreement and shall extend for as follow:

Component	Period
<COTS Software>	<Till the end of the agreement OR <6 months> post completion of the agreement>
<Bespoke Software>	<Till the end of the agreement OR <6 months> post completion of the agreement>

Inland Waterways Authority of India/Government department should approve signoff within 30 days from the submission of deliverables for Go-Live/Phased Go-live (as relevant, depending on project requirement) by the implementing agency. In case the Inland Waterways Authority of India/Government department fails to respond and provide feedback on the above stated submission, the deliverables will be deemed accepted for the commencement of warranty for the project. However, in case the Inland Waterways Authority of India confirms to System Integrator an alternative date, then the date would stand revised for deemed acceptance. Such revisions may be limited to 2 (two).

iv. If during the warranty period any defect or deficiency is found in the material, design and performance/workmanship of the Project and other Services provided by the System Integrator, the System Integrator shall promptly, in consultation and agreement with Inland Waterways Authority of India, and at the System Integrator's sole cost repair, replace, or otherwise make good (as the System Integrator shall, at its discretion, determine) such default, defect or deficiency as well as any damage to the system caused by such default, defect or deficiency. Any defective component, excluding hard disks, that has been replaced by the System Integrator shall remain the property of the System Integrator.

v. The System Integrator may, with the consent of the Inland Waterways Authority of India, remove from the site any product and other goods that are defective, if the nature of the defect, and/or any damage to the System caused by the defect, is such that repairs cannot be expeditiously carried out at the site. If the repair, replacement, or making good is of such a character that it may affect the efficiency of the System, the Inland Waterways Authority of India may give the System Integrator notice requiring that tests of the defective part be made by the System Integrator immediately upon completion of such remedial work, whereupon the System Integrator shall carry out such tests. If such part fails the tests, the System Integrator shall carry out further repair, replacement, or making good (as the case may be) until that part

of the System passes such tests. The tests shall be agreed upon by the Inland Waterways Authority of India and the System Integrator.

- vi. If the System Integrator fails to commence the work necessary to remedy such defect or any damage to the System caused by such defect within a reasonable time period, the Inland Waterways Authority of India may, following notice to the System Integrator, proceed to do such work or contract a third party (or parties) to do such work, and the reasonable costs incurred by the Inland Waterways Authority of India in connection with such work shall be paid to the Inland Waterways Authority of India by the System Integrator or may be deducted by the Inland Waterways Authority of India from any amount due to the System Integrator
- vii. If the System or any of its sub-systems cannot be used by reason of such default, defect or deficiency and/or making good of such default, defect or deficiency, attributable to System Integrator, the warranty period for the Project shall be extended by a period equal to the period during which the Project or any of its system could not be used by the Inland Waterways Authority of India because of such defect and/or making good of such default, defect or deficiency. For reasons not attributable to System Integrator, the System Integrator shall not be liable.
- viii. Items substituted for defective parts of the System during the Warranty Period shall be covered by the Warranty for the remainder of the Warranty Period applicable for the part replaced or three (3) months, whichever is greater
- ix. The Implementing Agency shall have no liability in the case of breach of this warranty due to (i) use of the deliverables on any environment (hardware or software) other than the environment recommended or approved by the Implementing Agency, (ii) the combination, operation, or use of some or all of the deliverables with information, software, specifications, instructions, data, or materials not approved by the Implementing Agency; (iii) the deliverables having been tampered with, altered or modified by Inland Waterways Authority of India without the written permission of the Implementing Agency, or (iv) use of the deliverables otherwise than in terms of the relevant documentation.

20.2 Implied Warranty:

The warranties provided herein are in lieu of all other warranties, both express and implied, and all other warranties, including without limitation that of merchantability or fitness for intended purpose is specifically disclaimed.

21.0 Liquidated Damages

Time is the essence of the Agreement and the delivery dates are binding on the System Integrator. In the event of delay or any gross negligence in implementation of the project before Go-Live, for causes solely attributable to the System Integrator, in meeting the deliverables, In addition to and

without limiting any remedies in law or in equity that may be available to Inland Waterways Authority of India including, but not limited to, injunctive and other equitable relief, IWAI may levy a penalty of 1% per week of the total contract value as liquidated damages for delay in completion beyond the agreed time line up to a maximum of ten percent (10%) of the Total Contract Value. Parties agree that the Liquidated Damages herein are a fair estimation of the damages likely to result from such delay and shall not be construed as the final costs, penalty and expenses of any kind.

22 INSURANCE COVER

22.1 Obligation to maintain insurance

In connection with the provision of the Services, the Bidder must have and maintain

- (a) for the Agreement Period, valid and enforceable insurance coverage for
 - (i) public liability;
 - (ii) either professional indemnity or errors and omissions;
 - (iii) product liability;
 - (iv) workers compensation as required by law; and

22.1 Certificates of currency

The Bidder must, on request by IWAI, provide current relevant confirmation of insurance documentation from its insurance brokers certifying that it has insurance as required by this Clause 22. The Bidder agrees to replace any coverage prior to the date of expiry/cancellation.

22.2 Non-compliance

IWAI may, at its election, terminate this Agreement upon the failure of Bidder, or notification of such failure, to maintain the required insurance coverage. Inadequate insurance coverage for any reason shall not relieve Bidder of its obligations under this Agreement.

23 ESCROW AGREEMENT

23.1 Bidder shall comply with the escrow provisions below for all Public Material and Proprietary Vendor Material (including subcontractor-owned materials and other Third-Party Material incorporated in bidder's Proprietary Material), except to the extent Bidder demonstrates to the satisfaction of IWAI that compliance is not permitted by the nature of Bidder's limited rights in

such material.

23.2 Within ninety (90) days after the IWAI's acceptance of the Solution, the Parties shall enter into a software escrow agreement ("Escrow Agreement") with a reputable, independent, third party that provides software escrow services among its principal business offerings ("Escrow Agent"). The Escrow Agreement shall provide for the regular deposit into escrow of all source code (including without limitation all make files, configurationally files, data tables upon which execution is Code, and (b) a list of all non-deposited third-party software used in conjunction with the Source Code to provide the full functionality of the deposited materials. In the event of the termination or expiration of the initial Escrow Agreement or any successor agreement, with minimal delay the Parties shall enter into a substantially equivalent agreement with a successor provider of software escrow services (who shall then be known as the "Escrow Agent")

23.3 Bidder will make its initial deposit of Source Code within fifteen (15) days after the effective date of the Escrow Agreement.

23.4 Bidder shall periodically update the escrow deposit as the Parties shall agree in the Escrow Agreement. In addition to other usual and customary terms, the Escrow Agreement shall provide that the IWAI shall be entitled to obtain the deposited materials from escrow upon the IWAI's making a proper (what is proper) claim for release from (a) and (b) is not defined escrow in the event that (c) proper written notice is given to the Escrow Agent that release of the copy of the deposited materials is pursuant to applicable Central or Not clear, IWAI bankruptcy, insolvency, reorganization, or liquidation statute; (d) Bidder files articles of dissolution (but not if Bidder is consolidated or merged into another entity); (e) the Contract expires or terminates for Material Breach of Bidder.

23.5 The release of deposited materials from escrow shall not confer upon the IWAI any right of ownership in the deposited materials or the underlying intellectual property embodied therein. In the event of the release of deposited materials to the IWAI from escrow, the IWAI shall use the deposited materials solely for the benefit of the IWAI and its constituents.

23.6 The release of materials from escrow, without more, shall not cause any further amounts to accrue as payable to Bidder by IWAI and the term of the IWAI's possessory and usage rights with respect to the released materials shall be perpetual.

23.7 The Escrow Agreement shall provide for its automatic termination upon the earlier of five (5) years after the expiration or termination of this Contract, or, release of all Source Code to IWAI and IWAI's subsequent confirmation of compliance with the terms of the Escrow Agreement. B shall pay the escrow costs, as well as all costs associated with causing its subcontractors and other third parties to abide by the Escrow Agreement.

24 MISCELLANEOUS

24.1 Personnel

24.1.1 The personnel assigned by Bidder to perform the Services shall be employees of Bidder or its subcontractor(s), and under no circumstances shall such personnel be considered employees of IWAI. The Bidder shall have the sole responsibility for the supervision and control of the personnel deployed in the Project and for payment of such personnel's compensation, including salary, withholding of income taxes and social security taxes, worker's compensation, employee and disability benefits and the like and shall be responsible for all obligations of an employer subject to Applicable Law.

24.1.2 The Bidder shall use its best efforts to ensure that sufficient Bidder personnel are assigned to perform the Services and those personnel have appropriate qualifications to perform the Services. After discussion with Bidder, IWAI shall have the right to require the removal or replacement of any Bidder personnel performing work under this Agreement based on bonafide reasons. In the event that IWAI requests that any Bidder personnel be replaced, the substitution of such personnel shall be accomplished pursuant to a mutually agreed upon schedule.

24.1.3 In the event that IWAI and Bidder identify any personnel of Bidder as "Key Personnel", then the Bidder shall not remove such personnel from the Project without the prior written consent of IWAI unless such removal is the result of an unavoidable circumstance including but not limited to resignation, termination, medical leave, etc.

24.1.4 Except as stated in this Clause, nothing in this Agreement or the SLA will limit the ability of Bidder to freely assign or reassign its employees; provided that Bidder shall be responsible, at its expense, for transferring all appropriate knowledge from personnel being replaced to their replacements. IWAI shall have the right to review and approve Bidder's plan for any such knowledge transfer. Bidder shall maintain the same or higher standards for skills and professionalism among replacement personnel as in personnel being replaced.

24.1.5 Each Party shall be responsible for the performance of all its obligations under this Agreement or the SLA as the case may be and shall be liable for the acts and omissions of its employees and agents in connection therewith.

24.1.6 Neither Party will solicit for employment or knowingly hire an employee of the other Party with whom such Party has contact pursuant to project engagements under this Agreement. This restriction shall not apply to employees of either Party responding to advertisements in job fairs or news media circulated to the general public.

24.2 Independent Contractor

Nothing in this Agreement or the SLA shall be construed as establishing or implying any

partnership or joint venture between the Parties to this Agreement or the SLA and, except as expressly stated in this Agreement or the SLA, nothing in this Agreement or the SLA shall be deemed to constitute any Parties as the agent of any other Party or authorizes either Party to:

24.2.1 incur any expenses on behalf of the other Party;

24.2.2 enter into any engagement or make any representation or warranty on behalf of the other Party;

24.2.3 pledge the credit of or otherwise bind or oblige the other Party; or

24.2.4 Commit the other Party in any way whatsoever without in each case obtaining the other Party's prior written consent.

24.3 Sub-contractors

Bidder shall not subcontract any work without IWAI's prior written consent. However, the Bidder shall provide the list of all the other services planned to be sub contracted, within 15 days of signing the Agreement. It is clarified that the Bidder shall be the principal employer for all claims arising from the liabilities statutory or otherwise, concerning the sub-contractors. The Service provider undertakes to indemnify IWAI from any claims on the grounds stated hereinabove.

24.4 Assignment

24.4.1 All terms and provisions of this Agreement shall be binding on and shall inure to the benefit of IWAI and their respective successors and permitted assigns.

24.4.2 Subject to Clause 5.3, the Bidder shall not be permitted to assign its rights and obligations under this Agreement to any third party.

24.4.3 IWAI may assign or novate all or any part of this Agreement and Schedules/Annexures, and the Bidder shall be a party to such novation, to any third party contracted to provide outsourced services to IWAI or any of its nominees.

24.5 Trademarks, Publicity

Neither Party may use the trademarks of the other Party without the prior written consent of the other Party except that Bidder may, upon completion, use the Project as a reference for credential purpose. Except as required by law or the rules and regulations of each stock exchange upon which the securities of one of the Parties is listed, neither Party shall publish or permit to be published either alone or in conjunction with any other person any press

release, information, article, photograph, illustration or any other material of whatever kind relating to this Agreement, the SLA or the business of the Parties without prior reference to and approval in writing from the other Party, such approval not to be unreasonably withheld or delayed provided however that Bidder may include IWAI or its client lists for reference to third parties subject to the prior written consent of IWAI not to be unreasonably withheld or delayed. Such approval shall apply to each specific case and relate only to that case.

24.6 Notices

24.6.1 Any notice or other document which may be given by either Party under this Agreement or under the SLA shall be given in writing in person or by pre-paid recorded delivery post, email or by facsimile transmission.

24.6.2 In relation to a notice given under this Agreement, any such notice or other document shall be addressed to the other Party's principal or registered office address as set out below:

Shri. XXXXX

<< ADDRESS >>

Email: Tel: Fax: With a copy to: Bidder

Tel: Fax: Email:

Contact:

24.6.3 In relation to a notice given under the MSA / SLA, a Party shall specify the Parties' address for service of notices, any such notice to be copied to the Parties at the addresses set out in this Clause.

