



REQUEST FOR PROPOSAL (RFP)
FOR
SELECTION OF SYSTEM INTEGRATOR FOR
EGOVERNANCE SOLUTION AND IT
TRANSFORMATION OF DIRECTORATE
GENERAL OF SHIPPING, GOVT OF INDIA
VOLUME 1 OF 3

Tender Number: DGS/E-Gov./NP(1)/2015-Vol-I
Last Date for Submission of Tender: 30/11/2017

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4. This RFP includes certain statements, estimates, projections, targets and forecasts with respect to the Project Insight. Such statements estimates, projections, targets and forecasts reflect various assumptions made by the management, officers and employees of DGS, 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 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
APAR	Annual Performance Appraisal Report
API	Application Program Interface
ASC	Annual Service Contract
ASI	Application Software and Interfaces
ATOM	Any Transport over MPLS
BE	Bachelor of Engineering
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
DPC	Department promotion committee
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
FSI	Flag State Inspection
FSICS	Flag State Inspection Computerised System
GMDSS	Global Maritime Distress and Safety System
GOI	Government of India
HR	Human Resource
HRMS	Human Resource Management System
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
ISM	International Safety Management

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Abbreviation	Full Form
ISO	ISO policies
IT	Information Technology
ITIL	Information technology Infrastructure Library
IVR	Interactive Voice Response
KPI	Key Performance Indicator
LLP Act	Limited Liability Partnership Act
LRIT	Long Range Identification Tracking
MACP	Modified Assured Career Progression
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
NWB	National welfare board
NWI	Networking infrastructure
ODBC	Open Database Connectivity
ODF	Open Document Format
OECD	Organisation for Economic Co-operation and Development

Abbreviation	Full Form
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
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
PO	Principal Officer
POP	Point of presence
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
RO (S)	Regional Office (Sails)
RPO	Recovery Point Objective
RPS	Recruitment and Placement Agencies for Seafarers
RR	Recruitment Rule
RSS	Rich Site Summary
RTF	Rich Text Format
RTI	Right to Information
RTO	Recovery Time Objective
SC	Subscriber Connector
SDLC	System Development Life cycle
SEO	Seamen Employment Office
SI	System Integrator
SIC	Surveyor in Charge
SIT	System Integration Testing
SLA	Service Level Agreement
SM	Shipping Master

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Abbreviation	Full Form
SMC	Safety Management Certificate
SMLC	System Maintenance Life cycle
SMS	Safety Management System
SOA	Service Oriented Architecture
SOAP	Simple Object Access Protocol
SOLAS	Safety Of Life At Sea
SPFO	Seamen's Provident Fund Organization
SRS	Software Requirement Specifications
SSC	Staff selection Committee
SSDG	State e-Governance Service Delivery Gateway
STCW	Standard Of Training Certificate And Watch Keeping Code
STQC	Standardization Testing and Quality Certification
SVG	Scalable Vector Graphics
SWFS	Seamen's Welfare Fund Society
SWO	Seamen's Welfare office
TAT	Turnaround time
TCO	Total Cost of Ownership
TS	Technical Score
UAT	User Acceptance Testing
UDDI	Universal Description, Discovery, and Integration
UPSC	Union Public Service Commission
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

Abbreviation	Full Form
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
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 Overview

1.1 Request for Proposal Datasheet

Sr No.	Bid Information	Details
1.	RFP Issuing Authority	Directorate General of Shipping
2.	RFP reference No and Date	DGS/E-Gov./NP(1)/2015-Vol-I
3.	Non Refundable Tender Cost	INR 5,000 /- in form of Demand Draft issued by a Indian Nationalized / Scheduled Bank, in favour of Directorate General of Shipping .
4.	Earnest Money Deposit (EMD)	INR 50,00,000 /-
5.	Availability of documents	The tender is available and downloadable on e-Tendering Website: www.eprocure.gov.in All Subsequent changes to the Bidding document shall be published on the above mentioned website.
6.	Last date and time for submission of queries for clarifications	All the queries/clarification requests should be received on or before 08/11/2017 by 5:00 pm, through email only with subject line as follows: "Pre-Bid queries -<Bidder's Name>_DGS". The queries shall be submitted in an excel file as per the format prescribed the RFP
7.	Date, time and venue of pre-bid conference	10/11/2017 at 11:00 am Directorate General of Shipping, Government of India, 9th Floor, Beta Building, i-Think Techno campus, Kanjurmarg (East), Mumbai - 400042
8.	Last date, time (deadline) and venue for receipt of proposals in response to RFP notice	30/11/2017 at 5:00 pm Submission of proposal will happen through Central Public Procurement Portal : www.eprocure.gov.in

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9.	Last date and time (deadline) for receipt of Bid fees and EMD in response to RFP notice	30/11/2017 at 5:00 pm Submission of scanned copies will happen through Central Public Procurement Portal : www.eprocure.gov.in Address :Directorate General of Shipping, Government of India, 9th Floor, Beta Building, i-Think Techno campus, Kanjurmarg (East), Mumbai
10.	Date, time and venue of opening of Technical Proposals received in response to the RFP notice	05/12/2017 at 11:00 am Directorate General of Shipping, Government of India, 9th Floor, Beta Building, i-Think Techno campus, Kanjurmarg (East), Mumbai - 400042
11.	Place, time and date of Technical Presentations by the bidders	To be communicated later
12.	Place, time and date of opening of Financial Proposals received in response to the RFP notice	To be communicated later
13.	Contact person for queries	Mr. Deependra Singh Bisen < singh.deependra@gov.in >
14.	Method of Selection	The method of selection is Quality and Cost Base Selection (QCBS). The weights given to the Technical and Commercial Bids are: Technical = 70% and Commercial = 30%

1.2 Introduction

- 1.2.1 The Directorate General of Shipping, India deals with implementation of shipping policy and legislation so as to ensure the safety of life and ships at sea, prevention of marine pollution, promotion of maritime education and training in co-ordination with the International Maritime Organization, regulation of employment and welfare of seamen, development of coastal shipping, augmentation of shipping tonnage, examination and certification of Merchant Navy Officers, Supervision and Control of the allied offices under its administrative jurisdiction.
- 1.2.2 With reducing operating strength and with the advent of technology and modern practices, a need has been felt to realign its processes with industry leading practices through use of information technology

1.3 Structure of RFP

Directorate General of Shipping 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 (Volume II) of this RFP.

- 1.3.1 This Request for Proposal (RFP) document for Appointment of the System Integrator towards eGovernance solution and IT transformation of Directorate General of Shipping comprises of the following:

- 1.3.1.1 Volume I: Instructions on the Bid process for the purpose of responding to this RFP. This broadly covers:
- o General instructions for bidding process
 - o Bid evaluation process including the parameters for Technical evaluation and commercial evaluation to facilitate DGS in determining bidder’s suitability as the implementation partner
 - o Payment schedule
 - o Project Schedule
 - o Technical Bid Formats
 - o Commercial bid format
- 1.3.1.2 Volume II: Functional and Technical Requirements of the project. The contents of the document broadly cover the following areas:
- o About the project and its objectives
 - o Scope of work for the bidder
 - o Functional and Technical requirements
 - o Indicative Bill of Material (BOM)

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 DGS.

- 1.3.1.3 Volume 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 Bidder's risk and may result in rejection of the proposal.

2 Background Information

2.1 Basic Information

- I. DGS invites proposals ("Bids") to this Request for Proposal ("RFP") from System Integrator Agencies ("Bidders") for the "eGovernance of DGS" as described in Volume II of this RFP, "Scope of Work".
- II. The tenure of the contract of the successful bidder shall be for a term of six (6) years months ("the Term")
- III. DGS reserves the right to extend the contract by 2 years 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 is to undertake an IT transformation exercises and enable all the processes in the organization through the implementation of Comprehensive eGovernance solution. 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 related to Shipping and seafarer operations and maintenance, internal administration, and estate management

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 financial results, transparency and consistency in business operation and processes.

2.2.2 About the Organization

I. Vision and organizational objectives

- Vision
 - o To be recognized globally as a highly effective, efficient ,responsible and progressive maritime administration
- Mission
 - o Provide an effective supervisory and regulatory regime conducive to;

- 1.1 achieve, safe, efficient and secure shipping,
- 1.2 protect the marine environment,
- 1.3 all-round growth of maritime university and

- o Provide support to the Government of India in developing and implementing a holistic and integrated maritime development program that has a positive impact on national economy;
- o Develop and Implement policies that facilitate an environment which is conducive for promoting an investment in the expansion of a modern merchant fleet under the Indian flag and develop globally competitive ship building and repair facilities;
- o Develop and sustain a high quality human resource management catering to the needs of global including national maritime industry for competent seafarers;
- o Ensure good governance by adhering to the highest standards of integrity, quality and efficiency in delivery of shipping services through constant innovation, technology upgradation and value addition
- o Develop measures to ensure compliance of relevant international instruments relating to safety and security of ships, protection of environment and welfare of seafarers.

II. Vision for this Project:

Create a sustainable IT environment with Major IT transformation for DGS that integrates technology into the framework of the DGS Business, Services and an emphasis on complete automation and governance and footfall free office.

III. Key objectives of the organization include but are not limited to:

- Matters affecting Merchant Shipping & navigation and administration of the Merchant Shipping Law ;
- Measures to ensure safety of life and ships at sea;
- Development of Indian Shipping;
- International Conventions relating to Maritime matters;
- Provision of facilities for training of Officers and ratings for Merchant Navy
- Regulation of Employment of Seamen and there welfare;
- Development of Sailing Vessel Industry and
- Regulation of Ocean freight rates in overseas trades

The Directorate is headed by the Directorate General of Shipping ('DGS'), who is assisted by:

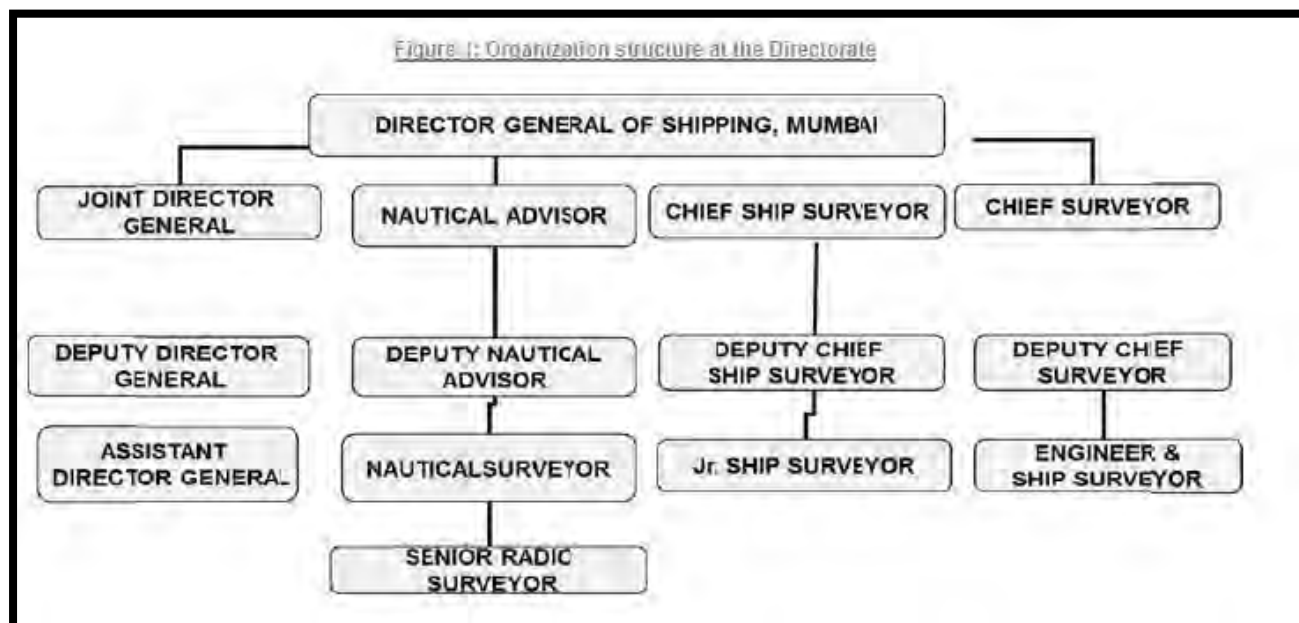
Administrative side:

- Joint Director General of Shipping,
- Dy. Director General of Shipping
- Assistant Director General of Shipping and Executive Officers

Technical side:

- The Nautical Advisor, supported by Dy. Nautical Advisors and Nautical Surveyors;
- The Chief Surveyor, on the Engineering side, supported by Dy. Chief Surveyors, Dy. Chief Ship Surveyor, Engineer & Ship Surveyors and Ship Surveyor and also with supporting staff.
- The Nautical Advisor and the Chief Surveyor are also the Chief Examiners of Masters/Mates and Engineers respectively on behalf of the Director General of Shipping

Organization structure of the DGS (Comprising Field offices Allied offices and autonomous bodies etc.)



The directorate operates through various departments and offices, spread across locations in India which are as follows:

DGS Headquarters	Mercantile Marine department (MMD)	Allied Offices	Autonomous bodies
Directorate General of Shipping Administrative wing Engineering wing Nautical wing Naval architecture	1. Mumbai 2. Chennai 3. Kolkata 4. Kochi 5. Kandla Sub ordinate offices 6. Vishakhapatnam 7. Tuticorin 8. Noida 9. Goa 10. Mangalore 11. Port Blair 12. Haldia 13. Paradeep 14. Jamnagar	1. Seamen Employment offices at Mumbai, Kolkata and Chennai 2. Shipping office 3. Regional office (SAILS), at Mumbai, Jamnagar and Tuticorin. 4. Seamens welfare office (SWO), Chennai	1. Seamen's Welfare Fund Society (SWFS) 2. Seamen's Provident Fund Organization (SPFO) 3. National Shipping Board

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. All information supplied by Bidders may be treated as contractually binding on the Bidders, on successful award of the assignment by the DGS on the basis of this RFP.
- II. 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 DGS. Any notification of preferred bidder status by the DGS shall not give rise to any enforceable rights by the Bidder.
- III. The DGS may cancel this public procurement at any time prior to a formal written contract being executed by or on behalf of the DGS.
- IV. This RFP supersedes and replaces any previous public documentation & communications, and Bidders should place no reliance on such communications.
- V. Interested eligible Bidders may obtain further information and inspect the tender documents at the office of the Directorate General of Shipping, Government of India, 9th Floor, Beta Building, i-Think Techno campus, Kanjurmarg (East), Mumbai - 400042

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

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

3.3 Pre-Bid Meeting & Clarifications

3.3.1 Pre-Bid Conference

- I. DGS shall hold a pre-bid meeting with the prospective bidders on 10/11/2017 at 10:30 am at Directorate General of Shipping, Government of India, 9th Floor, Beta Building, i-Think Techno campus, Kanjurmarg (East), Mumbai - 400042
- II. The Bidders will have to ensure that their queries for Pre-Bid meeting should reach to Directorate General of Shipping, Government of India, 9th Floor, Beta Building, i-Think Techno campus, Kanjurmarg (East), Mumbai - 400042 by email on or before 08/11/2017 by 5:00 pm.
- III. The queries should necessarily be submitted in the following format

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

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

S. No	RFP Document Reference (s) (Page Number and Section Number)	Content of RFP Requiring Clarification	Points of Clarification
1.			
2.			
3.			
4.			
5.			

- IV. DGS 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 DGS.
- V. 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.

3.3.2 Responses to Pre-Bid Queries and Issue of Corrigendum

- I. The Nodal Officer notified by the DGS will endeavour to provide timely response to all queries. However, DGS makes no representation or warranty as to the completeness or accuracy of any response; neither response nor does DGS 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 last date for receipt of bids, DGS 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.
- III. 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.
- IV. Any such corrigendum shall be deemed to be incorporated into this RFP.
- V. In order to provide prospective Bidders reasonable time for taking the corrigendum into account, DGS 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.

3.3.3 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 Commercial 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 DGS. Similarly any benefits arising due to downward revision in tax rates, or any exemptions availed by the Bidder organization should be passed on to DGS.
- IV. A proposal submitted with an adjustable price quotation or conditional proposal shall be treated as non-responsive and the bid may be rejected.

3.3.4 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 DGS. 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 DGS; 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 DGS and without any impact to DGS whatsoever.

3.3.5 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. DGS may terminate the RFP process at any time and without assigning any reason. DGS 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 DGS. The bidder's participation in this process may result DGS selecting the bidder to engage towards execution of the contract. Right to Vary Scope of Contract
 - i. DGS 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 DGS'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)

- V. Bidder shall submit EMD of Rs. 50,00,000/- (Rupees Only) in the form of Bank Guarantee ('BG') drawn in favour of "Directorate General of Shipping" from any Nationalized / Scheduled Bank having its branch at Mumbai and encashable at Mumbai. The BG validity period shall be same as the period of tender validity. BG shall be verified independently by the DGS 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.
- VI. The EMD is required to protect the DGS against the risk of Bidder's conduct, which would warrant the EMD forfeiture.
- VII. 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.
- VIII. The EMD amount is interest free and will be refundable to the unsuccessful bidders without any accrued interest on it.
- IX. The bid / proposal submitted without EMD, mentioned above, will be summarily rejected.

- X. 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.
- XI. 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 cases, 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 DGS in advance.

4.7 Consortium Conditions

- I. The Consortium shall have not more than 3 members / partners. 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
- II. 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 DGS including warranty and Comprehensive AMC obligations on a turn-key basis.

- III. 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.
- IV. The Lead member must be authorized to receive instruction / communications from DGS, 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.
- V. 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.

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. DGS 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 DGS and that neither any change in the time schedule of the contract nor any financial adjustments arising thereof shall be permitted by the DGS 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. Establishment of network infrastructure
- iii. Call Centre services
- iv. 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 DGS prior to conclusion of any contract between the bidder and the sub-contractor.
- V. DGS 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 DGS to facilitate the evaluation process, and in negotiating a definitive contract or all such activities related to the bid process.
- II. DGS 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 DGS, 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 DGS 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. DGS 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 DGS. 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 Commercial Bid should not be revealed. If price change is envisaged due to any clarification, revised Bids can be called from all the bidders by DGS.
- 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 DGS.

5.7 Contacting the DGS

- I. No Bidder shall contact the DGS 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 DGS'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 enrol 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 logs 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.

Covering Letter – Technical Bid	Please refer Tech 1
Prequalification compliance sheet	Please refer Tech 18
Bidder Details	Please refer Tech 2
Financial Capabilities	Please refer Tech 3
Profile of Resource	Please refer Tech 4
Manpower Details	Please refer Tech 5
Technical Solution	Please refer Tech 6
Unpriced Bill of Material	Please refer Tech 19
Approach and Methodology	Please refer Tech 7
Project Plan and development	Please refer Tech 8

Project Experience	Please refer Tech 9
Details Of Experience Of Bidder In Various Projects	Please refer Tech 10
Manufacturer's Authorization Form	Please refer Tech 11
List Of Sub-Contractors and OEMs and their details	Please refer Tech 12
Black-listing Certificate	Please refer Tech 13
Format of Consortium Agreement	Please refer Tech 14
Bank Guarantee for Earnest Money Deposit	Please refer Tech 15
Certificate Of Conformity/ No Deviation	Please refer Tech 16
Declaration for No Conflict of Interest	Please refer Tech 17
Compliance sheet for Functional Requirements	Please refer Annexure 1
Compliance sheet for Technical Requirements	Please refer Annexure 2

Commercial Bid: The commercial 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 DGS, 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. DGS shall not be responsible for non-receipt / non-delivery of the bid documents due to any reason whatsoever.

6 Evaluation of Bids

- I. DGS will constitute a Proposal Evaluation Committee to evaluate the responses of the bidders
- II. The Proposal Evaluation Committee shall evaluate the responses to the RFP and all supporting documents / documentary evidence. Inability to submit requisite supporting documents / documentary evidence may lead to rejection.
- III. The decision of the Proposal 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. The Proposal Evaluation Committee may ask for meetings with the Bidders to seek clarifications on their proposals.
- V. The Proposal 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 DGS 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 180 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 solution towards Supply, Installation, Integration, Commissioning, Development, Deployment, Operation & Management of the said system and hardware provisioning at DGS.
- 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.
- 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

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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	Legal Entity	The bidder / Lead Bidder in case of consortium should be a company registered in India under the Companies Act, 1956/ LLP Act, 2008 and subsequent amendments thereto. The bidder should be operational in India for at least last five financial years as of 31st March 2017 as evidenced by the Certificate of Incorporation and / or Certificate of Commencement of Business issued by the Registrar of Companies, India.	Copy of certificate for Registration To be submitted for - • Single Bid - Bidder • Consortium Bid – Lead Bidder
2.	PQ2	Annual Turnover	The Bidder / lead bidder must have a minimum average turnover of INR 150 Crores (One Hundred Fifty Crores only) for the last three financial years ending 31st March 2017 as evidenced by the audited accounts of the company.	Copy of Audited Annual Balance sheet for last three years ending 31.03.2016 with Certificate from a CA stating Annual Turnover for the last three years In case of: • Single Bid – Bidder • Consortium Bid – Lead bidder
3.	PQ3	Financial : Net worth	The bidder (for single firm) should have a positive net worth for 3 consecutive years (i.e.	CA Certificate for 3 Years

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S.NO	PQ #	Condition	Criteria	Supporting Document
			2016-17, 2015-16 and 2014-15 and 2017-18 (Final, if available or Provisional). In case of a Consortium, the Lead Member must have positive net worth	
4.	PQ4	Certification	The bidder / Lead Bidder in case of consortium must have been assessed for CMMI Level 5 certification	Copy of valid certificate In case of: • Single Bid – Bidder • Consortium Bid –Lead Bidder
5.	PQ5	Technical Capability	The Bidder (Single firm or any member of the consortium) must have experience in implementation of at least two IT/ITeS projects of amount not less than the Rs. 10 Crores each which includes Application Development, Software Support, training, support manpower & maintenance involving services to any state / central government organization in India during the last seven financial years.	Copy of work order and Completion Certificate from the client; OR Copy of work order and Self Certificate of Completion (Certified by CS/independent auditor of the bidding entity); OR Copy of work order and Phase Completion Certificate (Certified by Client OR CS/independent auditor of the bidding entity); In case of: • Single Bid – Bidder Consortium Bid – Any member
6.	PQ6	Mandatory Undertaking	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	Declaration by authorised signatory of the Bidder In case of: • Single Bid – Bidder • Consortium Bid – All member

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S.NO	PQ #	Condition	Criteria	Supporting Document
			impact of the contract with Purchaser	
7.	PQ7	Blacklisting by Govt.	The Bidder / all members in case of consortium shall not be under a declaration of ineligibility / banned / blacklisted by any State or Central Government /PSU 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.	Declaration by authorised signatory. In case of: • Single Bid – Bidder • Consortium Bid – All members
8.	PQ8	EMD	The bidder / Lead Bidder in case of consortium must submit EMD to DGS 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) to DGS.	Demand Draft of Tender fees shall be submitted by Bidder

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.