24.6.4 Any such notice or other document shall be deemed to have been given to the other Party (or, if relevant, its relevant associated company) when delivered (if delivered in person) if delivered between the hours of 9.30 am and 6.00 pm at the address of the other Party set forth above or if sent by fax, provided the copy fax is accompanied by a confirmation of transmission, or on the next working day thereafter if delivered outside such hours, and 7 days from the date of posting (if by letter).

24.6.5 Either Party to this Agreement or to the SLA may change its address, telephone number, facsimile number and nominated contact for notification purposes by giving the other reasonable prior written notice of the new information and its effective date.

24.7 Variations and Further Assurance

24.7.1 No amendment, variation or other change to this Agreement or the SLA shall be valid unless authorized in accordance with the change control procedure as set out in the Change Control Schedule set out in Schedule II of this Agreement. Such amendment shall be made in writing and signed by the duly authorized representatives of the Parties to this Agreement or the SLA.

24.7.2 Each Party to this Agreement or the SLA agrees to enter into or execute, without limitation, whatever other agreement, document, consent and waiver and to do all other things which shall or may be reasonably required to complete and deliver the obligations set out in this Agreement or the SLA.

24.8 Severability and Waiver

24.8.1 If any provision of this Agreement or the SLA, or any part thereof, shall be found by any court or administrative body of competent jurisdiction to be illegal, invalid or unenforceable the illegality, invalidity or unenforceability of such provision or part provision shall not affect the other provisions of this Agreement or the SLA or the remainder of the provisions in question which shall remain in full force and effect. The relevant Parties shall negotiate in good faith in order to agree to substitute for any illegal, invalid or unenforceable provision a valid and enforceable provision which achieves to the greatest extent possible the economic, legal and commercial objectives of the illegal, invalid or unenforceable provision or part provision.

24.8.2 No failure to exercise or enforce and no delay in exercising or enforcing on the part of either Party to this Agreement or the SLA of any right, remedy or provision of this Agreement or the SLA shall operate as a waiver of such right, remedy or provision in any future application nor shall any single or partial exercise or enforcement of any right, remedy or provision preclude any other or further exercise or enforcement of such right, remedy or provision or the exercise or enforcement of any other right, remedy or provision.

24.9 Compliance with Applicable Law

Each Party to this Agreement accepts that its individual conduct shall (to the extent applicable to its business like the Bidder as an information technology service provider) at all times comply with all laws, rules and regulations of government and other bodies having jurisdiction over the area in which the Services are undertaken provided that changes in such laws, rules and regulations which result in a change to the Services shall be dealt with in accordance with the Change Control Schedule set out in Schedule II of this Agreement.

24.10 Professional Fees

All expenses incurred by or on behalf of each Party to this Agreement and the SLA, including all fees of agents, legal advisors, accountants and actuaries employed by either of the Parties in connection with the negotiation, preparation and execution of this Agreement or the SLA shall be borne solely by the Party which incurred them.

24.11 Ethics

The Bidder represents, warrants and covenants that it has given no commitments, payments, gifts, kickbacks, lavish or expensive entertainment, or other things of value to any employee or agent of IWAI in connection with this agreement and acknowledges that the giving of any such payment, gifts, entertainment, or other things of value is strictly in violation of IWAI standard policies and may result in cancellation of this Agreement, or the SLA.

24.12 Entire Agreement

This Agreement and the SLA with all schedules & annexures appended thereto and the contents and specifications of the RFP constitute the entire agreement between the Parties with respect to their subject matter, and as to all other representations, understandings or agreements which are not fully expressed herein, provided that nothing in this Clause shall be interpreted so as to exclude any liability in respect of fraudulent misrepresentation.

24.13 Amendment

Any amendment to this Agreement shall be made in accordance with the Change Control Schedule set out in Schedule II of this Agreement by mutual written consent of all the Parties.

25 GOVERNING LAW AND DISPUTE RESOLUTION

25.1 This Agreement shall be governed by and construed in accordance with the laws of India, without giving effect to conflict of law rules.

25.2 Any dispute arising out of or in connection with this Agreement or the SLA shall in the first instance be dealt with in accordance with the escalation procedure as set out in the Governance Schedule set out as Schedule V of this Agreement.

25.3 In case the escalations do not help in resolution of the problem within 3 weeks of escalation, both the parties should agree on a mediator for communication between the two parties. The process of the mediation would be as follows:

- Aggrieved party should refer the dispute to the identified mediator in writing, with a copy to the other party. Such a reference should contain a description of the nature of the dispute, the quantum in dispute (if any) and the relief or remedy sought suitable.

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- The mediator shall use his best endeavors to conclude the mediation within a certain number of days of his appointment.
- If no resolution can be reached through mutual discussion or mediation within 30 days then the matter should be referred to Experts for advising on the issue.

25.4 In case the mediation does not help in resolution and it requires expertise to understand an issue, a neutral panel of 3 experts, agreeable to both parties should be constituted. The process of the expert advisory would be as follows:

- Aggrieved party should write to the other party on the failure of previous alternate dispute resolution processes within the timeframe and requesting for expert advisory. This is to be sent with a copy to the mediator.
- Both parties should thereafter agree on the panel of experts who are well conversant with the issue under dispute
- The expert panel shall use his best endeavors to provide a neutral position on the issue.
- If no resolution can be reached through the above means within 30 days then the matter should be referred to Arbitration.

25.5 Any dispute or difference whatsoever arising between the parties to this Contract out of or relating to the construction, meaning, scope, operation or effect of this Contract or the validity of the breach thereof shall be referred to a sole Arbitrator to be appointed by mutual consent of both the parties herein. If the parties cannot agree on the appointment of the Arbitrator within a period of one month from the notification by one party to the other of existence of such dispute, then the Arbitrator shall be appointed by the High Court of Delhi, India. The provisions of the Arbitration and Conciliation Act, 1996 will be applicable and the award made there under shall be final and binding upon the parties hereto, subject to legal remedies available under the law. Such differences shall be deemed to be a submission to arbitration under the Indian Arbitration and Conciliation Act, 1996, or of any modifications, Rules or re-enactments thereof. The Arbitration proceedings will be held at New Delhi, India. Any legal dispute will come under the sole jurisdiction of New Delhi, India / State jurisdiction of NCR, India

25.6 Compliance with laws: Each party will comply with all applicable export and import laws and regulations.

25.7 Risk of Loss: For each hardware item, Bidder bears the risk of loss or damage up to the time it is delivered to the Bidder/IWAI-designated carrier for Vesselment to IWAI or IWAI's

designated location.

25.8 Third party components: Bidder will provide all third-party components solely on a pass-through basis in accordance with the relevant third-party terms and conditions.

IN WITNESS WHEREOF the Parties have by duly authorized Representatives set their respective hands and seal on the date first aboveWritten in the presence of:

WITNESSES:

Signed by:

(Name and designation) For and on behalf of IWAI(FIRST PARTY)

Signed by:

(Name and designation)BIDDER

(SECOND PARTY)

(Name and designation) For and on behalf of Bidder

Signed by:

26.0 Performance Bank Guarantee (PBG)

- i.The successful Bidder shall furnish Performance Security of 10% of the Contract Value which shall be in the form of a Guarantee Bond from a Nationalized / Scheduled Bank in the Proforma given at Bid formats (Volume 1) which would be valid up to a period of six months after the contract period.
- ii.The Successful Bidder shall keep and maintain the Performance Bank Guarantee valid and in full force and effect at all times during the term of this Contract (through periodic renewals, if any required, at least one month prior to the expiry of the subsisting Performance Bank Guarantee)
- iii.Bidder fails to provide the renewed/ extended. Performance Bank Guarantee at least 1 (one) month prior to the expiry of the subsisting bank guarantee, so as to maintain the Performance Bank Guarantee valid for the applicable periods, the Inland Waterways Authority of India shall have the right to forfeit and appropriate the subsisting Performance Bank Guarantee. Failure of the successful Bidder to maintain the Performance Bank Guarantee in full force and effect throughout the term, in accordance with the provisions hereof, shall constitute Bidder's Event of default in terms hereof.
- iv.The decision of Inland Waterways Authority of India as to any breach/ delay having been committed, liability accrued or loss or damage caused or suffered shall be conclusive, absolute and binding on the successful Bidder specifically confirms and agrees that no proof of any amount of liability accrued or loss or damages caused or suffered by the Inland Waterways Authority of India under this Contract is required to be provided in connection with any

demand made by the Inland Waterways Authority of India to recover such compensation through invoking and encashment of the Performance Bank Guarantee under this Contract.

v. In the event of encashment of the Performance Bank Guarantee by the Inland Waterways Authority of India, in full or part, successful Bidder shall within 30 (thirty) days of receipt of the encashment notice from the Inland Waterways Authority of India provide a fresh Performance Bank Guarantee or replenish (in case of partial appropriation) the existing Performance Bank Guarantee, as the case may be. The provisions of this Article shall apply mutatis mutandis to such fresh Performance Bank Guarantee. Successful Bidder's failure to comply with this provision shall constitute successful Bidder's Event of Default which shall entitle the Inland Waterways Authority of India to terminate this Contract in accordance with the provisions of **Clauses 13** of this Contract.

27.0 Assignment

Any assignment of any rights hereunder, in any manner, by operation of law or otherwise, without the prior written consent of Inland Waterways Authority of India, shall be void. Any such consent shall not relieve the Bidder from its obligations under the RFP.

The Bidder shall not give, bargain, sell, assign or sublet or otherwise dispose-off the Proposal or any part thereof, or the benefit or advantage of being the selected Bidder/Vendor or any part thereof, to any third party.

28.0 Law and Jurisdiction

The Proposal shall be considered, governed by and interpreted in accordance with the laws of Republic of India. The jurisdiction for the purposes of the RFP shall be the courts located at Delhi only.

29.0 Alteration, Variation or Repeat Order

The Bidder agrees that, quantities given in the bidding documents are minimum requirements, and are in no way exhaustive and guaranteed by Inland Waterways Authority of India. It shall be the responsibility of the Bidder to meet all the requirements contained in the RFP documents and any upward revisions, and of the quantities to the extent of five percent (5%) shall be carried-out without any time and cost effect to Inland Waterways Authority of India. Inland Waterways Authority of India reserves the right to place repeat order for the same items at the contracted rate, up to the extent of one hundred percent (100%) of the final order quantity within one (1) year of placing the last order, if required by Inland Waterways Authority of India.

30.0 Conflict of Interest

The Bidder shall hold Inland Waterways Authority of India's interest paramount, without any consideration for future work, and strictly avoid conflict with other assignment or its own corporate interest which is detrimental to Inland Waterways Authority of India.

- i. The Bidder should not be engaged in any such business (excluding any work assigned to it by Inland Waterways Authority of India), which has conflict of interest with the Project for which, the bid is being submitted.
- ii. Participation by the Bidder with a conflict-of-interest situation, would be examined by Inland Waterways Authority of India, and appropriate decision would be taken, which may also include disqualification of the bids in which, it is involved.
- iii. Inland Waterways Authority of India considers a conflict of interest to be a situation in which, a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations, and that such conflict of interest may contribute to or constitute a prohibited corrupt practice. A Bidder/Vendor may be considered to be in a conflict of interest with one or more parties in this Bidding process if, including but not limited to (a) receive or have received any direct or indirect subsidy from any of them; or (b) have common controlling shareholders; or (c) have the same legal representative for purposes of this bid; or (d) have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder, or influence the decisions of Inland Waterways Authority of India regarding this Bidding process. Inland Waterways Authority of India requires that a Bidder participating in this RFP/bidding, procurement process shall not have a conflict of interest. Any Bidder / Vendor found to have a conflict of interest in any manner shall be ineligible for award of the contract.