#	PARAMETER	MAX. MARKS	EVIDENCE TO BE SUBMITTED
TOTAL		2000	
A	Bidder's Experience and Resources	750	

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#	PARAMETER	MAX. MARKS	EVIDENCE TO BE SUBMITTED
A.1	Experience of the bidder	450	
A.1.1	System Integration Experience The bidder / Lead Bidder must have past experience of executed/ be in the process of executing a large IT project for a Client in last 7 years. The implementation must include application development/ customization and any 2 of the following: • Third Party Data center setup and operations • Network Setup and Management • Training & Capacity Building • Digitization • Providing Technical Man-power Support • Operation and maintenance services <u>50 marks per project will be allotted. The bidder can submit a maximum of 4 projects. Maximum 200 marks will be awarded.</u> <u>Additionally marks will be awarded as follows for the above considered projects:</u> • In case the above said experience is for an Indian Government / Indian PSU client – 15 Additional Marks per project. <u>The bidder can submit a maximum of 4 projects.</u> Maximum 60 marks will be awarded. • In case the value of the above cited experience is > 25 Crores each – 10 Additional Marks per project. <u>The bidder can submit a maximum of 4 projects.</u> Maximum 40 marks will be awarded.	300	Copy of work order and Completion Certificate from the client; OR Copy of work order and Self Certificate of Completion (Certified by CS/independent auditor of the bidding entity); OR Copy of work order and Phase Completion Certificate (Certified by Client OR CS/independent auditor of the bidding entity); Note: For International projects, the bidder has to provide copy of purchase order along with a case study of the project.

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#	PARAMETER	MAX. MARKS	EVIDENCE TO BE SUBMITTED
	The above aspects shall be covered across a single project.		
A.1.2	Prior experience of bidder / any consortium member in implementing IT solution in Shipping / Transport domain as System Integrator* in last 7 years. 75 marks per project (Maximum 2 projects) *Here, System Integrator shall necessarily mean projects where scope of work includes Application Development / Customization Services and Maintenance Services	150	Copy of work order and Completion Certificate from the client; OR Copy of work order and Self Certificate of Completion (Certified by CS/independent auditor of the bidding entity); OR Copy of work order and Phase Completion Certificate (Certified by Client OR CS/independent auditor of the bidding entity); Note: For International projects, the bidder has to provide copy of purchase order along with a case study of the project.
A.2	Resource Requirements	300	
A.2.1	Project Manager (Full Time) - BE / BTech / MCA / MTech / MBA Award of marks will be as follows: - Experience of implementing end to end Projects for scope as defined in the criteria A.1.1 or A.1.2 - o ≥ 2 Projects – 20 Marks - o < 2 – 0 Marks	50	Signed Technical Bid

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#	PARAMETER	MAX. MARKS	EVIDENCE TO BE SUBMITTED
	- Experience of Projects dealing with Shipping/ Transport Sector - o ≥ 2 Projects – 10 Marks - o < 2 – 0 Marks - Experience of implementing end to end Projects in PSU/ Government Bodies/ Corporations in India - o ≥ 2 Projects – 10 Marks - o < 2 – 0 Marks - Certifications: PMP / Prince2 Certification. Documentary proof to be submitted. - o Certified: 10 Marks - o Not Certified: 0 Marks		
A.2.2	Business Analyst (Full Time) - BE / BTech / MCA / MTech / MBA Award of marks will be as follows: - Number of Years of Experience working in India or abroad - o ≥ 8 years – 20 Marks - o 4 to 8 years– 10 Marks - o < 4 years– 5 Marks - Experience of implementing end to end integrated projects as functional lead for the respective function: - o ≥ 4 projects – 15 Marks - o ≥ 2 projects – 10 Marks - o < 2 projects – 0 Marks	35	Signed Technical Bid
A.2.3	Subject Matter Expert - BE / BTech / MCA / MTech / MBA Award of marks will be as follows: - Number of Years of Experience working for Shipping Management in India or abroad	40	Signed Technical Bid (Same as above)

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#	PARAMETER	MAX. MARKS	EVIDENCE TO BE SUBMITTED
	- o $\geq$ 8 years – 20 Marks - o 4 to 8 years– 10 Marks - o $<$ 4 years– 0 Marks • Experience: Number of Projects with shipping sector - o $\geq$ 3 – 20 Marks - o 1 to 2 – 10 marks - o $<$ 1 – 0 Marks		
A.2.4	Solution Architect (Hardware and Network) • BE / BTech / MCA / MTech / MBA Award of marks will be as follows: • Experience: Number of Turnkey IT web-based transaction systems - o $\geq$ 4 - 15 Marks - o 2 to 4 - 10 Marks - o $\leq$ 1 – 0 Marks • Experience: Number of Government / PSU Projects - o $\geq$ 3 – 20 Marks - o 1 to 2 – 10 marks - o $<$ 1 – 0 Marks	35	Signed Technical Bid (same as above)
A.2.5	Database Administrator • BE / BTech / MCA / MTech / MBA Award of marks will be as follows: • Experience of DBA - o $\geq$ 5 years - 15 Marks - o 3 to 5 years - 10 Marks - o $<$ 3 years – 0 Marks • Experience as DBA with full capability to setup and run proposed integrated solution independently: - o $\geq$ 2 Projects – 20 Marks - o $<$ 2 Projects = 0 Marks	35	Signed Technical Bid (same as above)

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#	PARAMETER	MAX. MARKS	EVIDENCE TO BE SUBMITTED
A.2.6	Trainer Award of marks will be as follows: • Experience: Total Number of years as a change management expert or equivalent - o ≥ 10 years– 35 Marks - o 7 to 10 years– 20 marks - o < 7 – 0 Marks	35	Signed Technical Bid (same as above)
A.2.7	System Administrator • BE / BTech / MCA / MTech / MBA Award of marks will be as follows: • Experience of System Admin - o ≥ 5 years - 15 Marks - o 3 to 5 years - 1510 Marks - o < 3 years – 0 Marks • Experience: Number of Projects as system administrator - o ≥ 3 – 20 Marks - o 1 to 2 – 10 marks - o < 1 – 0 Marks	35	Same as above.
A 2.8	Data Centre Specialist Engineer with experience in Cloud Computing technologies (IAAS/ PAAS / SAAS) Award of marks will be as follows: • Experience in large scale Data Centre design and implementation. - o ≥ 8years – 15 Marks - o 5 to 8 years – 10 Marks - o < 3 years – 0 Marks	35	Signed Technical Bid Please provide resource details

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#	PARAMETER	MAX. MARKS	EVIDENCE TO BE SUBMITTED
	• Experience of managing projects where third party cloud data centre was integral part of the project scope of work - o ≥ 3 Projects – 15 Marks - o 1 to 2 Projects – Marks - o 0 Projects- 0 Marks • Cloud Certification from any leading Cloud OEMs - o Certified– 5 Marks - o Not certified – 0 Marks		
B	Technical Solution	250	
B.1	Technical Presentation Marks will be awarded as below: • Approach and Methodology for implementation (Phase I)- 30 Marks • Approach and Methodology for Operations and Maintenance, Support (Phase II) – 10 Marks • Solution Architecture (Hardware, Network and Security) – 30 Marks • Solution Design meeting all the proposed functionalities– 20 Marks • Detailed Project Plan covering scope of work, activities & deliverables as per timelines– 20 Marks • Presenting Key resources which will be leading the implementation-10 Marks • Project Governance Methodology – 10 Marks	150	Presentation to Authorities of DGS (Inclusive of any site visit for designated DGS officials which could be done before or after the presentation). Evaluation of this shall be communicated accordingly to the committee for awarding of marks. The bidders are expected to present their key resources which will be leading the implementation and whose profiles would be evaluated by the evaluation committee

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#	PARAMETER	MAX. MARKS	EVIDENCE TO BE SUBMITTED
	- Risks as seen on this project and their mitigation plan proposed – 10 Marks - Change Management and Training – 10 Marks		
B.2	Compliance to Functional Requirement specifications as Listed in Annexure of the Tender	50	Signed Functional requirement compliance sheet with the Technical Bid
B.3	Compliance to Technical Requirement specifications as listed in Annexure of the Tender	50	MAF provided by OEM stating that product being proposed meets the requirement criteria as mentioned in the RFP including changes issued & Technical specification compliance sheet
C	Cloud Service Provider Capabilities	1000	
C.1	Credentials of Cloud Service Provider: Bidder with maximum numbers of active clients in proposed Data Center be awarded full marks and the others shall be awarded marks on relative (pro-rata) basis.	200 Marks	The bidder is required to self-certify on their company letter head by Authorized Signatory regarding active clients in proposed Data Center
C.2	Tier Classification of the proposed Data Center, where cloud hosting is to be served from Tier III / Tier IV : 200 Marks < Tier III : 0 Marks	200 Marks	Copy of valid certification, mentioning exact tier type and location
C.3	Tier Certification of Operational Sustainability Bronze : 100 Silver : 150 Gold : 200	200 marks	Copy of valid certification

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#	PARAMETER	MAX. MARKS	EVIDENCE TO BE SUBMITTED
C.4	Multiple Data Centers: Bidder with maximum numbers of data centers in different seismic zones will be awarded full marks and the others shall be awarded marks on relative (pro-rata) basis.	150 Marks	The bidder is required to self-certify on their company letter head by Authorized Signatory regarding numbers of data centers in different seismic zones
C.5	Number of Certified Data Center Professionals (CDCP certified) Marks will be awarded as below : - o >= 5 – 50 Marks - o 5 to 10 – 100 Marks - o 10 to 20 – 150 Marks - o >25 – 200 Marks	150 Marks	Certificate from HR head of bidder along with the list of certified staff members
C.6	The Bidder / any consortium member should have experience in setting-up cloud solution in India during the last Seven years. Cloud Solution set-up would mean where the Bidder has, procured, installed and commissioned Cloud Infrastructure (Hardware and Software). 50 marks per project (Maximum 2 projects)	100	Copy of work order and Completion Certificate from the client; OR Copy of work order and Self Certificate of Completion (Certified by CS/independent auditor of the bidding entity); OR Copy of work order and Phase Completion Certificate (Certified by Client OR CS/independent auditor of the bidding entity); Note: For International projects, the bidder has to provide copy of

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#	PARAMETER	MAX. MARKS	EVIDENCE TO BE SUBMITTED
			purchase order along with a case study of the project.

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 Commercial Bid Evaluation

- I. The Financial Bids of technically qualified bidders (i.e. above 70% 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. DGS shall take into account all Taxes, Duties & Levies for the purpose of Evaluation
- XI. DGS 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 commercial bids. Any additional charges have to be borne by the bidder. For the purpose of evaluation of Commercial Bids the DGS 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

7.1 Award Criteria

- I. Evaluation criteria proposed to be adopted will be Quality cum Cost Based System (QCBS) where Technical Bid Score will get a weightage of 70% and Commercial Bid Score a weightage of 30%.
- II. The bidder would be technically evaluated out of 1000 marks. All the bidders who secure overall minimum of 70% (700 Marks out of 1000 across all the components together) will be considered as technically qualified. Technical score of all bidders will be calculated on the basis of the following formula:
- III. Technical Marks received by the bidder will be calculated as : (70 % x Technical Marks received in section A and B) + (30 % x Technical Marks received in section C)
- IV. Technical Score of bidder (TS) = Technical Marks received by the bidder x 70%
- V. The Bid having the Lowest Commercial Quote shall be termed as the Lowest Evaluated Bid and will be awarded 1000 marks. Commercial score of all the other bidders will be calculated on the basis of the following formula:
- VI. Commercial score of bidder (CS) = $\frac{\text{Commercial Quote of the lowest bidder} \times 1000 \times 30\%}{\text{Commercial Quote of the bidder}}$
- VII. Final Score of the bidder: Final Score of the each bidding party will be computed by adding the Technical score and Commercial Score on the basis of the following formula:
Total Score = TS + CS
- VIII. The bidder whose bid has secured the “Highest Total Score” out of 1000 as per above evaluation will be considered as best evaluated Bid. In case of a tie where two or more bidders achieve the same highest overall score, the bidder with the higher technical score will be invited first for negotiations
- IX. DGS is not bound to accept the best evaluated bid or any bid and reserves the right to accept any bid, wholly or in part.
- X. Example demonstrating the calculation of Technical Score and Commercial Scores is provided below:

Bidder	Marks Received by bidder	Technical Score of bidder (TS)
Bidder 1	880	616
Bidder 2	900	630
Bidder 3	800	560
Bidder 4	950	665

Commercial Score of a bidder (CS) = {lowest discounted quote / Bidder's discounted quote} X 1000
(adjusted to 2 decimals)

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Bidder	Commercial Quote Provided by Bidder	Calculation of commercial score	Commercial Score of Bidder (CS)
Bidder 1	110	$(110/110)*1000*30\%$	300.00
Bidder 2	140	$(110/140)*1000*30\%$	235.71
Bidder 3	160	$(110/160)*1000*30\%$	206.25
Bidder 4	130	$(110/130)*1000*30\%$	253.85

Total Score for each bidder

Bidder	Technical Score (TS)	Commercial Score (CS)	Total Score
Bidder 1	616	300.00	916.00
Bidder 2	630	235.71	865.71
Bidder 3	560	206.25	766.25
Bidder 4	665	253.85	918.85

The bidder with the highest final score shall be treated as the successful bidder. In the above example, Bidder 4 will be treated as successful bidder.

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

DGS 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 DGS action.

7.3 Notification of Award

- I. Prior to the expiration of the validity period, DGS 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, DGS 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 DGS will notify each unsuccessful bidder and return their EMD.

7.4 Contract Finalization and Award

- I. DGS reserves the right to negotiate with the bidder(s) whose proposal has been most responsive. On this basis the draft contract agreement would be finalized for award & signing.
- II. DGS 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 DGS 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.

7.5 Performance Bank Guarantee

DGS will require the selected bidder to provide a Performance Bank Guarantee, within 15 days from the Notification of award, for a value equivalent to 10% of the total bid value and should be valid till 6 months post the Contract Period. The Performance Guarantee shall contain a claim period of three months from the last date of validity. In case the Contract Term is extended, the Performance Bank Guarantee should also be extended within 15 days of approval of contract extension and should be valid till 6 months post the Contract Extension Term. The selected bidder shall be responsible for extending the validity date and claim period of the Performance Guarantee as and when it is due on account of non-completion of the project and Warranty period. In case the selected bidder fails to submit performance guarantee within the time stipulated, DGS at its discretion may cancel the order placed on the selected bidder without giving any notice. DGS shall invoke the performance guarantee in case the selected Vendor fails to discharge their contractual obligations during the period or DGS incurs any loss due to Vendor's negligence in carrying out the project implementation as per the agreed terms & conditions.

7.6 Signing of Contract

After the DGS notifies the successful bidder that its proposal has been accepted, DGS shall enter into a contract, incorporating all clauses, pre-bid clarifications and the proposal of the bidder between DGS and the successful bidder. The Draft Legal Agreement is provided as a separate document as a template.

7.7 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 DGS 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 DGS 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
- 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 DGS' s bid evaluation, bid comparison or contract award decisions
- Bids received by the DGS after the last date for receipt of bids prescribed by the DGS
- 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 DGS 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 commercial details.
- Revelation of Prices in any form or by any reason before opening the Commercial 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 Commercial 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 commercial 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 Commercial Bid

9 Project and Payment 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:**

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, Call centre, 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 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:**

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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, Call centre, 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	Description	Timeline	Acceptance criteria
Phase 1 - Full scale deployment of system across all locations and system stabilization with parallel run				
1.1	PGM	Project kick-off meeting or Agreement signing whichever is earlier	T	D1
1.2	PGM	Submission of project charter	T + 0.5 months	D2
1.3	ASI	Business and system requirements study including interfaces	T + 2 months	D3
1.4	ASI	Solution design including configuration requirements, interface design, etc.	T + 3 months	D4
1.5	ASI	Deployment of complete application software with all modules & required functionalities for user acceptance testing.	T + 9 months	D5
1.6	CDC	Specifications for required Cloud Data Centre and Disaster Recovery Centre	T + 2 months	D6
1.7	CDC	Completion of Cloud DC and DR	T + 7 months	D7
1.8	NWI	Specifications for networking infrastructure	T + 2 months	D8
1.9	NWI	Completion of internet connectivity at all locations required for UAT	T + 7 months	D9
1.10	NWI	Completion of network connectivity at all locations required for go-live	T + 9 months	D10
1.11	CSC	Specifications for client side infrastructure as required	T + 2 months	D11

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Activity code	Track	Description	Timeline	Acceptance criteria
1.12	CSC	Completion of deployment of client infrastructure at all locations required for UAT	T + 7 months	D12
1.13	CSC	Completion of deployment of client infrastructure at all locations required for go-live	T + 9 months	D13
1.14	CMT	Data migration plan	T + 1 months	D14
1.15	CMT	Submission of change management plan covering training and transitioning requirements	T + 4 months	D15
1.16	CMT	Completion of change management activities including training as required for UAT	T + 7 months	D16
1.17	CMT	Completion of change management activities including training as required for go-live	T + 9 months	D17
1.18	CMT	Completion of data migration	T + 9 months	D18
1.19	IFM	Establishment of IT facilities management system	T + 7 months	D19
1.20	DSD	Procedures and specifications for providing data scanning, digitization and data entry services	T + 1 months	D20
1.21	DSD	Readiness for carrying out data scanning services as per DGS's requirements	T + 2 months	D21
1.22	All	Full scale deployment of the system across all locations	T + 9 months	D22
1.23	All	Successful completion of parallel run with existing system	T + 12 months	D23
1.24	All	Setup of data scanning services for DGS operations & commencement of data scanning activities	T + 3 months	D24
1.25	All	Certification of SLA monitoring system by third party agency as appointed by DGS	T + 12 months	D25

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Activity code	Track	Description	Timeline	Acceptance criteria
1.26	All	Stable operations of the system for the 3 months post full scale deployment	T1 = T + 12 months	D26
1.27	CRT	STQC Certification	T + 8	D27
Phase 2 - Operations and maintenance phase				
2.1	ONM	Operations and maintenance of the entire solution for a period of 5 years after stabilization	T1 + 60 months	D28

Track	Description
PGM	Project governance and management
ASI	Application software and interfaces
CDC	Third party data centre
NWI	Networking infrastructure
CSC	Client side computing
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 DGS 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 Volume II of the RFP

9.2 Deliverables schedule

- I. The bidder has to deliver the following deliverables to DGS 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 DGS. 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 DGS and/or its designated agencies and approved by DGS.

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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	Expected Timelines
D1	Kick-off presentation and/or Duly signed agreement	T
D2	Project charter should cover the following: - 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	Software Requirements Specifications (SRS) should cover the following: - Detailed requirement capture 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 + 2 months
D4	System Design & Configuration report should cover the following: - 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 + 3 months
D5	Software Deployment report should cover the following: - Complete Source Code with documentation - Test Plans and Test cases (including Unit Test Plan,	T + 9 months

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Deliverables	Deliverable Description	Expected Timelines
	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 - 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 + 7 months
D8	Network infrastructure establishment report should cover the following: - Comprehensive Network Design - Specifications of network equipment - Network maintenance plan	T+2 months
D9	Network infrastructure set-up completion for UAT report should cover the following: - Bill of Material (BOM) of network devices & equipment - Challan of Hardware received from the OEM/ Suppliers	T + 7 months
D10	Network infrastructure set-up completion for Go-live report should cover the following: - Bill of Material (BOM) of network devices & equipment - Challan of Hardware received from the OEM/ Suppliers	T + 9 months
D11	Client-side computing establishment report should cover the following: - Detailed specifications of devices to be procured	T + 2 months
D12	Client-side computing set-up completion for UAT report should cover the following: - Devices delivery & installation report - Bill of Material (BOM) of all devices - Challan of Hardware received from the OEM/ Suppliers	T + 7 months
D13	Client-side computing set-up completion for Go-live report should cover the following:	T + 9 months

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Deliverables	Deliverable Description	Expected Timelines
	- Devices delivery & installation report - Bill of Material (BOM) of all devices - Challan of Hardware received from the OEM/ Suppliers	
D14	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
D15	Change Management & Training report should cover the following: - Detailed training plan - Communication plan - Training Materials and Curriculums	T + 4 months
D16	Change Management & Training completion for UAT report should cover the following: - Training session-wise completion reports - Certification from DGS officials confirming successful completion of Change Management & Trainings	T + 7 months
D17	Change Management & Training completion for Go-live report should cover the following: - Training session-wise completion reports - Submission of Final Training Documents - Certification from DGS officials confirming successful completion of Change Management & Trainings	T + 9 months
D18	Data migration completion report should cover the following: - Details of actual data that has been migrated - Certificate from DGS officials confirming successful completion of data migration	T + 9 months
D19	Establishment of IT facilities management system should cover the following: - Report on Operationalization of Help desk - Standard Operating Procedures and Operations Manuals - Obtaining Relevant Certifications	T + 9 months
D20	Scanning & Digitization procedures & specification report should cover the following: - Requirements gathering of scanning & digitization of DGS - Detailed plan of scanning & digitization - Standard Operating manuals of scanning & digitization	T + 1 months
D21	Scanning & Digitization readiness report should cover the following:	T + 2 months