31. Illegal Gratification

- i. The Bidder shall not directly or indirectly (whether directly or through its Associates, agent or servant or anyone on its behalf) offer or give any bribe, commission, gift or give any advantage, promise or offer, to any officer or employee of the Authority, or to any person on its behalf in relation to obtaining or execution of the Agreement or any other contract with the Authority.
- ii. Any bribe, commission, gift or advantage given, promised or offered by or on behalf of the bidder or its Associates, agent or servant or, anyone on its behalf, to any officer or employee of the Authority, or to any person on its behalf in relation to obtaining or execution of the Agreement or any other contract with the Authority shall, in addition to any criminal liability which the Bidder may incur, subject the Bidder to the rescission of the Agreement and all other contracts with the Authority and to the payment of any loss or damage resulting from such

decision and the Authority shall be entitled to deduct the amounts so payable from any money due to the Bidder under the Contract Agreement or any other contract with the Authority.

iii. The Bidder shall not lend or borrow from or have or enter into any monetary dealings or transactions either directly or indirectly with any employee of the Authority and if the bidder shall do so, the Authority shall be entitled forthwith to rescind the contract and all other contracts with the Authority.

iv. The Bidder is required to co-ordinate and follow up with the Authority's Representative and other contractors/bidder, except as may be expressly excused in the Agreement and no delay or failure to perform on the part of the Authority (or its vendors, other contractors and/or Bidders) shall excuse the bidder from the timely performance of its obligations under the Agreement.

32.0 Termination for Default & Risk Purchase

The IWAI may, without prejudice to any other remedy for breach of contract, by written notice of default, sent to the System Integrator, terminate this Contract in whole or in part in any of the following events.

If the System Integrator fails to deliver any or all of the services within the time period(s) specified in the Contract or any extension thereof granted by the IWAI.

If the System Integrator fails to perform any other obligation(s) under Contract.

If the System Integrator, in either of the above circumstances, does not remedy his failure within a period of 30 days (or such longer period as IWAI may authorize in writing) after receipt of the default notice from IWAI.

As a penalty to the System Integrator, the IWAI shall encash the Contract Performance Bank Guarantee. The IWAI in such case shall pay for the assessed value of the executed work that can be used. No payment shall be made for the efforts put in by the System Integrator in case the same are of no value to IWAI. The balance unfinished work of the project will be got done by fresh tendering on Contractor's risk and that extra expenditure will be recovered.

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SCHEDULE I - DEFINITIONS	
Adverse Effect	<p>means material adverse effect on</p> <p>(a) the ability of the Bidder to exercise any of its rights or perform/discharge any of its duties/obligations under and in accordance with the provisions of this Agreement and/or</p> <p>(b) the legal validity, binding nature or enforceability of this Agreement;</p>
Agreement	<p>means this Master Services Agreement, Service Level Agreement and Non-Disclosure Agreement together with all Articles, Annexures, Schedules and the contents and specifications of the RFP;</p>
Applicable Law(s)	<p>means any statute, law, ordinance, notification, rule, regulation, judgment, order, decree, bye-law, approval, directive, guideline, policy, requirement or other governmental restriction or any similar form of decision applicable to the relevant party and as may be in effect on the date of the execution of this Agreement and during the subsistence thereof, applicable to the Project;</p>
Assets	<p>shall have the same meaning ascribed to it in Clause 10.1 (a)</p>
Software	<p>means the software designed, developed / customized, tested and deployed by the Bidder for the purposes of the Project and includes the source code (in case of Bespoke development) along with associated documentation, which is the work product of the development efforts involved in the Project and the improvements and enhancements effected during the term of the Project, but does not include the third party software products (including the COTS products used for the product), proprietary software components and tools deployed by the Bidder;</p>

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Business Hours	shall mean the working time for IWAI users which is 9:30 AM to 6:00 PM. Again, for Web Server and other components which enable successful usage of web portals of IWAI the working time should be considered as 24 hours for all the days of the week. It is desired that IT maintenance, other batch processes (like backup) etc. should be planned so that such backend activities have minimum effect on the performance;
Certificate(s) of Compliance	Shall have the same meaning ascribed to it in Clause 5.4;
Confidential Information	means all information including IWAI / States / UT's Data (whether in written, oral, electronic or other format) which relates to the technical, financial and business affairs, dealers, suppliers, products, developments, operations, processes, data, tradesecrets, design rights, know-how, plans, budgets and personnel of each Party and its affiliates which is disclosed to or otherwise learned by the other Party in the course of or in connection with this Agreement (including without limitation such information received during negotiations, location visits and meetings in connection with this Agreement);
Control	means, in relation to any business entity, the power of a person to secure (i) by means of the holding of shares or the possession of voting power in or in relation to that or any other business entity, or (ii) by virtue of any powers conferred by the articles of association or other document regulating that or any other business entity, that the affairs of the first mentioned business entity are conducted in accordance with that person's wishes and in relation to a partnership, means the right to a share of more than one half of the assets, or of more than one half of the income, of the partnership;

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Deliverables	means the products, infrastructure and services agreed to be delivered by the Bidder in pursuance of the agreement as defined more elaborately in the RFP, Implementation and the Maintenance phases and includes all documents related to the user manual, technical manual, design, process and operating manuals, service Mechanisms, policies and guidelines (such as security related, data migration related), inter alia payment and/or process related etc., source code and all its modifications;
Proprietary Information	shall have the same meaning ascribed to it in Clause 19.1
Effective Date	shall have the same meaning ascribed to it in Clause 3.1;
IWAI/States / UT's Data	means all proprietary data of the department or its nominated agencies generated out of operations and transactions, documents all taxpayer's data and related information including but not restricted to user data which the Bidder obtains, possesses or processes in the context of providing the Services to the users pursuant to this Agreement;
Final Acceptance Test	shall be conducted on completion of the following: 1) IWAI Data Center operational, 2) Deployment & operational hardware and networking at requisite locations, 3) UAT of the overall integrated solution and portal.
Final Testing and Certification Agency	shall have the same meaning ascribed to it in Clause 5.4;
Force Majeure	shall have the same meaning ascribed to it in Clause 16.1;

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Force Majeure Costs	shall have the same meaning ascribed to it in Clause 16.4 (b);
Gol	means the Government of India;
Indemnifying Party	shall have the same meaning ascribed to it in Clause 15.1;
Indemnified Party	shall have the same meaning ascribed to it in Clause 15.1;
Intellectual Property Rights	means all rights in written designs and copyrights, moral rights, rights in databases and Bespoke Software / Pre-existing work including its up-gradationsystems and compilation rights (whether or not any of these are registered andincluding application for registration);
Escrow Agreement	An agreement that pursuant to Clause 23 provides for the regular deposit into escrow of all source code, object code, and documentation with respect to all public material and Service Provider's proprietary material (and cumulative updates thereof), together with (a) continually updated instructions as to the compilation, installation, configuration, deployment and use of the Source Code, and (b) a list of all non-deposited third party software used in conjunction with the Source Code to provide the full functionality of the deposited materials.
Insurance Cover	Public liability insurance for an insured amount of [INR 1 lakh] per occurrence and not less than [INR 1 crore] in aggregate - Either professional indemnity or errors and omissions insurance for an insured amount of [INR 1 lakh] per occurrence and not less than [INR 1 crore] in aggregate. - Product liability for an insured amount of [INR 1 lakh] per occurrence and not less than [INR 1 crore] in aggregate. - Workers' compensation as required by law

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Additional Insurance	Not Applicable
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Material Breach	means a breach by either Party (IWAI or Bidder) of any of its obligations under this Agreement which has or is likely to have an Adverse Effect on the Project which such Party shall have failed to cure;
Required Deliverables	shall have the same meaning ascribed to it in Part I of the RFP;
Parties	means IWAI and Bidder for the purposes of this Agreement and " Party " shall be interpreted accordingly;
Performance Bank Guarantee	Means the guarantee provided by a Nationalized / Scheduled Bank in favour of the Bidder. The amount of Performance Bank Guarantee shall be 5% of the total contract value. This Performance Bank Guarantee shall be valid from the date of execution of contract or an earlier date and shall continue till sixty days after the completion of all contractual liabilities including warranty obligations and defect liability period as per CVC guidelines;
Planned Application Downtime	means the unavailability of the application services due to maintenance activities such as configuration changes, upgradation or changes to any supporting infrastructure wherein prior intimation (at least two working days in advance) of such planned outage shall be given and approval sought from IWAI as applicable;
Planned network outage	means the unavailability of the network services due to infrastructure maintenance activities such as configuration changes, upgradation or changes to any supporting infrastructure. Prior intimation of such planned outage shall be given and approval sought from IWAI as applicable and shall be notified at least two working days;
Project	means Project Implementation (roll out) and Maintenance in terms of the Agreement;
Project Implementation	means Project Implementation as per the testing standards and acceptance criteria prescribed by IWAI or its nominated agencies;

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Project Implementation Phase	shall be from the Effective Date of the Agreement to the date of final acceptance testing & certification as set out in Clause 5.4 of this Agreement;
Project Implementation Unit (PIU)	shall be constituted by IWAI to monitor the activities, deliverables and progress of the Project.;
Project Timelines	shall have the same meaning ascribed to in Annexure C;
Providing Party	shall have the same meaning ascribed to it in Clause 12.5;
Receiving Party	shall have the same meaning ascribed to it in Clause 12.5;
Replacement Bidder	means any third party that IWAI or its allied offices appoint to replace Bidder upon expiry of the Term or termination of this Agreement to undertake the Services or part thereof;
Required Consents	means the consents, waivers, clearances and licenses to use IWAI's Intellectual Property Rights, rights and other authorizations as may be required to be obtained for the software and other items that IWAI or their allied offices are required to make available to Bidder pursuant to this Agreement;
Services	means the services delivered to the Stakeholders of IWAI or its allied offices, employees of IWAI or its allied offices, and to professionals, using the tangible and intangible assets created, procured, installed, managed and operated by the Bidder including the tools of information and communications technology and includes but is not limited to the list of services specified in Annexure B;
Service Level	means the level of service and other performance criteria which will apply to the Services delivered by the Service provider

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SLA	means the Performance and Maintenance SLA executed as part of this MasterService Agreement;
Term	shall have the same meaning ascribed to it in Clause 3.1;
Third Party Systems	means systems (or any part thereof) in which the Intellectual Property Rights are not owned by IWAI or Bidder and to which Bidder has been granted a license to use and which are used in the provision of Services;
Unplanned Application Downtime	means the total time for all the instances where services in the software requirement specification document prepared by the Implementation Agency are not available for more than 5 consecutive minutes;
Network	in Nodal Agency users refers to all the IT assets installed by the ImplementationAgency as part of the Project for networking;
Unplanned network outage	means the total time for all the instances where services in the software requirement specification document prepared by the Implementation Agency are not available for more than 5 consecutive minutes;
Application	means the software application developed as a part of scope of work set out inClause 2.1
Application Downtime	means the time for which user/s is not able to access the application. However, in calculating downtime, scheduled downtime (for example, backup time, batchprocessing time, routine maintenance time) would not be considered;
Network Uptime	Uptime refers to network availability between Nodal Agency's Head Quartersto Data center. "%Uptime" means ratio of 'up time' (in minutes) in a month toTotal time in the month (in minutes) multiplied by 100;
Warranty / AMC Period	The warranty shall be at least one year beyond the service period of the projectfor all hardware, software and other components comprising of the solution and any extended period notified by IWAI.

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Safety and Security	Shall, in addition to those specified in 12.4, include the requirements specified in Volume – II of the RFP.
Value of the Project Cost	shall have the same meaning ascribed to it in Part -I of the RFP

SCHEDULE II – CHANGE CONTROL SCHEDULE

This Schedule describes the procedure to be followed in the event of any proposed change to the Master Service Agreement (“**MSA**”), Project Implementation Phase, SLA and Scope of Work and Functional Requirement Specifications. Such change shall include, but shall not be limited to, changes in the scope of services provided by the Bidder and changes to the terms of payment as stated in the Terms of Payment Schedule.

IWAI and Bidder recognize that frequent change is an inevitable part of delivering services and that a significant element of this change can be accomplished by re-organizing processes and responsibilities without a material effect on the cost. The Bidder will endeavor, wherever reasonably practicable, to effect change without an increase in the terms of payment as stated in the Terms of Payment Schedule and IWAI will work with the Bidder to ensure that all changes are discussed and managed in a constructive manner. This Change Control Schedule sets out the provisions which will apply to all the changes to this agreement and other documents except for the changes in SLAs for which a separate process has been laid out in Clause 12 of the SLA Agreement.

CHANGE MANAGEMENT PROCESS

CHANGE CONTROL NOTE ("CCN")

- (i) Change requests in respect of the MSA, the Project Implementation, the operation, the SLA or Scope of work and Functional Requirement specifications will emanate from the Parties' respective Project Manager who will be responsible for obtaining approval for the change and who will act as its sponsor throughout the Change Control Process and will complete Part A of the CCN attached as Annexure A hereto. CCNs will be presented to the other Party's Project Manager who will acknowledge receipt by signature of the CCN.
- (ii) The Bidder and IWAI, during the Project Implementation Phase and IWAI during the Operations and Management Phase and while preparing the CCN, shall consider the change in the context of the following parameter, namely whether the change is beyond the scope of services including ancillary and concomitant services required and as detailed in the RFP and is suggested and applicable only after the testing, commissioning and certification of the Pilot Phase and the Project Implementation Phase as set out in this Agreement. It is hereby also clarified here that any change of control suggested beyond 20 % of the value of this Project will be beyond the scope of the change control process and will be considered as the subject matter for a separate bid process and a separate contract. It is hereby clarified that the 20% of

the value of the Project as stated in herein above is calculated on the basis of bid value submitted by the Bidder and accepted by IWAI or its nominated agencies or as decided and approved by IWAI or its Nominated Agencies. For arriving at the cost / rate for change upto 20% of the project value, the payment terms and relevant rates as specified in Annexure D shall apply.