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Deliverables	Deliverable Description	Expected Timelines
	- Status of scanning & digitization - Details of completion of activities	
D22	Overall System Deployment report should cover the following: - Deployment sign-off from DGS - 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
D23	Certification of successful completion of parallel run	T + 12 months
D24	Certification of setup of data scanning services & commencement report	T + 3 months
D25	Certification of SLA monitoring system - Third party agency should certify SLA monitoring system	T + 12 months
D26	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
D27	STQC report and Certificate	T+8
D28	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 + 60 months

9.3 Payment schedule

Payment would be done on the basis of components given in the following table:

Phase	Deliverable	Payment Amount	Expected Timeline	Deliverable no.
Phase I	Acceptance of Project charter, Scanning & Digitization procedure & specification report and Data migration report	20% of Y , against submission of additional PBG of equivalent amount valid for 30 days beyond Go-Live date	T + 1 months	D2, D14, D20,
Phase I	Software requirement Specification document, Data center establishment report, Network infrastructure establishment report, Client side computing establishment report and Scanning & Digitization readiness report	10 % of Y	T + 2 months	D3, D6, D8, D11, D21
Phase I	Acceptance of UAT – “Client side computing set up completion report” and DC DR completion for Go Live	5% of Y	T + 7 months	D7, D12
Phase I	Acceptance of Go Live – “Client side computing set up completion report” and Network infrastructure set-up completion for Go Live report along with Acceptance of Software Deployment report	5% of Y	T + 9 months	D5, D10, D13
Phase I	Certification of successful completion of parallel run – Go Live	20 % of Y	T + 12 months	D23
Phase II	Quarterly payment for next 5 years	2% of Y	T +60	D28

Note: Please refer 10.3-Summary of commercial proposal for value of Y

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Other Payments				
Phase	Deliverable	Payment Amount	Payment terms	Deliverables
Payment Schedule for client side hardware and related computing				
Phase I	Client side hardware delivery	60% of A2	Total Pay-out will not exceed 100% of total quoted cost (A2)	D12
Phase I	Client side hardware installation	30% of A2		D13
Phase I	Go Live	10% of A2		D26
Phase II	Operations and Maintenance	5% - 20 Equal quarterly payment for next 5 year	Total Pay-out will not exceed 100% of total quoted cost (A9.1.2)	
Cloud DC and DR				
Phase II	Cloud DC and DR	5% - 20 Equal quarterly payment for next 5 year	Quarterly payments on usage basis, after deducting all applicable penalties. Total Pay-out will not exceed 100% of total quoted cost (X3)	D6+D7
Scanning & Digitization				
Phase I & Phase II	Scanning and Digitization & Data Entry	On actuals	Quarterly payments on usage basis, after deducting all applicable penalties. Total Pay-out will not exceed 100% of total quoted cost (X8)	D20 + D21
SMS Gateway				
Phase I & Phase II	SMS Gateway usage	On actuals	Quarterly payments on usage basis, after deducting all applicable penalties. Total Pay-out will not exceed 100% of total quoted cost (X9)	D22
Network Infrastructure				
Phase I	Network Infrastructure setup completion for UAT	60 % of A3	Total Pay-out will not exceed 100% of total quoted cost (A3)	D9
	Network Infrastructure setup	40 % of A3		D10

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	completion for Go-Live			
Phase II	Operations and Maintenance	5% - 20 Equal quarterly payment for next 5 year	Total Pay-out will not exceed 100% of total quoted cost (A9.1.3)	D9 +D10

Note: Please refer 10.3-Summary of commercial proposal for values of A2, A9.1.2, X1, X2, X3, X4, X5, X6, X7, X8

- 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 DGS.
- The overall project is broadly divided into two key phases, Implementation phase and Operations & Maintenance phase. 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 DGS. The ceiling value is the maximum cost to be paid by DGS for a component in terms of percentage of the total cost of the entire project as specified in the 'Commercial 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 DGS 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 DGS requirements.
- A monitoring body will be set up by DGS to monitor the progress of bidder for the smooth implementation and performance of project as per the agreed timelines of all deliverables and SLAs. DGS 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, DGS 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. DGS 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 DGS.
- II. The bidder alone shall invoice all payments after receiving due approval/acceptance of Deliverables / Services / Goods from DGS 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 DGS, payment shall be made by DGS within 45 working days of the receipt of invoice along with supporting documents.
- IV. Notwithstanding anything contained in clause (III) above, DGS shall be entitled to delay or withhold payment of any invoice or part of it where DGS 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. DGS 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. DGS shall provide the bidder with the original tax receipt of any withholding taxes paid by DGS or its nominated agencies on payments under this Agreement within reasonable time after payment. The bidder agrees to reimburse and hold DGS 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 DGS 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 DGS 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 DGS. 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 DGS and/or its designated agencies and approved by DGS. 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 Tech 1: Technical Bid- Covering Letter

<<On Bidder / Lead Bidder Letterhead>>

Date:

To:

Directorate General of Shipping

9th Floor, Beta Building,

i-Think Techno campus

Kanjurmarg (East) , Mumbai - 400042

Subject: Selection of System Integrator for eGovernance solution and IT transformation of Directorate General of Shipping

Dear Sir,

1. We hereby request to be qualified with the Directorate General of Shipping as a Tenderer for **“Selection of System Integrator for eGovernance solution and IT transformation of Directorate General of Shipping”** against **DGS/E-Gov./NP(1)/2015-Vol-I**. 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.

2. 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.
3. We authorize Directorate General of Shipping 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 Directorate General of Shipping to verify statements and information provided in this application or regarding our competence and standing.
4. The names and positions of persons who may be contacted for further information, if required, are as follows:

Name: _____

Designation: _____

Telephone: _____

E-mail id: _____

5. 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 Directorate General of Shipping to reject our application.
6. 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.
7. We undertake, if our proposal is accepted, to provide all the services related to **“Selection of System Integrator for eGovernance solution and IT transformation of Directorate General of Shipping”** put forward in the bid document or such features as may subsequently be mutually agreed between us and DGS or its appointed representatives.
8. 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 DGS.
9. 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 commercial bid in the form prescribed in the RFP.
10. I/We understand that Directorate General of Shipping reserves the right to reject any application without assigning any reason thereof.
11. 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.
12. 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.

13. We hereby confirm that our prices include all taxes. However, all the taxes are quoted separately under relevant sections.
14. We understand that the actual payment would be made as per the existing tax rates during the time of payment.
15. 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.
16. We further confirm that the prices stated in our bid are in accordance with your Instruction to Bidders included in Tender documents.
17. 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.
18. 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 Commercial Bid submitted as part of the requirements of Tender.
19. 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.
20. We understand you are not bound to accept any Proposal you receive.
21. 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.
22. I/We shall disclose any payments made or proposed to be made to any intermediaries (agents, etc.) in connection with the bid.
23. 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 :

SELECTION OF SYSTEM INTEGRATOR FOR EGOVERNANCE SOLUTION AND IT TRANSFORMATION OF
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10.1.2 Tech 2: Particulars of the Bidder (please fill separate sheet for each consortium members)

SI No.	Information Sought	Details to be Furnished
A	Name and address of the bidding Company	
B	In case of consortium, please indicate name of Lead Bidder	
C	Incorporation status of the firm (public limited / private limited, etc.)	
D	Year of Establishment	
E	Date of registration	
F	ROC Reference No.	
G	Details of registration with appropriate authorities for service tax	
H	Name, Address, email, Phone nos. and Mobile Number of Contact Person	

(Signature of the Authorized signatory of the Bidding Organization)

Name :

Designation :

Date :

Company Seal :

Business Address :

10.1.3 Tech 3: Financial Capability

<<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:

Directorate General of Shipping

9th Floor, Beta Building,

i-Think Techno campus

Kanjurmarg (East) , Mumbai - 400042

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 three years i.e. from FY 2013-14 to FY 2015-16 was as per details given below:

Information from Balance Sheets (in Indian Rupees)			
	2013-14	2014-2015	2015-16
Annual Turnover			
Profit before Tax			
Profit After Tax			

(Signature of the Chartered Accountant)

Name :

Designation :

Membership Number :

Date :

Company Seal :

Business Address :

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10.1.4 Tech 4: Profile of Resource

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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		<i>(Starting with present position list in reverse order)</i>															
11	Relevant Experience	<i>(Give an outline on the experience most pertinent to tasks mentioned in the project. Describe degree of responsibility held on these relevant assignments).</i> <i>(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.)</i> <i>Maximum 8 Projects:</i> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 35%;">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	Certification	I, the undersigned, certify that to the best of my knowledge and belief, this bio-data correctly describes myself, my qualifications, and my experience. Date: _____ Place _____ Signature of the employee / Authorized Signatory _____															

10.1.5 Tech 5: Certificate from HR demonstrating its Organization Strength

<<On the letterhead of the Bidding Organization>>

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

Date:

To:

Directorate General of Shipping

9th Floor, Beta Building,

i-Think Techno campus

Kanjurmarg (East) , Mumbai - 400042

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>> is greater than <<Number>> as on 31.03.2016

For <Organization Name>

HR Signature (with Organization Stamp)

HR Name

10.1.6 Tech 6: 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 DGS 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 DGS 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
- Hardware requirements, bandwidth requirements – These should state the memory, storage etc. Processing power required should be stated in generic terms such as QPH along with numbers of CPU.
- 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

10.1.7 Tech 7: 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 DGS 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 DGS 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 DGS based on bidder's prior implementation experience in the same
7. Detailed Methodology and approach provided for training of the different stakeholders within DGS
8. Best practices from undertaking Change Management for users in an organization similar to DGS 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

11.

10.1.8 Tech 8: Project Plan & Deployment of Personnel

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						
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.

10.1.9 Tech 9: 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.
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

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

10.1.10 Tech 10: 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		
Size of the project			
12.		Total users	

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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	
	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 DGS		
Narrative Description of the Project:			
Detailed Description of actual services provided by Bidder:			
Documentary Proof:			

10.1.11 Tech 11: Format for Manufacturer's Authorization Form

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

To:

Directorate General of Shipping
9th Floor, Beta Building,
i-Think Techno campus
Kanjurmarg (East) , Mumbai - 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 :

10.1.12 Tech 12: 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 :

10.1.13 Tech 13: Details of ineligibility for corrupt or fraudulent practices / blacklisted with any of the Government or Public Sector Units

<<On the letterhead of the Bidding Organization>>

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

Date:

To:

Directorate General of Shipping
9th Floor, Beta Building,
i-Think Techno campus
Kanjurmarg (East) , Mumbai - 400042

Subject: Declaration for not being under an ineligibility for corrupt or fraudulent practices or blacklisted with any of the Government or Public Sector Units in India

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 :

10.1.14 Tech 14: Format for Consortium Agreement

(Company letterhead)

[Date]

To

Directorate General of Shipping

9th Floor, Beta Building,

i-Think Techno campus

Kanjurmarg (East) , Mumbai - 400042

Sir,

Sub: Declaration on Consortium

I / We as Lead Partner of the Consortium, hereby declare the Roles and Responsibilities of the Consortium members:

Sr. No.	Member	Role	Responsibilities

I / We understand that as Lead Partner, I / we are be responsible for executing at least one component of the scope of work from the following components:

1. Supply of Hardware, System Software Infrastructure and Cloud DC & DR Connectivity
2. Cloud DC & DR Management and Operations
3. Application Development and Maintenance
4. Digitization and Scanning Services
5. IT Facility management
6. Transitioning and Change Management

I / We understand that if this information / declaration are found to be false or incorrect, Directorate General of Shipping reserves the right to reject the Bid or terminate the Contract with us immediately without any compensation to us.