- (iii) The SLAs defined in this contract are subject to modifications/amendments in view of the annual review or to meet any other project requirements. Any such change in SLA will not be considered as a change request.

(a) Quotation

- (i) The Implementing Agency shall assess the CCN and complete Part B of the CCN, in completing the Part B of the CCN the MSP shall provide as a minimum:
1. a description of the change
 2. a list of deliverables required for implementing the change;
 3. a time table for implementation;
 4. an estimate of any proposed change
 5. any relevant acceptance criteria
 6. an assessment of the value of the proposed change;
 7. Material evidence to prove that the proposed change is not already covered within the Agreement and the scope of work
- (ii) Prior to submission of the completed CCN to IWAI, the Bidder will undertake its own internal review of the proposal and obtain all necessary internal approvals. As a part of this internal review process, the MSP shall consider the materiality of the proposed change in the context of the MSA and the Project Implementation affected by the change and the total effect that may arise from implementation of the change.

(b) Costs

Each Party shall be responsible for its own costs incurred in the quotation, preparation of CCNs and in the completion of its obligations described in this process provided the MSP

meets the obligations as set in the CCN. In the event the MSP is unable to meet the obligations as defined in the CCN then the cost of getting it done by third party will be borne by the MSP.

(c) Obligations

The MSP shall be obliged to implement any proposed changes once approval in accordance with above provisions has been given, with effect from the date agreed for implementation and within an agreed timeframe. MSP will not be obligated to work on a change until the parties agree in writing upon its scope, price and/or schedule impact.

SCHEDULE – III - EXIT MANAGEMENT SCHEDULE

1.0 PURPOSE

- 1.1 This Schedule sets out the provisions, which will apply on expiry or termination of the MSA, the Project Implementation, Operation and Management SLA.
- 1.2 In the case of termination of the Project Implementation and/or Operation and Management, the Parties shall agree at that time whether, and if so during what period, the provisions of this Schedule shall apply.
- 1.3 The Parties shall ensure that their respective associated entities carry out their respective obligations set out in this Exit Management Schedule.

2.0 TRANSFER OF ASSETS

- 2.1 IWAI shall be entitled to serve notice in writing on the Bidder at any time during the exit management period as detailed hereinabove requiring the Bidder and/or its subcontractors to provide IWAI with a complete and up to date list of the Assets within 30 days of such notice. IWAI shall then be entitled to serve notice in writing on the Bidder at any time prior to the date that is 30 days prior to the end of the exit management period requiring the Bidder to sell the Assets, if any, to be transferred to IWAI or its nominated agencies at bookvalue as determined as of the date of such notice in accordance with the provisions of relevant laws.
- 2.2 In case of contract being terminated by IWAI, IWAI reserves the right to ask Bidder to continue running the project operations for a period of 6 months after termination orders are issued.
- 2.3 Upon service of a notice under this Article the following provisions shall apply:
 - 2.3.1 In the event, if the Assets to be transferred are mortgaged to any financial institutions by the Bidder, the bidder shall ensure that all such liens and liabilities have been cleared beyond doubt, prior to such transfer. All documents regarding the discharge of such lien and liabilities shall be furnished to IWAI.
 - 2.3.2 All risk in and title to the Assets to be transferred / to be purchased by IWAI pursuant to this Article shall be transferred to IWAI, on the last day of the exit management period.
 - 2.3.3 Bidder shall be paid the depreciated book value of the infrastructure cost and other assets. The depreciation rates and method followed will be as per IncomeTax Rules.

2.3.4 Payment to the outgoing Bidder shall be made to the tune of last set of completed services / deliverables, subject to SLA requirements.

2.3.5 The outgoing Bidder will pass on to IWAI and/or to the Replacement Bidder, the subsisting rights in any leased properties/ licensed products on terms not less favorable to IWAI/ Replacement Bidder, than that enjoyed by the outgoing Bidder.

3.0 COOPERATION AND PROVISION OF INFORMATION

During the exit management period:

- (i) The Bidder will allow IWAI or its allied offices access to information reasonably required to define the then current mode of operation associated with the provision of the services to enable IWAI to assess the existing services being delivered;
- (ii) promptly on reasonable request by IWAI, the Bidder shall provide access to and copies of all information held or controlled by them which they have prepared or maintained in accordance with this agreement relating to any material aspect of the services (whether provided by the Bidder or sub-contractors appointed by the Bidder). IWAI shall be entitled to copy of all such information. Such information shall include details pertaining to the services rendered and other performance data. The Bidder shall permit IWAI to have reasonable access to its employees and facilities as reasonably required by the Chairman, Project Implementation Unit (PIU) to understand the methods of delivery of the services employed by the Bidder and to assist appropriate knowledge transfer.

4.0 CONFIDENTIAL INFORMATION, SECURITY AND DATA

4.1 The Bidder will promptly on the commencement of the exit management period supply to IWAI or its nominated agency the following:

- 4.1.1 information relating to the current services rendered and customer and performance data relating to the performance of consortium partners in relation to the services;
- 4.1.2 documentation relating to Project's Intellectual Property Rights;
- 4.1.3 documentation relating to sub-contractors;

- 4.1.4 all current and updated data as is reasonably required for purposes of IWAI transitioning the services to its Replacement Bidder in a readily available format nominated by IWAI, its nominated agency;
- 4.1.5 all other information (including but not limited to documents, records and agreements) relating to the services reasonably necessary to enable IWAI, or its Replacement Bidder to carry out due diligence in order to transition the provision of the Services to IWAI, or its Replacement Bidder (as case may be).
- 4.2 Before the expiry of the exit management period, the Bidder shall deliver to IWAI or its nominated agency all new or up-dated materials from the categories set out in Schedule above and shall not retain any copies thereof, except that the Bidder shall be permitted to retain one copy of such materials for archival purposes only.
- 4.3 Before the expiry of the exit management period, unless otherwise provided under the MSA, IWAI or its nominated agency shall deliver to the Bidder all forms of Bidder confidential information, which is in the possession or control of IWAI or its users.

5.0 EMPLOYEES

- 5.1 Promptly on reasonable request at any time during the exit management period, the Bidder shall, subject to applicable laws, restraints and regulations (including in particular those relating to privacy) provide to IWAI or its nominated agency a list of all employees (with job titles) of the Bidder dedicated to providing the services at the commencement of the exit management period.
- 5.2 Where any national, regional law or regulation relating to the mandatory or automatic transfer of the contracts of employment from the Bidder to IWAI or its nominated agency, or a Replacement Bidder ("Transfer Regulation") applies to any or all of the employees of the Bidder, then the Parties shall comply with their respective obligations under such Transfer Regulations.
- 5.3 To the extent that any Transfer Regulation does not apply to any employee of the Bidder, department, or its Replacement Bidder may make an offer of employment or contract for services to such employee of the Bidder and the Bidder shall not enforce or impose any contractual provision that would prevent any such employee from being hired by the Chairperson, PIU or any Replacement Bidder.

6.0 TRANSFER OF CERTAIN AGREEMENTS

- 6.1 On request by IWAI or its nominated agency the Bidder shall effect such assignments, transfers, licenses and sub-licenses as the Chairperson, PIU may require in favour of the Chairperson, PIU, or its Replacement Bidder in relation to any equipment lease,

maintenance or service provision agreement between Bidder and third party lessors, vendors, and which are related to the services and reasonably necessary for the carrying out of replacement services by IWAI or its nominated agency or its Replacement Bidder.

7.0 RIGHTS OF ACCESS TO PREMISES

- 7.1 At any time during the exit management period, where Assets are located at the Bidder's premises, the Bidder will be obliged to give reasonable rights of access to (or, in the case of Assets located on a third party's premises, procure reasonable rights of access to) IWAI or its nominated agency and/or any Replacement Bidder in order to make an inventory of the Assets.
- 7.2 The Bidder shall also give IWAI or its nominated agency, or any Replacement Bidder right of reasonable access to the Implementation Partner's premises and shall procure IWAI or its nominated agency and any Replacement Bidder rights of access to relevant third-party premises during the exit management period and for such period of time following termination or expiry of the MSA as is reasonably necessary to migrate the services to IWAI or its nominated agency, or a Replacement Bidder.

8.0 GENERAL OBLIGATIONS OF THE SERVICE PROVIDER

- 8.1 The Bidder shall provide all such information as may reasonably be necessary to effect as seamless a handover as practicable in the circumstances to IWAI or its nominated agency or its Replacement Bidder and which the Bidder has in its possession or control at any time during the exit management period.
- 8.2 For the purposes of this Schedule, anything in the possession or control of any Bidder, associated entity, or sub-contractor is deemed to be in the possession or control of the Bidder.
- 8.3 The Bidder shall commit adequate resources to comply with its obligations under this Exit Management Schedule.

9.0 EXIT MANAGEMENT PLAN

- 9.1 The Bidder shall provide IWAI or its nominated agency with a recommended exit management plan ("Exit Management Plan") which shall deal with at least the following aspects of exit management in relation to the MSA as a whole and in relation to the Project Implementation, and the Operation and Management SLA.
- 9.1.1 A detailed program of the transfer process that could be used in conjunction with a Replacement 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;
- 9.1.2 plans for the communication with such of the Bidder's sub-contractors, staff, suppliers, customers and any related third party as are necessary to avoid any material detrimental impact on IWAI's operations as a result of undertaking the transfer;
- 9.1.3 (if applicable) proposed arrangements for the segregation of the Bidder's networks from the networks employed by IWAI and identification of specific security tasks necessary at termination;
- 9.1.4 Plans for provision of OEM support for the hardware and software components and any other contingent support for a period of 9 months after the expiry or termination of the contract period as the case may be.
- 9.2 The Bidder shall re-draft the Exit Management Plan annually thereafter to ensure that it is kept relevant and up to date.
- 9.3 Each Exit Management Plan shall be presented by the Bidder to and approved by IWAI.
- 9.4 The terms of payment as stated in the Terms of Payment Schedule include the costs of the Bidder complying with its obligations under this Schedule.
- 9.5 In the event of termination or expiry of MSA, and Project Implementation, each Party shall comply with the Exit Management Plan.
- 9.6 During the exit management period, the Bidder shall use its best efforts to deliver the services.
- 9.7 Payments during the Exit Management period shall be made in accordance with the Terms of Payment Schedule.
- 9.8 This Exit Management plan shall be furnished in writing to IWAI within 90 days from the Effective Date of this Agreement.

SCHEDULE - IV - AUDIT, ACCESS AND REPORTING

1 PURPOSE

This Schedule details the audit, access and reporting rights and obligations of IWAI or its nominated agency and the Bidder.

2 AUDIT NOTICE AND TIMING

- 2.1 As soon as reasonably practicable after the Effective Date, the Parties shall use their best endeavors to agree to a timetable for routine audits during the Project Implementation Phase and the Operation and Management Phase. Such timetable during the Implementation Phase, IWAI or its nominated agency and thereafter during the operation Phase, IWAI or its nominated agency shall conduct routine audits in accordance with such agreed timetable and shall not be required to give the Bidder any further notice of carrying out such audits.
- 2.2 IWAI or its nominated agency may conduct non-timetabled audits at his/ her own discretion if it reasonably believes that such non-timetabled audits are necessary as a result of an act of fraud by the Bidder, a security violation, or breach of confidentiality obligations by the Bidder, provided that the requirement for such an audit is notified in writing to the Bidder a reasonable period time prior to the audit (taking into account the circumstances giving rise to the reasonable belief) stating in a reasonable level of detail the reasons for the requirement and the alleged facts on which the requirement is based. If the Bidder considers that the non-timetabled audit was not appropriate, the matter shall be referred to the escalation procedure as set out in the Governance Schedule.
- 2.3 The frequency of audits shall be a (maximum) half yearly, provided always that IWAI or its nominated agency shall endeavor to conduct such audits with the lowest levels of inconvenience and disturbance practicable being caused to the Bidder. Any such audit shall be conducted by with adequate notice of 2 weeks to the Bidder.
- 2.4 IWAI will ensure that any 3rd party agencies (except CAG) appointed to conduct the audit will not be the competitor of Bidder and will be bound by confidentiality obligations.

3 ACCESS

The Bidder shall provide to IWAI or its nominated agency reasonable access to employees, subcontractors, suppliers, agents and third-party facilities as detailed in the RFP, documents, records and systems reasonably required for audit and shall provide all such persons with routine assistance in connection with the audits and inspections. The Chairperson, PIU / Steering Committee shall have the right to copy and retain copies of any relevant records. The

Bidder shall make every reasonable effort to co-operate with them.

4 AUDIT RIGHTS

- 4.1 IWAI or its nominated agency shall have the right to audit and inspect suppliers, agents and third party facilities (as detailed in the RFP), data centres, documents, records, procedures and systems relating to the provision of the services, but only to the extent that they relate to the provision of the services, as shall be reasonably necessary to verify:
- (i) The security, integrity and availability of all data processed, held or conveyed by the Partner on behalf of IWAI and documentation related thereto;
 - (ii) That the actual level of performance of the services is the same as specified in the SLA;
 - (iii) That the Bidder has complied with the relevant technical standards, and has adequate internal controls in place; and
 - (iv) The compliance of the Bidder with any other obligation under the MSA and SLA.
 - (v) Security audit and implementation audit of the system shall be done once each year, the cost of which shall be borne by the Bidder.
 - (vi) For the avoidance of doubt the audit rights under this Schedule shall not include access to the Bidder's profit margins or overheads, any confidential information relating to the Bidder's employees, or (iii) minutes of its internal Board or Board committee meetings including internal audit, or (iv) such other information of commercial-in-confidence nature which are not relevant to the Services associated with any obligation under the MSA.

5 AUDIT RIGHTS OF SUB-CONTRACTORS, SUPPLIERS AND AGENTS

- 5.1 The Bidder shall use reasonable endeavors to achieve the same audit and access provisions as defined in this Schedule with sub-contractors, suppliers and agents who supply labor, services, equipment or materials in respect of the services. The Bidder shall inform IWAI or its nominated agency prior to concluding any sub-contract or supply agreement of any failure to achieve the same rights of audit or access.
- 5.2 REPORTING: The Bidder will provide quarterly reports to the Chairperson, PIU / Steering committee regarding any specific aspects of the Project and in context of the audit and access information as required by IWAI or its nominated agency.

6 ACTION AND REVIEW

- 6.1 Any change or amendment to the systems and procedures of the Bidder, or sub-contractors, where applicable arising from the audit report shall be agreed within thirty (30) calendar

days from the submission of the said report.

- 6.2 Any discrepancies identified by any audit pursuant to this Schedule shall be immediately notified to IWAI or its nominated agency and the Bidder Project Manager who shall determine what action should be taken in respect of such discrepancies in accordance with the terms of the MSA.

7 TERMS OF PAYMENT

The MSP shall bear the cost of any audits and inspections as per the scope of work defined in Part -II of the RFP. The terms of payment are exclusive of any costs of the Bidder and the sub-contractor, for all reasonable assistance and information provided under the MSA, the Project Implementation, Operation and Management SLA by the Bidder pursuant to this Schedule.

8 RECORDS AND INFORMATION

For the purposes of audit in accordance with this Schedule, the Bidder shall maintain true and accurate records in connection with the provision of the services and the Bidder shall handover all the relevant records and documents upon the termination or expiry of the MSA.

SCHEDULE – V - GOVERNANCE SCHEDULE

1 PURPOSE

The purpose of this Schedule is to:

- (i) establish and maintain the formal and informal processes for managing the relationship between IWAI and the Bidder including the outputs from other Schedules to this Agreement;
- (ii) define the principles that both Parties wish to follow to ensure the delivery of the Services;
- (iii) ensure the continued alignment of the interests of the Parties;
- (iv) ensure that the relationship is maintained at the correct level within each Party;
- (v) create the flexibility to revise and maintain the relationship and this Agreement during the Term;
- (vi) set out the procedure for escalating disagreements; and
- (vii) enable contract administration and performance management.

2 GOVERNANCE STRUCTURE

- 2.1 Project Managers: The relationship under this Agreement will be managed by the Project Managers appointed by each Party, who will provide the interface between the executive management of the respective Parties.
- 2.2 Project Implementation Unit (PIU): Within 7 days following the Effective Date, IWAI, Project Consultant and the Bidder shall each appoint a Project Manager. In the event that either Party wishes to substitute its Project Manager it will do so in manner in which the original appointment is made and notify the other Party of such substitution as soon as reasonably practicable but at the latest within 7 days of the substitution.
- 2.3 The Project Managers shall have responsibility for maintaining the interface and communication between the Parties.
- 2.4 The PIU will meet formally on a fortnightly / monthly / quarterly, as required, basis at a time and location to be agreed between them. These meetings will cover, as a minimum, the

following agenda items: (i) consideration of Quarterly Performance Reports; (ii) consideration of matters arising out of the Change Control Schedule; (iii) issues escalated in accordance with the escalation procedure as set out in the Governance Schedule; (iv) matters to be brought before the PIU in accordance with the MSA and the Schedules; (v) any matter brought before the PIU by the Bidder under this Article; and (vi) any other issue which either Party wishes to add to the agenda.

- 2.5 In the event that there is any material factor which affects the delivery of the Services or the terms of payment as stated in the Terms of Payment Schedule, the Parties agree to discuss in the PIU any appropriate amendment to the Agreement or any Service Level Agreements or Statement of Works including any variation to the terms of payment as stated in the Terms of Payment Schedule. Any variation so agreed shall be implemented through the change control procedure as set out in the Change Control Schedule.

3 GOVERNANCE PROCEDURES

- 3.1 The Bidder shall document the agreed structures in a procedures manual.
- 3.2 The agenda for each meeting of the PIU shall be set to reflect the discussion items referred to above and extraordinary items may be added either with the agreement of the Parties or at the request of either Party. Copies of the agenda for meetings of the PIU, along with relevant pre-reading material, shall be distributed at least one week in advance of the relevant meeting.
- 3.3 All meetings and proceedings will be documented such documents to be distributed to the Parties and copies shall be kept as a record. All actions, responsibilities and accountabilities arising out of any meeting shall be tracked and managed.
- 3.4 The Parties shall ensure as far as reasonably practicable that the PIU shall resolve the issues and resolve the objectives placed before them and that members representing that Party are empowered to make relevant decisions or have easy access to empowered individuals for decisions to be made to achieve this.
- 3.5 In order formally to submit a Disputed Matter to the aforesaid for a, one Party ("Claimant") shall give a written notice ("Dispute Notice") to the other Party. The Dispute Notice shall be accompanied by (a) a statement by the Claimant describing the Disputed Matter in reasonable detail and (b) documentation, if any, supporting the Claimant's position on the Disputed Matter.
- 3.6 The other Party ("Respondent") shall have the right to respond to the Dispute Notice within 7 days after receipt of the Dispute Notice. In the event that the parties are unable to resolve the Disputed Matter within a further period of 7 days, it shall refer the Disputed Matter to next level of the dispute resolution for action as per the process mentioned in article 9.1.

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- 3.7 All negotiations, statements and / or documentation pursuant to these Articles shall be without prejudice and confidential (unless mutually agreed otherwise).
- 3.8 If the Disputed Matter is having a material effect on the operation of the Services (or any of them or part of them) the Parties will use all their respective reasonable endeavours to reduce the elapsed time in reaching a resolution of the Disputed Matter.

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SCHEDULE – VI - TERMS OF PAYMENT SCHEDULE

1. As per the payment terms defined in Part I of RFP.
2. The payment to be made to the System Integrator will be as per the schedule given in the table below. The milestone completion will as per the Project Deliverables set out in the Part II of the RFP Document.

No	Milestones	Deliverables	Timeline T=0 at Kick-off	Payment Percentage
1	Kick off meeting	D1	T	NA
2	Submission of project charter and project plan	D2	T+5 days	NA
3	Submission of Software Requirement Specification (SRS) of all modules of single window system of Central Database	D3	T+1 months	10% of the Design, Development and implementation phase cost
4	Submission of Master Design Document including Solution Architecture and Design, Logical and Functional Architecture	D4	T+1 months	
5	Prototyping & Wire Frame		T+2 months	NA
6	Cloud Data Centre Establishment & Commissioning of Cloud DC & DR	D6 & D7	T+8 Months	10% of the Design, Development and implementation phase cost
7	Software Development	D5	T+6 months	30% of the Design, Development and implementation phase cost
8	Data Migration & Data completion	D8 & D12	T+5 months	5% of the Design, Development and implementation phase cost
9	Change Management & User Training	D9, D10	T+9 months	5% of the Design, Development and implementation

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No	Milestones	Deliverables	Timeline T=0 at Kick-off	Payment Percentage
				phase cost
10	Scanning & Digitalization	D14, D15 & D18	T+9 Months	Quarterly payments on usage basis after deducting penalties. Total payout will not exceed total awarded cost for Scanning & Digitalization (SI 4 of price schedule)
11	Completion of iteration (Prototyping, UAT, User Training and Conference Room Pilot)		T+8 months	NA
12	Integrated UAT	D11, D16 & D21	T+ 10 months	20% of the Design, Development and implementation phase cost
12	Go-Live of Single window system of Central Database	D17	T+12 months	10% of the Design, Development and implementation phase cost
13	Security Audit & Certification	D19, D20	T+12 Months	10% of the Design, Development and implementation phase cost
14	IT Facility Management (SMS / Whatsapp Gateway & Helpdesk)	D13	5 years after go-live	Quarterly payments on usage basis after deducting penalties. Total payout will not exceed total awarded cost for Scanning & Digitalization (SI 5 of price schedule)
15	Operation and Maintenance	D22	5 years after go-live & warranty period	Quarterly payments of the operation and maintenance

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No	Milestones	Deliverables	Timeline T=0 at Kick-off	Payment Percentage
				phase cost

The total cost quoted by the bidder in the design, development and implementation phase should not be more than 45% of the total contract value. In case the bidder quotes more than 45% of the TCV in the design, development and implementation phase, then the additional cost quoted shall be paid by being equally distributed in quarterly payments across the entire operation and maintenance phase.

- The payments shall be made to the successful bidder based on the payment components provided in the table above. The payments shall be based on the completion of the key milestones defined in the project plan and acceptance of the deliverables associated with the milestones by IWAI.
- The overall project is broadly divided into two key phases, Implementation phase (Phase I) and Operations & Maintenance phase (Phase II). The initial payment of key components described in the above table shall be paid upfront after completion of the milestones & remaining payment shall be in equal instalments of quarterly payments during the Phase II: Operations & Maintenance phase as per defined timelines.
- Each component has a ceiling percentage value defined to determine the upper limit of component-wise payment to be paid by IWAI. The ceiling value is the maximum cost to be paid by IWAI for a component in terms of percentage of the total cost of the entire project as specified in the 'Financial Quote/Bid' by the successful bidder.
- All components defined in the above table shall together constitute the total cost of the entire project. The bidder is expected to provide the scanning and digitization services as per IWAI requirements as given in the scope of work for which bidder shall be paid on the price quoted for per page scanning & digitization activities. Hence bidder should provide a detailed plan of scanning & digitization services as by IWAI requirements.
- A monitoring body will be set up by IWAI to monitor the progress of bidder for the smooth implementation and performance of project as per the agreed timelines of all deliverables and SLAs. IWAI may ask for representation from the bidder. The monitoring body will meet for review of all deliverables submitted during the contract. It will be the responsibility of the bidder to provide all information required for review by the monitoring body in timely manner.

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ANNEXURES

ANNEXURE A – FORMAT FOR CHANGE CONTROL NOTICE

Change Control Note		CCN Number:
Part A: Initiation		
Title:		
Originator:		
Sponsor:		
Date of Initiation:		
Details of Proposed Change		
(To include reason for change and appropriate details/specifications. Identify any attachments as A1, A2, and A3 etc.)		
Authorised by	Date:	
Name:		
Signature:	Date:	
Received by the SI		
Name:		
Signature:		
Change Control Note	CCN Number:	

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Part B : Evaluation	
(Identify any attachments as B1, B2, and B3 etc.)	
Changes to Services, charging structure, payment profile, documentation, training, servicelevels and component working arrangements and any other contractual issue.	
Brief Description of Solution:	
Impact:	
Deliverables:	
Timetable:	
Charges for Implementation:	
(including a schedule of payments)	
Other Relevant Information:	
(including value-added and acceptance criteria)	
Authorised by the Bidder	Date:
Name:	
Signature:	
Change Control Note	CCN Number :

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Part C : Authority to Proceed	
Implementation of this CCN as submitted in Part A, in accordance with Part B is: (tick as appropriate)	
Approved	
Rejected Requires Further Information (as follows, or as Attachment 1 etc.)	
For IWAI and its allied offices	For the Bidder
Signature	Signature
Name	Name
Title	Title
Date	Date

ANNEXURE B - LIST OF SERVICES PROVIDED BY THE BIDDER

As per the scope of work defined in Part II of RFP.