Yours faithfully,

Authorized Signatory of the Lead Partner

Designation

Date

Time

Seal

Business Address

10.2 Pre-qualification Bid Forms

10.2.1 Tech 15: 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 Directorate General of Shipping, Mumbai appointed by Government of India under Merchant Shipping Act 1958 (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 upto 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 Mumbai limits for encashment not later than the date of expiry of this guarantee.

Dated _____ day of _____ 2016

Name of the Bank

Signature & Name & Designation

Seal of the Bank

10.2.2 Tech 16: CERTIFICATE OF CONFORMITY/ NO DEVIATION

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

Date:

To:

Directorate General of Shipping

9th Floor, Beta Building,

i-Think Techno campus

Kanjurmarg (East) , Mumbai – 400042

This is to certify that, the specifications of Software/ hardware 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.

Also, I/ we have thoroughly read the RFP 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.

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 :

10.2.3 Tech 17: Format – Declaration for No Conflict of Interest

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

Date:

To

Directorate General of Shipping,
9th Floor, Beta Building,
i-Think Techno campus
Kanjurmarg (East), Mumbai – 400042

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 Directorate General of Shipping, 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 Directorate General of Shipping, 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) Directorate General of Shipping, Government of India and / or its representatives, if any such conflict arises later.

Yours faithfully,

Authorized Signatory

Designation

Date

Time

Seal

Business Address

10.2.4 Tech 18: 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 DGS 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			

10.2.5 Tech 19: Unpriced Bill of Material

The Bidder should provide the proposed Bill of Material (BoM) here. The details of the make/brand and model against each line item, wherever applicable, should be mentioned. The bid can be considered non-responsive in the absence of such details. Once the bidder provides this information in the submitted bid, the bidder cannot change it with any other component / equipment etc. of lower specifications / performance; it can only be upgraded at the time of actual deployment/installation. The Bidder may add any additional line item in the proposed BoM table below, that may be required to fulfil the tender and project requirements in totality.

SELECTION OF SYSTEM INTEGRATOR FOR EGOVERNANCE SOLUTION AND IT TRANSFORMATION OF
DIRECTORATE GENERAL OF SHIPPING, GOVT OF INDIA

Sr. No	BOM Item	Unit of measurement	Quantity Proposed	Make / Brand	Model Detail s	Full Compliance with RFP Requirements (Yes / No)

10.3 Comp 1: Summary of Commercial Proposal

Sr. No.	Project Components/Services	Total Cost #	Code
1.	Software and related cost	A1 + A9.1.1	X
2.	Client hardware and related computing	A2 + A9.1.2	X1
3.	Network infrastructure management	A3 + A9.1.3	X2
4.	Cloud DC & DR	A4	X3
5.	Transitioning and change management	A5	X4
6.	IT certifications	A6	X5
7.	IT Facility Management	A7 + A9.1.5	X6
8.	System integration and manpower cost	A8 + A9.1.6	X7
9.	Scanning and digitization services	A10	X8
10.	SMS Gateway	A11 (on Actuals)	X9

Consider, $Y=X+X4+X5+X6+X7$

The total cost would be considered for commercial evaluation of the bids. This however may not have co-relation with the Total Contract value or actual payment to be made to the successful bidder.

*The cost for scanning for the commercial bid evaluation purposes shall be estimated for 1,50,00,000 pages. But the rate specified for component under the following sections shall be applicable for all the pages to be scanned under this project.

All price must be quoted in INR only. All units must be clearly specified.

A1: Core Application cum Software Cost

- The description of functions/modules listed below is available in Volume II of the RFP.
- In case, any of the bidders has readily available software for combining any of the following functions, they may accordingly define the same in their technical bid and distribute evenly while filling up the commercial bid.
- For e.g. there is readily available solution covering functions of the Core Shipping Operations and Seafarer operations as defined below. So, the bidder may mention in the technical bid the list of functions that are available as a combined solution and no separate cost can be determined for the same. Hence, the total cost for these modules/functions is distributed evenly between the modules/functions.

Sr. No.	Software Function/Module	Unit	Quantity (A1.1)	Rate (A1.2)	Other cost (A1.4)	Total Price (Rs.) A1.3 = (A1.1*A1.2) + A1.4
Core Shipping operations						
1.	Exemptions and Plan Approvals					
2.	Ship Registration					
3.	Charter Permissions and licensing					
4.	ISM Audits					
5.	Inspections					
6.	Annual Inspection of MSV's					
Core Seafarer operations						
7.	Individual's profile					
8.	INDOS Application					
9.	CDC					

Sr. No.	Software Function/Module	Unit	Quantity (A1.1)	Rate (A1.2)	Other cost (A1.4)	Total Price (Rs.) A1.3 = (A1.1*A1.2) + A1.4
10.	Examinations					
11.	Certifications					
12.	Sea Service					
13.	RPS					
14.	Shipping Company					
15.	MTI					
16.	SPFO					
17.	SWFS					
18.	RO Sails					
Other modules						
19.	Development of CMS portal for website					
20.	HRM					
21.	Data Migration activity					
22.	Document Management System					
23.	MTO					

Sr. No.	Software Function/Module	Unit	Quantity (A1.1)	Rate (A1.2)	Other cost (A1.4)	Total Price (Rs.) A1.3 = (A1.1*A1.2) + A1.4
24.	Approval of Service providers					
25.	ISPS Audits					
26.	RTI					
27.	Mobile App					
Internal Modules						
28.	Vigilance Modules					
29.	Purchase and Maintenance					
30.	Court Cases/Complains					
31.	Budget Preparation					
32.	Causality Cases					
33.	I-card and certificates					
34.	Rule change and Ratification					
35.	Inward and Outward					
36.	Licenses (If required)					
Any Other Module						

Sr. No.	Software Function/Module	Unit	Quantity (A1.1)	Rate (A1.2)	Other cost (A1.4)	Total Price (Rs.) A1.3 = (A1.1*A1.2) + A1.4
37.	<Any other modules....>					
Sub-Total (A1.3)						

Taxes: Against A1 components

Subtotal (A1.3)	Tax	Tax rate	Tax amount	Total A1= (A1.3 + Tax amount)
	CGST			
	SGST			
	IGST			
Total (in Figures) (A1)				
Total (in Words) (A1)				

A2: Client Hardware and related computing

Sr. No.	End User Hardware and DGS Site Infrastructure	Quantity (A2.1)	Rate (A2.2)	Total A2.3 = (A2.1* A2.2)
1.	Desktops	375		
2.	Laptops	80		
3.	Multifunction printers	50		
4.	<Other Component....>			
5.	<Other Component....>			
Sub-Total (A2.3)				

Taxes: Against A2 Components

Subtotal (A2.3)	Tax	Tax rate	Tax amount	Total A2= (A2.3 + Tax amount)
	CGST			
	SGST			
	IGST			
	Any other tax			
Total (in Figures) (A2)				
Total (in Words) (A2)				

A3: Network Infrastructure

S. No.	Description	Unit	Quantity (A3.1)	Rate (A3.2)	Total Unit Rate A3.3= (A3.1 * A3.2)
Bandwidth / Connectivity					
1.	Link from DGS HQ to DC site lines (Primary)	Mbps	10		
2.	Link from DGS HQ to DC site lines (Secondary)	Mbps	10		
3.	Link from DGS HQ to DR site lines (Primary)	Mbps	8		
4.	Link from DGS HQ to DR site lines (Secondary)	Mbps	8		
5.	Link from DC to DR site lines (Primary)	Mbps	<To be proposed by Bidder>		
6.	Link from DC to DR site lines (Secondary)	Mbps	<To be proposed by Bidder>		
7.	Internet Connectivity with redundant lines (Primary and Backup Links) for PO MMD Mumbai	Mbps	6		
8.	Internet Connectivity with redundant lines (Primary and Backup Links) for PO MMD Kolkata	Mbps	6		

S. No.	Description	Unit	Quantity (A3.1)	Rate (A3.2)	Total Unit Rate A3.3= (A3.1 * A3.2)
9.	Internet Connectivity with redundant lines (Primary and Backup Links) for PO MMD Chennai	Mbps	6		
10.	Internet Connectivity with redundant lines (Primary and Backup Links) for PO MMD Kochi	Mbps	4		
11.	Internet Connectivity with redundant lines (Primary and Backup Links) for PO MMD Kandla	Mbps	4		
12.	Internet Connectivity with redundant lines (Primary and Backup Links) for SIC MMD Jamnagar	Mbps	1		
13.	Internet Connectivity with redundant lines (Primary and Backup Links) for SIC MMD Tuticorin	Mbps	2		
14.	Internet Connectivity with redundant lines (Primary and Backup Links) for SIC MMD Vizag	Mbps	2		
15.	Internet Connectivity with redundant lines (Primary and Backup Links) for SIC MMD Mangalore	Mbps	1		
16.	Internet Connectivity with redundant lines (Primary and Backup Links) for SIC MMD Port Blair	Mbps	1		
17.	Internet Connectivity with redundant lines (Primary and Backup Links) for SIC MMD Haldia	Mbps	1		

S. No.	Description	Unit	Quantity (A3.1)	Rate (A3.2)	Total Unit Rate A3.3= (A3.1 * A3.2)
18.	Internet Connectivity with redundant lines (Primary and Backup Links) for SIC MMD Paradeep	Mbps	1		
19.	Internet Connectivity with redundant lines (Primary and Backup Links) for SIC MMD Goa	Mbps	2		
20.	Internet Connectivity with redundant lines (Primary and Backup Links) for SIC MMD Noida	Mbps	1		
21.	Internet Connectivity with redundant lines (Primary and Backup Links) for SM, Mumbai	Mbps	4		
22.	Internet Connectivity with redundant lines (Primary and Backup Links) for SM, Kolkata	Mbps	4		
23.	Internet Connectivity with redundant lines (Primary and Backup Links) for SM, Chennai	Mbps	4		
24.	Internet Connectivity with redundant lines (Primary and Backup Links) for SEO, Mumbai	Mbps	2		
25.	Internet Connectivity with redundant lines (Primary and Backup Links) for SEO, Kolkata	Mbps	2		
26.	Internet Connectivity with redundant lines (Primary and Backup Links) for SEO, Chennai	Mbps	1		

S. No.	Description	Unit	Quantity (A3.1)	Rate (A3.2)	Total Unit Rate A3.3= (A3.1 * A3.2)
27.	Internet Connectivity with redundant lines (Primary and Backup Links) for RO(S), Mumbai	Mbps	1		
28.	Internet Connectivity with redundant lines (Primary and Backup Links) for RO(S), Jamnagar	Mbps	1		
29.	Internet Connectivity with redundant lines (Primary and Backup Links) for RO(S), Tuticorin	Mbps	1		
30.	Internet Connectivity with redundant lines (Primary and Backup Links) for SPFO, Mumbai	Mbps	1		
31.	Internet Connectivity with redundant lines (Primary and Backup Links) for SWFS, Mumbai	Mbps	1		
32.	<Others...>				
Network Related Equipment					
33.	<Routers>				
34.	<Switches>				
35.	<Others>				
Sub-Total (A3.3)					