ANNEXURE C - REQUIRED DELIVERABLE AND ASSOCIATED TIMELINES

As per deliverables and timelines defined in Part I of RFP.

ANNEXURE D - BID

Bid Response

ANNEXURE – E – ROLES AND RESPONSIBILITIES OF THE PARTIES

Roles and Responsibilities of Bidder:

- a) Preparation of Detailed Project Plan in line with the overall plan provided in the RFP. The same should be prepared in consultation with IWAI.
- b) Procure, install, commission, operate and maintain:
- c) Requisite hardware & system software at IWAI's HQ, Data Center and other locations as per the requirements mentioned in this RFP
- d) Networking equipment's, connectivity and LAN as per the requirements mentioned in this RFP,
- e) Meet the defined SLAs for the performance of the system.
- f) Addressing technology obsolescence by appropriate upgradation, replacement and / or replenishment of systems deployed at various locations (data center, HQ and other locations).
- g) Insure the entire hardware against the infrastructure deployed at various locations for the entire duration of the contract against vandalism, theft, fire and lightning.
- h) Keep all system software i.e. OS, antivirus, office applications etc., for Servers, PCs etc. at Data Centre and various locations, up to date by installing regular upgrades / patches.
- i) Rectification of system software problems due to crashing or malfunctioning of the OS, RDBMS or front end within the time limits to meet the SLAs as defined in RFP.
- j) Develop / customize, deploy and maintain the requisite Software Solution as per the requirements of IWAI at appropriate locations.
- k) Provide necessary support for the resolution of bugs, patches & upgrades of the software solution.
- l) Provide necessary manpower for managing the Change Requests.

- m) Design various manuals like User manual, Trouble Shooting manual etc. for the system.
- n) Provide computer basic skills training and advanced training on application modules to the staff members and stakeholders of IWAI.
- o) Maintain the business continuity.
- p) Deploy requisite manpower and infrastructure for the digitization of the existing data.
- q) Deploy the required manpower to manage the operations.
- r) Ensuring the SLAs for downtime of system, software development / customization, procurement and delivery of hardware & networking equipment's, errors in data entry are met.
- s) Management and quality control of all services and infrastructure.
- t) Regular Backup as per the schedule and Disaster Recovery.
- u) Generation of MIS reports as per the requirements of IWAI.
- v) Generation of the report for the monitoring of SLAs.
- w) Meet the defined Technical Specifications for the IT Infrastructure including Hardware and networking equipment's keeping in mind the application and future requirements of the Corporation.
- x) Obtaining relevant Certifications and adherence to respective Industry Standards as detailed in the RFP.
- y) Any other services which is required for the successful execution of the project.

Roles and Responsibilities of IWAI

- a) Provide adequate space at IWAI for setting up of infrastructure, software development and other activities to be carried out by the Bidder.
- b) Coordination between all the divisions for providing necessary information for the study

and development / customization of the necessary solution.

- c) Coordinate with Bidder for conducting workshops for the Stakeholder departments.
- d) Provide the data available in the form of physical files or existing databases to the selected bidder for digitization purposes.
- e) Deployment of staff members of IWAI for verification of the digitized data within the defined timelines.
- f) Ensure that Data Backups are being taken regularly by bidder as per the schedule agreed upon.
- g) Ensure that the hardware and other infrastructure deployed at HQ, DC etc. meets the specifications as mentioned in RFP and is maintained properly to meet the SLAs as defined in RFP.
- h) Monitoring of overall timelines, SLAs and calculation of penalties accordingly.
- i) Conducting UAT for the application solution deployed.
- j) Issuing the Acceptance Certificate on successful deployment of the software application, hardware deployed, digitized data and for other components of the Scope of Work (wherever required).
- k) To create internal capacity now for execution of the project after takeover from the bidder.
- l) Ensuring the staff members and other stakeholders attend the training programs as per the schedule defined by the bidder and agreed upon by IWAI.
- m) Provide sign off on the deliverables of the project including SRS, design documents etc.
- n) Any other requirements that could arise during operations for effective governance and to meet any administrative requirement.

Annexure F

Integrity Pact

Between

Inland Waterways Authority of India (IWAI) hereinafter referred to as "The Principal",

And

(Bidder's Name) hereinafter referred to as "The Bidder/Contractor"

Preamble

The principal intends to award, under laid down organizational procedures, contract/s for Selection of System Integrator for Design, Development, Implementation, Formation of Standard Operating Procedures, Capacity Building and Operation & Maintenance of Central Database System. The principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness / transparency in its relations with its Bidder(s) and / or Contractor(s). In order to achieve these goals, the principal will appoint Independent External Monitors (IEMs) who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 - Commitments of the Principal

1. The principal commits itself to take all measures necessary to prevent corruption and to observe the following principles: -
 - a. No employee of the principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand; take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - b. The principal will, during the tender process treat all Bidder(s) with equity and reason. The principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - c. The principal will exclude from the process all known prejudiced persons.
2. If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act, or if there be a substantive suspicion in this regard, the principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

Section 2 - Commitments of the Bidder(s)/ Contractor(s)

1. The Bidder(s) / Contractor(s) commits themselves to take all measures necessary to prevent corruption. The Bidder(s)/ Contractor(s) commits themselves to observe the following principles during participation in the tender process and during the contract execution.

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- a) The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/ she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
 - b) The Bidder(s)/ Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
 - c) The Bidder(s)/ Contractor(s) will not commit any offence under the relevant IPC/PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - d) The Bidder(s)/Contractors(s) of foreign origin shall disclose the name and address of the Agents / representatives in India, if any, Similarly the Bidder(s)/Contractors(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder(s)/Contractor(s). Further, as mentioned in the Guidelines all the payments made to the Indian agent/representative have to be in Indian Rupees only.
 - e) The Bidder(s)/ Contractor(s) will, when presenting their bid, disclose any and all payments made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
 - f) Bidder(s) /Contractor(s) who have signed the Integrity Pact shall not approach the Courts while representing the matter to IEMs and shall wait for their decision in the matter.
2. The Bidder(s) / Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2, above or in any other form such as to put their reliability or credibility in question, the principal is entitled to disqualify the Bidder(s)/Contractor(s) from the tender process or take action as

per the procedure mentioned in the "Guidelines on Banning of business dealings".

Section 4 - Compensation for Damages

1. If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Part III, the principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
2. If the Principal has terminated the contract according to Part III, or if the principal is entitled to terminate the contract according to Part III, the principal shall be entitled to demand and recover from the Contractor liquidated damages of the Contract value or the amount equivalent to Performance Bank Guarantee.

Section 5 - Previous transgression

1. The Bidder declares that no previous transgressions occurred in the last three years with any other Company in any country conforming to the anti-corruption approach or with any Public Sector Enterprise in India that could justify his exclusion from the tender process.
2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as per the procedure mentioned in "Guidelines on Banning of business dealings".

Section 6 - Equal treatment of all Bidders I Contractors I Subcontractors

1. In case of Sub-contracting, the Principal Contractor shall take the responsibility of the adoption of Integrity Pact by the Sub-contractor.
2. The principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
3. The principal will disqualify from the tender process all Bidders who do not sign this Pact or violate its provisions.

Section 7 - Criminal charges against Violating Bidder(s) / Contractor(s) /Subcontractor(s)

1. If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Section 8 - Independent External Monitor

1. The principal appoints competent and credible Independent External Monitor for this Pact after approval by Central Vigilance Commission. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
2. The Monitor is not subject to instructions by the representatives of the parties and performs his/her functions neutrally and independently. The Monitor would have access to all Contract

documents, whenever required. It will be obligatory for him / her to treat the information and documents of the Bidders/Contractors as confidential. He/ she reports to the Chairman, IWAI.

3. The Bidder(s)/Contractor(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his/her request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation. The same is applicable to Sub-contractors.

4. The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s)/ Sub-contractor(s) with confidentiality. The Monitor has also signed declarations on 'Non-Disclosure of Confidential Information' and of 'Absence of Conflict of Interest'. In case of any conflict of interest arising at a later date, the IEM shall inform Chairman, IWAI and recuse himself / herself from that case.

5. The principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

6. As soon as the Monitor notices, or believes to notice, a violation of this agreement, he/ she will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

7. The Monitor will submit a written report to the Chairman, IWAI within 8 to 10 weeks from the date of reference or intimation to him by the principal and, should the occasion arise, submit proposals for correcting problematic situations.

8. If the Monitor has reported to the Chairman IWAI, a substantiated suspicion of an offence under relevant IPC/ PC Act, and the Chairman IWAI has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.

9. The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

1. This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded. Any violation of the same would entail disqualification of the Bidders and exclusion from future business dealings.

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2. If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by Chairman of IWAI.

Section 10 - Other provisions

1. This agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal, i.e. New Delhi.

2. Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

3. If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

4. Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

5. Issues like Warranty / Guarantee etc. shall be outside the purview of IEMs.

6. In the event of any contradiction between the Integrity Pact and its Annexure, the Clause in the Integrity Pact will prevail.

Annexure G
NON-DISCLOSURE AGREEMENT

THIS AGREEMENT is made on this the <***> day of <***> 20--- at <***>, India.

BETWEEN

..... having its office at
..... India hereinafter referred to as '**IWAI**' or '-----', which
expression shall, unless the context otherwise requires, include its permitted successors and
assigns);

AND

<***>, a Company incorporated under the Companies Act, 1956, having its registered office at <***>
(hereinafter referred to as '**the Bidder/MSP**' which expression shall, unless the context otherwise
requires, include its permitted successors and assigns).

Each of the parties mentioned above are collectively referred to as the 'Parties' and individually as
a 'Party'.

WHEREAS:

1. IWAI is desirous to implement the project of----- --.
2. IWAI and Bidder have entered into a Master Services Agreement dated <***> (the "MSA")
as well as a Service Level Agreement dated <***> (the "SLA") in furtherance of the Project.
3. Whereas in pursuing the Project (the "**Business Purpose**"), a Party ("Disclosing Party")
recognizes that they will disclose certain Confidential Information (as defined hereinafter) to the
other Party ("Receiving Party").
4. Whereas such Confidential Information (as defined hereinafter) belongs to Receiving Party
as the case may be and is being transferred to the Disclosing Party to be used only for the Business
Purpose and hence there is a need to protect such information from unauthorized use and
disclosure.

NOW THEREFORE, in consideration of the mutual covenants, promises, assurances,

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representations and provisions set forth herein, the Parties hereto agree as follows:

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**IN WITNESS WHEREOF THE PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT
AS OF THE DATE FIRST ABOVE WRITTEN.**

SIGNED, SEALED AND DELIVERED

SIGNED, SEALED AND DELIVERED

For and on behalf of the Implementation

For and on behalf of the Nodal

Agency by: IWAI

Agency by:

(Signature)

(Signature)

(Name): Shri.

(Name)

(Designation):

(Designation)

(Address)

(Address)

(Fax No.)

(Fax No.)

In the presence of:

- 1.
- 2.

Annexure H
SERVICE LEVEL AGREEMENT

THIS AGREEMENT is made on this the <***> day of <***> 20 ---- at <***>, India.

BETWEEN

..... having its office at
..... India hereinafter referred to as '*IWAI*' or '*Buyer*', which expression shall, unless the context otherwise requires, include its permitted successors and assigns);

AND

<***>, a Company incorporated under the *Companies Act, 1956*, having its registered office at <***> (hereinafter referred to as '*the Bidder/MSP*' which expression shall, unless the context otherwise requires, include its permitted successors and assigns).

Each of the parties mentioned above are collectively referred to as the '*Parties*' and individually as a '*Party*'.

WHEREAS:

IWAI is desirous for Implementation and Operations Management of Project Insight.

2. IWAI and Bidder have entered into a Master Services Agreement dated <***> (the "*MSA*").

NOW THEREFORE, in consideration of the mutual covenants, promises, assurances, representations and provisions set forth herein, the Parties hereto agree as follows:

The following parties are obligated to follow the procedures as specified by this Agreement:

- (a) IWAI
- (b) Bidder

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**IN WITNESS WHEREOF THE PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT
AS OF THE DATE FIRST ABOVE WRITTEN**

SIGNED, SEALED AND DELIVERED For and on behalf of the Bidder by:	SIGNED, SEALED AND DELIVERED For and on behalf of IWAI by:
(Signature) (Name)XXX (Designation) XXXX (Address) XXXX (Fax No.)	(Signature) (Name) (Designation) (Address) (Fax No.)

In the presence of:

1. ___

2. _____

Appendix 1 : SERVICE LEVELS

Service Levels for Operational and Maintenance

Phase Service Level Agreement

1.1 Objectives

The objective of SLA is to clearly define the expected level of the services being offered by the Bidder (Successful Bidder) to the Purchaser (IWAI) for the period of the contract or until the SLA has been amended. SLA defines the responsibility of the successful bidder in ensuring adequate delivery of the deliverables and the services coupled with correctness of the same based on the performance indicators detailed out in this document.

Bidder shall provide services as defined in Section I which details out the scope of work in accordance with the conditions mentioned in Section to ensure adherence to project timelines and error free availability of the services.

1.2 Scope of SLA

This Agreement has been executed in relation to the outsourcing portion of the Project between the Parties. The detailed Service Levels have been set out below in this Agreement.

This Agreement shall ensure the following:

- Establishment of mutual responsibilities and accountability of the Parties;
- Definition each Party's expectations in terms of services provided;
- Establishment of the relevant performance measurement criteria;
- Definition of the availability expectations;
- Definition of the escalation process;
- Establishment of trouble reporting single point of contact; and
- Establishment of the framework for SLA change management

The following parties are obligated to follow the procedures as specified by this Agreement:

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- IWAI (Buyer/ Purchaser)
- Service Provider

1.3 SLA categories

The SLA has been classified into two broad categories as given under.

- Category I: These are system delivery level targets which shall be adhered to during the implementation of the system, these services may be considered as pre-requisites to the service level targets mentioned in the post implementation phase.
- Category II: These are business critical level targets which shall be adhered to post implementation/commissioning of the system. Default on any of the service levels mentioned under this will incur penalties as defined in this section.

The penalty will not exceed 5% of the total amount being paid to the bidder during the payment period. The Service level agreement would be valid for the complete period of contract. This SLA may be reviewed and revised according the procedure detailed in SLA Change Control Mechanism.

1.4 Agreement Owners:

The following personnel shall be notified to discuss the Agreement and take into consideration any proposed SLA change requests:

	Title	Telephone	e-Mail
IWAI or its Nominated Agencies/ Partners/ Purchaser/ Buyer	Authorized Representative	<***>	<***>
SI	<***>	<***>	<***>

1.5 Contact List

In the event that there is any change in the listed contacts, the same shall be communicated and updated prior to such change occurring. The Single Point of Contact ("POC") for the MSP shall be

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<***> and will be available 24X7.

	Title	Telephone	e-Mail
IWAI or its Nominated Agencies/ Partners/ Purchaser/ Buyer	Authorized Representative	<***>	<***>
SI	<***>	<***>	<***>

1.6 Terms of Payments and Penalties

In consideration of the Services and subject to the provisions of the bidder and this Agreement, the IWAI shall pay the amounts in accordance with the Terms of Payment Schedule of the MSA.

For the avoidance of doubt, it is expressly clarified that IWAI and/or its nominated agencies may also calculate a financial sum and debit the same against the terms of payment as defined in the Terms of Payment Schedule of the bidder as a result of the failure of the bidder to meet the Service Levels set out in this Agreement.

1. Document History

All revisions made to this Agreement shall be listed in chronological order as per the format set out below and a copy of the same shall be provided to the Parties:

Version	Date	Description of Changes
<***>	<***>	<***>

1.7 SLA measurement and monitoring

1.7.1 SLA applicable during Implementation Phase

#	Services	Parameter	Validation	Penalty
1	Adherence to project timelines	Adherence to timelines as defined in the project timelines	Number of days of delay for each milestone as defined in the project timelines Part I. Measurement Tool: Project Management Office (PMO) Periodic Project Progress Reports	0.5% per week of delay of the quarterly payout or part thereof subject to a limit of 10% of the Total contract Value. If the delay exceeds more than 12 weeks, IWAI may decide to invoke breach clause

1.7.2 SLA application Post-implementation Phase

#	Services	Parameters	Validation	Level	Penalty
1	Help Desk	Resolution of tickets logged as per timelines defined in the "Severity definition chart" given below	Reports generated from the Ticket logging system. Percentage of number of tickets resolved within maximum resolution time as per the definition chart against total number of	>=99%	No Penalty
				95% - 99%	2% penalty on quarterly billing of the bidder. If SLA breach continues for consecutive 3 quarters, IWAI may decide to invoke breach clause.

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			tickets logged in the system for the measurement period Measurement Tool: Reports from SLA monitoring tool and ticket issuance tool	Below 95%	3% penalty on the quarterly billing of the bidder. If SLA breach continues for consecutive 3 quarters, IWAI may decide to invoke breach clause.
2	Availability of the central integrated system	24/7 availability of the central integrated system	Monthly report on application availability Non Availability of even one of the service would amount to deviation of this purpose Measurement Tool: Reports from SLA monitoring tool	>=99.5%	No Penalty.
				98.5% - 99.5%	2% penalty on the monthly bill of the bidder. If SLA breach continues for consecutive 3 quarters, IWAI may decide to invoke breach clause.
				Below 98.5%	3% penalty on the quarterly billing of the bidder. If SLA breach continues for consecutive 3 quarters, IWAI may decide to invoke breach clause.
3	Resource availability for	Number of shift	Attendance Registers	>99%	No Penalty

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	BidderServices	daysfor which resource is present at the designated location/Total number of shift days	throughsystem Measurement Tool: Average out of all of the resources deployed by thebidder	95% - 99%	1 % penalty on the quarterly billing of the bidder. If SLA breach continues for consecutive 3 quarters, IWAI may decide to invokebreach clause.
				Less than 95%	2 % penalty on the quarterly billingof the bidder. If SLA breach continues for consecutive 3 quarters, IWAI may decide to invoke breach clause.
4	Cloud Service Provisioning	Provisioning and Deprovisioning Of Virtual Machines	Per occurrence. This will be calculated monthly Measurement Tool: Reports from SLA monitoringtool	Within 15 minutes	0.5% of the Quarterly Payments for every 1 hours of delay beyondthe target time. To the maximum capping of 5 hrs. Beyond 5 hours,1% of the Quarterly Payments forevery 1 hour.

** Thresholds will be defined at the time of implementation

1.7.3 Central Database System Web Portal and Mobile Application System Availability SLA

Central Database System Web Portal System Availability SLAs					
S.no	Category/Component	Metric Type	Definition	Target	Severity Level
1.	Central Database System Web Portal including all functionalities and services.	Availability	<p>Metric: % of Uptime for any of the parameters (Central Database System Web Portal, all functionalities and/or services) Formula: Uptime % = {1- [(Total Downtime) / (Total Time - Planned Downtime)]} *100</p> <p>Total Downtime - Total cumulative time of any of the parameters defined above.</p> <p>Planned Downtime -Total maintenance time as defined and agreed upon by Bidder and IWAI and not attributable to Bidder.</p> <p>Total Time - 24 X 7 measured over a period of month.</p> <p>Period of Measurement: Monthly</p> <p>For each additional drop of 1% in performance below 97.5%, additional 0.5% of the Quarterly Payment shall be levied as additional Liquidated</p>	>=99.5%	0
				<99.5% and >= 99.0%	4
				<99.0% and >= 98.5%	5
				<98.5% and >= 98.0%	6
				<98.0% and >= 97.5%	7
				<97.5%	8

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			Damages.		
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1.7.4 Central Database System Web Portal and Mobile Application Performance SLA

Central Database System Web Portal Performance SLAs					
S.no	Category	Metric Type	Definition	Target	Severity Level
1.	Availability of Applications (Home Page Portal)	In Seconds	<p>Time for opening of Home Page of portal Average must be achieved with maximum homepage opening time till success for 90% or more of the sample cases being within the stipulated time</p> <p>Web-to-web response time. Time for Home page opening, time for online submission of electronic documents, time for uploading and etc from <= operator to >= operator</p> <p>For every additional delay of 5 seconds in performance after initial time of opening of 5 seconds, additional 0.1% of the Quarterly Payment shall be levied as additional Liquidated Damages. This will be measured centrally on application side for all the complaints irrespective of number of users</p>	<= 3 seconds	0
				>3 seconds and <=5 seconds	4
				>5 seconds	5
2.	Availability of Applications (Online Submission)	In Seconds	<p>Time for on-line submission of the electronic forms Average must be achieved with maximum time till success for 90% or more of the total submissions within the stipulated time Web-to-web response time</p> <p>For every additional delay of 5 seconds in performance beyond 7 seconds, additional</p>	<=5 seconds	0
				>5 seconds and <=7 seconds	4
				>7 seconds	5

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Central Database System Web Portal Performance SLAs					
S.no	Category	Metric Type	Definition	Target	Severity Level
			0.1% of the Quarterly Payment shall be levied as additional Liquidated Damages. This will be measured centrally on application side for all the complaints irrespective of number of users		
3.	API service availability	Availability	Availability of API services for mobile, portal and other third-party applications	>=99.5%	0
				<99.5% and >=99%	4
				<99%	5
4.	Response time for API service Requests	In Seconds	Time for providing response to the request received	<=5 seconds	0
				> 5 seconds and < =7seconds	4
				>7 Seconds	5

1.7.5 Cloud Services

Cloud Service SLAs					
S.no	Category/Component	Metric Type	Definition	Target	Severity Level
1.	RTO (Recovery Time Objective)	Time in Hours	Based on the successful operations from DR and restoring the services back with no data loss. This is applicable for production environment. For delay of each additional 2 Hours or part thereof after 6 Hours, additional 0.5% of the Quarterly Payment shall be levied as additional Liquidated Damages.	< 30 mins	0
				30-60 mins	5
				60-90 mins	6
				>90 mins	7

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Cloud Service SLAs					
S.no	Category/Component	Metric Type	Definition	Target	Severity Level
2.	RPO (Recovery Point Objective)	Time in minutes	Based on the successful operations from DR and restoring the services back with no data loss. This is applicable for production environment. For delay of each additional 30 minutes or part thereof after 60 minutes, additional 0.5% of the Quarterly Payment shall be levied as additional Liquidated Damages.	< 15 mins	0
				15-30 mins	5
				30-60 mins	6
				>60 mins	7
				For every component in the Central Database System application (in any environment) which is not on the OEM supported version, 10% of Quarterly Payment will be levied as penalty per component per default quarter. Shall be evoked even if a component has been in an unsupported version for one day in a Quarter. Identification of such incidents can also be evaluated for breach of contract.	

1.7.6 SLAs on Audits

S.no	Category/Component	Definition	Target	Severity Level
1.	Outcome of Half Yearly IT Security Audit	The third-party auditor shall rate the performance of the bidder on IT Security implementation. The three ratings for the performance shall be: Satisfactory, Requires	Satisfactory	0
			Requires Improvement rating	5

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S.no	Category/Component	Definition	Target	Severity Level
		Improvement, and Unsatisfactory	Unsatisfactory rating	6
2.	Implementation of recommendations of previous IT Security audits	Implementation of recommendations given by the IT Security auditor and which have been agreed upon to be implemented by the bidder & IWAI	100% on time	0
		100% on time, for the recommendations agreed upon with IWAI, to be implemented in the said quarter	< 100%	5

1.7.7 Helpdesk SLAs

Helpdesk SLAs				
S.no	SLA Parameter	Definition	Service Level	Severity Level
1.	Availability of Toll-Free Line at Help Desk Location	Uptime = {1 - [(Toll Free Line downtime) / (Total Time)]} Total Time shall be measured as defined in RFP	100% of the toll-free lines should meet the Target	Nil
		Downtime shall be measured from the time the Toll-Free Line at a help desk becomes unavailable to the respective users to the time it becomes available	>= 99.0% to < 100% of the toll-free lines meeting the target.	3
		Target: Minimum 99.5 % up time measured on a Monthly basis per toll-free line	>= 97.0% to < 99 % of the toll-free lines meeting the target	4
		For each additional drop of 1% in performance below 95%, liquidated damages of 1% will be levied as additional liquidated damages.	>= 95.0% to < 97 % of the toll-free lines meeting the target	5
2.	Percentage of	Average Time taken to acknowledge and respond once a	<=2% incidents	Nil

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Helpdesk SLAs				
S.no	SLA Parameter	Definition	Service Level	Severity Level
	reopened incidents	ticket/incident is logged through one of the agreed channels should be 15 minutes. For all incidents which are designated resolved by the Bidder but are re-opened by the client. This is calculated for all incidents reported within the quarter. Target: <= 2%	>2% and <=4% incidents	5
			>4% and <=6% incidents	6
			>6% and <=8% incidents	7