Tax: Against A3 Components

Subtotal (A3.3)	Tax	Tax rate	Tax amount	Total A3= (A3.3 + Tax amount)
	CGST			
	SGST			
	IGST			
	Any other tax			
Total (in Figures) (A3)				
Total (in Words) (A3)				

A4: Data Centre Management

S. No	Component Description	Unit description	Unit price for the component (excluding taxes, duties, levies)	Total Cost of Cloud Data Center Site												Total Price (excluding taxes, duties, levies)
				Implementation		Year 1		Year 2		Year 3		Year 4		Year 5		
				Units	Price	Units	Price	Units	Price	Units	Price	Units	Price	Units	Price	
			(i)	(ii)	1 = (i)x(ii)	(iii)	2 = (i) x (iii)	(iv)	3 = (i) x (iv)	(v)	4 = (i) x (v)	(vi)	5 (i) x (vi)	(vii)	6 (i) x (vii)	F3 = (1+2+3+4+5+6)
1	Virtual Machines - Type A															
2	Virtual Machines - Type B															
3	Virtual Machines - Type C															
4	Virtual Machines - Type D															
5	Virtual Machines - Type E															
5	Storage															
	Add new line for each component															
	Total (F1)															

Tax: Against F components

Subtotal F1	Tax	Tax rate	Tax amount	Total F = (F1 + Tax amount)
	CGST			
	SGST			
	IGST			
	Any other tax			
Total (in Figures) (F)				
Total (in Words) (F)				

Disaster Recover:

S. No	Component Description	Unit description	Unit price for the component (excluding taxes, duties, levies)	Cost of Cloud Disaster Recovery Site												Total Price (excluding taxes, duties, levies)
				Implementation		Year 1		Year 2		Year 3		Year 4		Year 5		
				Units	Price	Units	Price	Units	Price	Units	Price	Units	Price	Units	Price	
			(i)	(ii)	1 = (i)x(ii)	(iii)	2 = (i) x (iii)	(iv)	3 = (i) x (iv)	(v)	4 = (i) x (v)	(vi)	5 (i) x (vi)	(vii)	6 (i) x (vii)	C = (1+2+3+4+5+6)
1	Virtual Machines - Type A	<to be updated by bidder>														
2	Virtual Machines - Type B	<to be updated by bidder>														
3	Virtual Machines - Type C	<to be updated by bidder>														
4	Virtual Machines - Type D	<to be updated by bidder>														
5	Virtual Machines - Type E	<to be updated by bidder>														
5	Storage	<to be updated by bidder>														
	Add new line for each component															
	Total (G1)															

Tax: Against G components

Subtotal G1	Tax	Tax rate	Tax amount	Total G = (G1 + Tax amount)
	CGST			
	SGST			
	IGST			
	Any other tax			
Total (in Figures) (G)				
Total (in Words) (G)				

DATA CENTER & DISASTER RECOVERY

Description	Total Amount
Data Center (F)	
Disaster Recovery (G)	
Total (in Figures) (A4)	
Total (in Words) (A4)	

A5: Transitioning and change management

S. No.	End User Hardware and DGS Site Infrastructure	No of Trainings (A5.1)	Cost per session of training (A5.2)	Total A5.3 = (A5.1* A5.2)
1.	Functional			
2.	Techno-functional			
3.	Technical			
Sub-Total				

Tax: Against A5 components

Subtotal (A5.3)	Tax	Tax rate	Tax amount	Total A5 = (A5.3 + Tax amount)
	CGST			
	SGST			
	IGST			

	Any other tax			
Total (in Figures) (A5)				
Total (in Words) (A5)				

A6: IT certification

Sr. No.	Description	Quantity (A6.1)	Rate (A6.2)	Total Price (Rs.) A6.3= (A6.1 * A6.2)
1.	STQC	1		
Sub-Total (A6.3)				

Tax: Against A6 components

Subtotal (A6.3)	Tax	Tax rate	Tax amount	Total A6= (A6.3 + Tax amount)
	CGST			
	SGST			
	IGST			
	Any other tax			

Total (in Figures) (A6)	
Total (in Words) (A6)	

A7: IT facility management

Sr. No.	Description	Manpower Quantity (A7.1)	Manpower Rate (A7.2) (man month rate)	Period (P) (in months)	Total Price (Rs.) A7.3=(A7.1 * A7.2 * P)
1.	DGS HQ				
2.	MMD (9 locations)				
3.	Helpdesk & Call Centre				
4.	Others				
Sub-Total (A7.3)					

Tax: Against A7 components

Subtotal (A7.3)	Tax	Tax rate	Tax amount	Total A7= (A7.3 + Tax amount)
	CGST			
	SGST			
	IGST			

	Any other tax			
Total (in Figures) (A7)				
Total (in Words) (A7)				

A8: System integration and manpower cost

Sr. No.	Description	Manpower Quantity (A8.1)	Manpower Rate (A8.2) (man month rate)	Period (P) (in months)	Total Price (Rs.) $A8.3=(A8.1 * A8.2 * P)$
1.	Project Director				
2.	Project Manager				
3.	System Architect				
4.	Infrastructure expert				
5.	Networking Expert				
6.	Application experts				
7.	Subject Matter Expert				
8.	Business Analyst				
9.	Network Architect				

Sr. No.	Description	Manpower Quantity (A8.1)	Manpower Rate (A8.2) (man month rate)	Period (P) (in months)	Total Price (Rs.) $A8.3=(A8.1 * A8.2 * P)$
10.	Data Center Specialist				
11.	Cloud Support Engineer				
12.	<Others..>				
13.	<Others..>				
Sub-Total (A8.3)					

Tax: Against A8 component

Subtotal (A8.3)	Tax	Tax rate	Tax amount	Total A8= (A8.3 + Tax amount)
	CGST			
	SGST			
	IGST			
	Any other tax			
Total (in Figures) (A8)				
Total (in Words) (A8)				

A9: Cost of AMC

Project Component / Services	Year 1 AMC (1)	Year 2 AMC (2)	Year 3 AMC (3)	Year 4 AMC (4)	Year 5 AMC (5)	Total Amount T1 = (1) + (2) + (3) + (4) + (5)	CGST (@ Rate) (6)	SGST(@ Rate) (7)	IGST(@ Rate) (8)	Any other tax (@ Rate) (9)	Total Tax Value T2 = (6) + (7) + (8) + (9)	Total Amount inclusive of Taxes T = T1 + T2
Core Application cum software (A9.1.1)												
Client Hardware and computing (A9.1.2)												
Network Infrastructure (A9.1.3)												
IT Facility Management (A9.1.5)												
Support Manpower cost (A9.1.6)												
TOTAL												

A10: Scanning and Data Digitization services**Data Entry**

Sr. No.	Description	Quantity (A10.1)	Rate (A10.2)	Period (A10.2.1)	Total Price (Rs.) A10.3 =(A10.1 * A10.2*A10.2.1)
1.	Data Entry operators (minimum 5 resources)				

Total data entry fields (approximately)	8,75,00,000

Scanning & Digitization

Sr. No.	Description (Size of the document)	Quantity (A10.4)	Rate (A10.5)	Total Price (Rs.) A10.6 =(A10.4 * A10.5)
1.	A0	1,50,000		
2.	A1	30,000		
3.	A2	20,000		
4.	A3	-		
5.	A4	1,48,00,000		
6.	Legal			
TOTAL (A10.7)				

Total pages to be scanned	1,50,00,000

Tax: Against A10 component

Subtotal (A10.3) and (A10.7)	Tax	Tax rate	Tax amount	Total A10 = (A10.3 + A10.7 + Tax amount)
	CGST			
	SGST			
	IGST			
	Any other tax			
Total (in Figures) (A10)				
Total (in Words) (A10)				

A11: SMS Gateway

Sr. No.	Description	Quantity (A11.1)	Period (P)	Rate (A11.2)	Total A11.3 =(A11.1 * A11.2)
1.	SMS				

Total SMS per annum	approx. 1 crore

Total Project Value:

	Description	Implementation	AMC	TOTAL VALUE

Sr. No		Total Price (V1)	Total Tax Value (V2)	Total Implementation Value (V3)	Total Price (V4)	Total Tax Value (V5)	Total AMC Value (V6)	V = (V3) + (V6)
1.	Software and related cost							
2.	Client hardware and related computing							
3.	Network infrastructure management							
4.	Cloud DC & DR							
5.	Transitioning and change management							
6.	IT certifications							
7.	IT facility management							
8.	System integration and manpower cost							
9.	Scanning and digitization services							
10.	SMS Gateway							
TOTAL VALUE (in Words)								



REQUEST FOR PROPOSAL (RFP)
FOR
RFP FOR SELECTION OF SI FOR
EGOVERNANCE SOLUTION AND IT
TRANSFORMATION OF
DIRECTORATE GENERAL OF
SHIPPING
VOLUME 2 OF 3

Tender Number: Tender Number: DGS/E-Gov./NP(1)/2015-Vol-I

Disclaimer:

1. This Request for Proposal ("RFP") is issued by Directorate General of Shipping ("DGS")
2. The information contained in this RFP or subsequently provided to Bidders, whether verbally or in documentary or any other form by or on behalf of DGS or any of its employees or advisers, is provided to Bidders on the terms and conditions set out in this RFP and all other terms and conditions subject to which such information is provided.
3. This RFP is not a contract and is neither an offer nor invitation by DGS to the prospective Bidders or any other person. Whilst the information in this RFP has been prepared in good faith, it is not and does not purport to be comprehensive or to have been independently verified. Neither DGS, nor any of its officers or employees, nor any of their advisers nor consultants accept any liability or responsibility for the accuracy, reasonableness or completeness of, or for any errors, omissions or misstatements in the information or makes any representation or warranty, express or implied, with respect to the information contained in this RFP or on which this RFP is based or with respect to any written or oral information made or to be made available to any of the recipients or their professional advisers and, so far as permitted by law and liability therefore is hereby expressly disclaimed.
4. The purpose of this RFP is to provide the Bidder(s) with information that may be useful to them in the formulation of their Proposals in pursuant to this RFP. The information contained in this RFP is selective and is subject to updating, expansion, revision and amendment at the sole discretion of DGS. This RFP document is not exhaustive and does not purport to contain all the information that a Bidder may require for the purpose of making a decision for participation in this bidding process. Neither DGS nor any of its officers, employees nor any of its advisors nor consultants undertakes to provide any Party with access to any additional information or to update the information in this RFP or to correct any inaccuracies therein which may become apparent. Each Bidder should conduct its own analysis of the information contained in this RFP, to correct any inaccuracies therein and is advised to carry out its own investigations in the project, the regulatory regime which applies thereto and by and all matters pertinent to DGS and to seek its own professional advice on the legal, financial and regulatory consequences of entering into an agreement or arrangement relating to the project.
5. DGS accepts no liability of any nature whether resulting from negligence or otherwise however caused arising from reliance of any Bidder upon the statements contained in this RFP.