1.7.8 Security SLAs

Security SLA				
S.no	SLA Parameter	Definition & Target	Service Level	Severity Level
1.	Security reporting	MIS report to be submitted on quarterly basis within predefined timelines 100% reporting of the security KPI's (defined during project start) Target: 100% on time reporting	On time	Nil
			> 1 day & <= 5 days delay	4
			> 5 days & <= 10 days delay	5
			> 10 days & <= 15 days	6
			>15 days delay	7
2.	Patch Updates	Availability of latest patches on the system components.	>=98%	Nil

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Security SLA				
S.no	SLA Parameter	Definition & Target	Service Level	Severity Level
		Target: All patches released, to be installed on at least 98% of all applicable components within 48 hours	>= 97% & < 98%	4
			>= 96% & < 97%	5
			>= 95% & < 96%	6
			<95%	7
3.	Vulnerability assessment and closure	Vulnerability Assessment for all systems / sub systems / network devices shall be performed once in every month and all detected vulnerabilities closed within the cycle. Target: No delay	<=10 days	Nil
			>10 and <=20 days	4
			>20 and <=30 days	5
			>30 and <=35 days	6
			>35 days	7
4.	Penetration Testing	Penetration Testing (external) will be conducted once in a year. All detected vulnerabilities to be closed within the year. Penetration Testing (internal) will be conducted once in every quarter. All detected vulnerabilities to be closed within defined timeframe.	<=10 days	Nil
			>10 and <=30 days	4
			>30 and <=40 days	5
			>40 and <=45 days	6
			>45 days	7

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Security SLA				
S.no	SLA Parameter	Definition & Target	Service Level	Severity Level
5.	Reporting of Security Incidents	Reporting of security incidents/threats. Target: Detecting and reporting within 15 minutes	<15 minutes	Nil
			>15 minutes & <=30 Minutes	4
			>30 Minutes & <=1 Hour	5
			For each additional hour after 1 hours, liquidated damages of 0.05% will be levied as additional liquidated damages	

1.7.9 Manpower Availability

S.no	Category/Component	Metric Type	Definition	Target	Severity Level
1.	Availability of all Manpower resources at designated location as per requirement defined in the RFP	Monthly	[(Actual number of man-days deployed for a month) / (Agreed Total number of man-days in a month)] *100	>=95%	Nil
				>=90% to <95%	4
				<90%	5
2.	Attendance of all employees	Monthly	Number of days present in a month, usually 22-23 days based upon holidays and leave policies	>=95%	Nil
				>=90% to <95%	4
				<90%	5

1.8 Severity definition chart

Severity definition chart is tabulated below for reference

Support Category	Criteria	Resolution	Maximum Response Time
Critical	The system is unable to be used for normal business activities. There is certainty of financial loss to IWAI.	90 Minutes	15 Minutes
Urgent	There is a problem with part of the system, which impacts on IWAI's decision making. No viable workaround is available. There is a likelihood of financial loss.	4 Hours	1 Hour
High	The efficiency of users is being impacted, but has a viable workaround.	6 hours	2 Hours
Medium	A low impact problem that affects the efficiency of users but has a simple workaround.	12 Hours	8 Hours
Low	A fault, which has no particular impact on processing of normal business activities.	One Week	8 Hours

1.9 Uptime calculation for the month

- 1.9.1 The IWAI would provide a maximum of 04 hours of planned downtime for the preventive maintenance (as part of scheduled downtime) per month per equipment/service.
- 1.9.2 The downtime for scheduled maintenance (patch application, upgrades – OS, Database, etc.) would need to be mutually agreed between IWAI and the Bidder. To reduce this time, various maintenance activities can be clubbed together with proper planning.
- 1.9.3 "Total Hours" means the total hours over the measurement period i.e. one month (24 hours * number of days in the month).

1.10 Cumulative Downtime

- 1.10.1 The recording of downtime shall commence at the time of registering the call with bidder for any downtime situation for the equipment.
- 1.10.2 Downtime shall end when the problem is rectified and the application/ service is available to the user.
- 1.10.3 Down time will not be considered for following:
- 1.10.3.1 *Pre-scheduled preventive maintenance and health checks (Scheduled Downtime).*
 - 1.10.3.2 *Failover time (30 minutes) in case of cluster environment. Beyond which the service would be considered to be not available and appropriate penalty shall be imposed on the SI.*
- 1.10.4 If the IWAI elects to continue the operation of the machine / equipment, when a part of the machine is giving problem and leading to downtime, the commencement of downtime shall be deferred until the IWAI releases the machine / equipment to the Bidder for remedial action.

1.11 Non Adherence to SLA

- 1.11.1 In case the bidder is unable to adhere to the target levels mentioned in the SLA and the percentage of penalty due to defaults exceeds 5 percent for four consecutive months, then the penalty would be doubled in the fourth month and subsequently till the same is rectified for two consecutive months.
- 1.11.2 In case the bidder defaults in the same category for four consecutive months, then the penalty would be doubled in the fourth month and subsequently for that category till the same is rectified for two consecutive months.
- 1.11.3 The cap of 10% as mentioned above will not be applicable in both cases 1.7.1 and 1.7.2.
- 1.11.4 These breach clauses 1.7.1 and 1.7.2 will be relaxed for the two quarters after go-live.

1.12 Breach of SLA

- 1.12.1 If the penalty continues for 6 consecutive months for the same category or over 10% across all categories, IWAI may invoke breach and terminate the contract. The decision of IWAI in this regard shall be final and binding on the bidder, the IWAI will treat it as a case of breach of Service Level Agreement. The following steps will be taken in such a case:-
- 1.12.1.1 *IWAI issues a show cause notice to the SI.*
 - 1.12.1.2 *bidder should reply to the notice within three working days.*
 - 1.12.1.3 *If the IWAI authorities are not satisfied with the reply, the IWAI will initiate termination process as described in clause 14 of MSA.*

1.13 Exclusions

The bidder shall be exempted from any delays on SLA parameters arising from the delay in approvals, reviews, suggestions etc from the IWAI's side. Any such delays shall be notified in written by the IWAI

1.14 Monitoring and Auditing

IWAI will review the performance of bidder against the SLA parameters each month, or at any periodicity defined in the contract document. The review / audit report will form basis of any action relating to imposing penalty or breach of contract. Any such review / audit can be scheduled or unscheduled. The results will be shared with the bidder as soon as possible. IWAI reserves the right to appoint a third-party auditor to validate the SLA

1.14.1 Reporting Mechanism

The bidder's representative will prepare and submit SLA performance reports in an agreed upon format by the 5th working day of subsequent month of the reporting period. The reports will include "actual versus target" SLA performance, a variance analysis and discussion of appropriate issues or significant events.

1.14.2 Issue Management Procedures

1.14.2.1 General

This process provides an appropriate management structure for the orderly consideration and resolution of business and operational issues in the event that quick consensus is not reached between IWAI and bidder. It is expected that this pre-defined process will only be used on an exception basis if issues are not resolved at lower management levels.

1.14.2.2 Issue Management Process

- i. Either IWAI or Bidder may raise an issue by documenting the business or technical problem, which presents a reasonably objective summary of both points of view and identifies specific points of disagreement with possible solutions.
- ii. IWAI and the SI's representative will determine which committee or executive level should logically be involved in resolution.
- iii. A meeting or conference call will be conducted to resolve the issue in a timely manner. The documented issues will be distributed to the participants at least 24 hours prior to the discussion if the issue is not an emergency requiring immediate attention.
- iv. The IWAI and the Bidder shall develop an interim solution, if required, and subsequently the permanent solution for the problem at hand. The Bidder will then communicate the resolution to all interested parties.
- v. In the event a significant business issue is still unresolved, the arbitration procedures described in the Contract will be used.

1.15 SLA Change Control

1.15.1 General

It is acknowledged that this SLA may change as IWAI's business needs evolve over the course of the contract period. As such, this document also defines the following management procedures:

- A process for negotiating changes to the SLA.
- An issue management process for documenting and resolving particularly difficult issues.
- IWAI and Bidder management escalation process to be used in the event that an issue is not being resolved in a timely manner.
- Any changes to the levels of service provided during the term of this agreement will be requested, documented and negotiated in good faith by both parties. Either party can request a change. Changes will be documented as an addendum to this document and consequently the contract.

1.15.2 SLA Change Process

Both the parties may amend this SLA by mutual agreement in accordance. Changes can be proposed by either party. Normally the forum for negotiating SLA changes will be IWAI's monthly review meetings.

1.15.3 Version Control

All negotiated SLA changes will require changing the version control number. As appropriate, minor changes may be accumulated for periodic release (e.g. every quarter) or for release when a critical threshold of change has occurred.

1.16 Management Escalation Procedures

The purpose of this escalation process is to provide a quick and orderly method of notifying both parties that an issue is not being successfully resolved at the lowest possible management level. Implementing this procedure ensures that IWAI and Bidder management are communicating at the appropriate levels. Escalation should take place on an exception basis and only if successful issue resolution cannot be achieved in a reasonable time frame.

- 1.16.1 All issues would be raised to the project management team, which is completely responsible for the day-to-day aspects of the implementation. The project management team shall classify the issues based on their severity level and resolve them within appropriate timelines.
- 1.16.2 If project management team is unable to resolve an issue, the issue would be escalated to the top management with options/ risks detailed for decision. Top management will make decisions based on the options/ risks presented.

1.16.3 In case one or both the parties are unsatisfied with the decision of the top management of the IWAI, the dispute will be resolved as specified in this RFP

1.17 Performance Review

The POC's of both the Buyer and the Implementation Agency shall meet on a quarterly basis to discuss priorities, service levels and system performance. Additional meetings may be held at the request of either the Bidder or IWAI. The agenda for these meetings shall be as follows:

- a) Service performance;
- b) Review of specific problems/exceptions and priorities; and
- c) Review of the operation of this Agreement and determine corrective action to overcome deficiencies.

1.18 Indemnities

The Parties agree to indemnify each other under this Agreement in accordance with the terms and principles set out in the MSA.

1.19 Miscellaneous

a) Assignment and Charges

This Agreement shall be binding on and ensure for the benefit of each Party's successors in title. No Party shall assign, or declare any trust in favour of a third party over, all or any part of the benefit of, or its rights or benefits under, this Agreement.

b) Governing Law and jurisdiction

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India, and the courts at the NCR shall have jurisdiction over matters arising out of or relating to this Agreement.

c) Waiver of sovereign immunity

The Parties unconditionally and irrevocably:

- i. agree that the execution, delivery and performance by them of the Agreement constitute commercial acts done and performed for commercial purpose;
- ii. agree that, should any proceedings be brought against a Party or its assets, property or revenues in any jurisdiction in relation to the Agreement or any transaction contemplated by the Agreement, no immunity (whether by reason of sovereignty or otherwise) from such proceedings shall be claimed by or on behalf of such Party with respect to its assets;

- iii. waive any right of immunity which it or its assets, property or revenues now has, may acquire in the future or which may be attributed to it in any jurisdiction; and
- iv. consent generally to the enforcement of any judgment or award against it in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such proceedings (including the making, enforcement or execution against it or in respect of any assets, property or revenues whatsoever irrespective of their use or intended use of any order or judgment that may be made or given in connection therewith).

d) Variation

This Agreement may only be varied in writing and signed by both Parties

e) Waiver

Waiver including partial or conditional waiver, by either Party of any default by the other Party in the observance and performance of any provision of or obligations under this Agreement:-

- i. Shall be in writing
- ii. Shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Agreement;
- iii. Shall not be effective unless it is in writing and executed by a duly authorized representative of the Party; and
- iv. Shall not affect the validity or enforceability of this Agreement in any manner.

f) Exclusion of implied warranties

This Agreement expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other agreement between the Parties or any representation by either Party not contained in a binding legal agreement executed by both Parties.

g) Survival

a) Termination or expiration of the Term shall:

- not relieve the bidder or the Buyer, as the case may be, of any obligations hereunder which expressly or by implication survive hereof; and
- except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of, or caused by, acts or omissions of such Party prior to the effectiveness of such termination or expiration or arising out of such

termination or expiration.

- b) All obligations surviving termination or expiration of the Term shall cease on termination or expiration of the Term.

h) Entire Agreement

This Agreement and the Annexure together constitute a complete and exclusive statement of the terms of the agreement between the Parties on the subject hereof, and no amendment or modification hereto shall be valid and effective unless such modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings, offers or other communications of every kind pertaining to this Agreement are abrogated and withdrawn.

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