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1 Scope of Work

1.1 Introduction

Directorate General of Shipping (DGS) intends to establish an integrated eGovernance solution that will support all activities and functions being carried out by Directorate General of Shipping. Adoption of this solution is expected to enable DGS to improve its business processes and supporting activities, closely monitor the performance in all areas of operations and management, improved levels of operations and efficient service delivery to all relevant stakeholders.

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

- To develop and implement a comprehensive system to increase efficiency, and effectiveness of overall DGS operations
- Facilitate movement towards paperless regime
- Improve transparency and provide efficient service delivery to its customers through adoption of web-based communication, e-commerce, and latest technology advances
- Computerize and automate all its functions related to shipping and seafarer operations and maintenance, internal administration and maintenance.
- Enable digitalization of physical records within DGS as required
- Integration with external applications including payment gateway
- Through the eGovernance solution, Directorate General of Shipping is pursuing to improve its operational efficiency and effectiveness leading to a customer centric service delivery with focus on ease of doing business, and an improved stakeholders' satisfaction.

1.2 Scope overview

The scope of work for the bidder is to help DGS achieve the aforementioned objectives by providing necessary services as required.

The list of services offered at DGS are as follows:

#	Process Name	Department Housed In
		Internal*

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		Engineering Dept, DGS	Nautical Dept, DGS	Naval Architecture, DGS	Administrative Wing, DGS	Engineering Dept, MMD	Nautical Dept, MMD	Naval Architecture, MMD	Training Dept, DGS	SMO	INDoS Cell	SEO	Internal Examiner	DGS Exam Centre	SPFO	SWFS	MTT	RO (Sails)
SF	Seafarer Related Processes																	
SF 1	Individual (Seafarer's) Profile																	
SF 2	Apply for INDOS																	
SF 3	CDC																	
SF 4	Examinations																	
SF 5	Certifications																	
SF 6	Sea Service																	
SH	Ship Related Processes																	
SH 1	Ship Registration																	
SH 2	FSI/ PSC Inspections																	
SH 3	Exemptions & Plan																	

SELECTION OF SYSTEM INTEGRATOR FOR EGOVERNANCE SOLUTION AND TRANSFORMATION OF
DIRECTORATE OF GENERAL SHIPPING, GOVT OF INDIA

#	Process Name	Department Housed In																
		Internal*																
		Engineering Dept, DGS	Nautical Dept, DGS	Naval Architecture, DGS	Administrative Wing, DGS	Engineering Dept, MMD	Nautical Dept, MMD	Naval Architecture, MMD	Training Dept, DGS	SMO	INDoS Cell	SEO	Internal Examiner	DGS Exam Centre	SPFO	SWFS	MTT	RO (Sails)
	Approvals																	
SH 4	ISM Audits																	
SH 5	Charter Permissions & Licenses																	
SH 6	Annual Inspections of MSVs																	
OT	Other Processes																	
OT 1	RPS																	
OT 2	Shipping Company																	
OT 3	MTI																	
OT 4	SPFO																	
OT 5	SWFS																	
OT 6	RO Sails																	

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#	Process Name	Department Housed In																
		Internal*																
		Engineering Dept, DGS	Nautical Dept, DGS	Naval Architecture, DGS	Administrative Wing, DGS	Engineering Dept, MMD	Nautical Dept, MMD	Naval Architecture, MMD	Training Dept, DGS	SMO	INDoS Cell	SEO	Internal Examiner	DGS Exam Centre	SPFO	SWFS	MTT	RO (Sails)
OT 7	MTO																	
OT 8	Approval of Service Providers																	
OT 9	ISPS Audits																	
IP	Internal Processes																	
IP1	Human Resource Processes																	
IP2	Purchase and Maintenance																	
IP3	Inward & outward																	
IP4	Casualty Cases																	
IP5	Vigilance processes																	
IP6	Court cases/Complaints																	

SELECTION OF SYSTEM INTEGRATOR FOR EGOVERNANCE SOLUTION AND TRANSFORMATION OF
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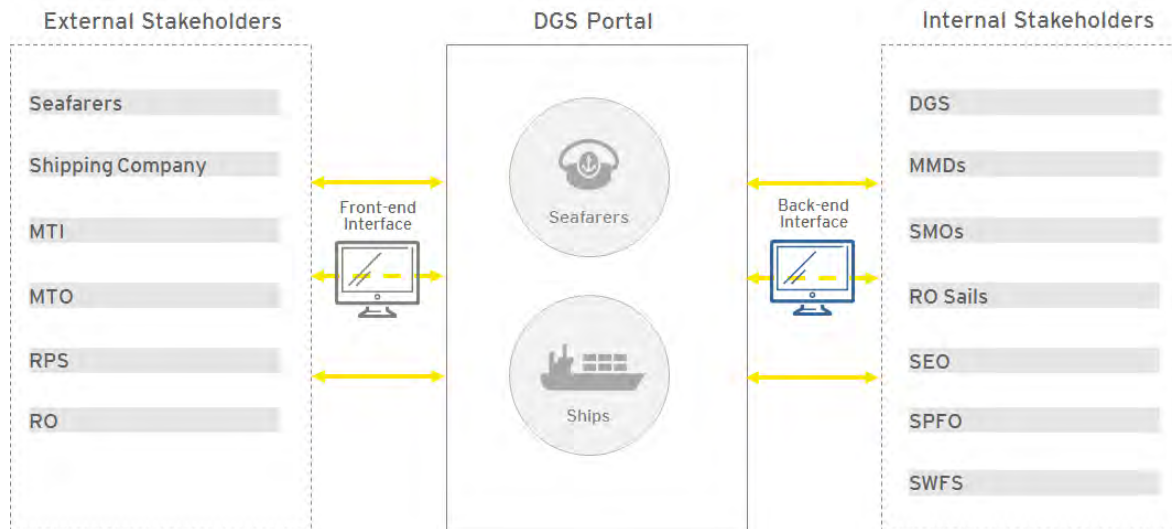
#	Process Name	Department Housed In																
		Internal*																
		Engineering Dept, DGS	Nautical Dept, DGS	Naval Architecture, DGS	Administrative Wing, DGS	Engineering Dept, MMD	Nautical Dept, MMD	Naval Architecture, MMD	Training Dept, DGS	SMO	INDoS Cell	SEO	Internal Examiner	DGS Exam Centre	SPFO	SWFS	MTT	RO (Sails)
IP7	Budget Preparation																	
IP8	I-card and certificates																	
IP9	Rule change and ratification																	

Proposed System:

The new e-governance system proposes to anchor the complete gamut of services and actions along the two anchors i.e. Ships and Seafarers as depicted in the diagram below. Hence, data would be primarily stored as either linked to a Seafarer or a Ship. The stakeholders, both external and internal (as listed below) will interact with the portal through a front-end and a back-end interface respectively.

Figure 1: Proposed DGS Portal

SELECTION OF SYSTEM INTEGRATOR FOR EGOVERNANCE SOLUTION AND TRANSFORMATION OF
DIRECTORATE OF GENERAL SHIPPING, GOVT OF INDIA



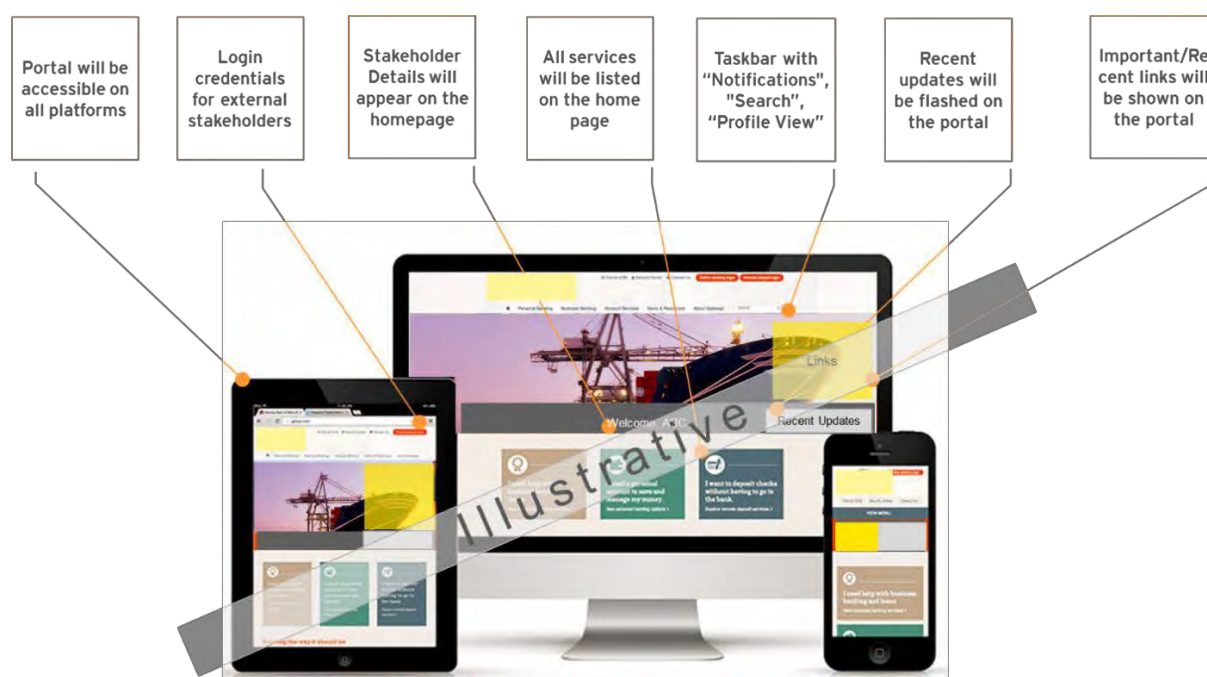
The e-governance system will be accessed through DGS's website. Some of the key features of this website will be:

- ▶ Provision for external stakeholders to apply for User IDs and temporary password to allow access to the interface for availing DGS services
- ▶ Access to all DGS related recent updates, circulars, office orders, notifications etc.
- ▶ Give feedback for MTI's and/or view the MTI real-time ratings
- ▶ Access to DGS contact information, FAQ's and 'Help' (redirect applicant to a DGS email id)

Proposed Front-End Interface:

The front-end interface would allow the various external stakeholders (seafarers, shipping companies, MTI's etc.) to interact with the database through their own profiles. These profiles will be accessed through a User ID and password, received upon approval from DGS and would allow the stakeholders to avail all DGS services relevant to them. In addition to services offered, the interface would allow them to submit feedback and grievances, verify details w.r.t other external stakeholders as well as view all notifications. Although the interface would be customised for each stakeholder, an illustrative sample of the interface is shown below:

Figure 2: Front-End Interface Sample



Proposed Back-End Interface:

The back-end interface would allow the various internal stakeholders (all DGS departments and allied offices) to interact with the database through their own profiles. These profiles will be accessed by authorized personnel through a User ID and password and would allow them to view all applications submitted to them for approval and subsequent action. Besides the function of giving approvals, the interface would allow the departments to generate MIS reports, verify details for seafarers and ships and view all notifications etc. Although the interface would be customised for each stakeholder, an illustrative sample of the interface is shown below:

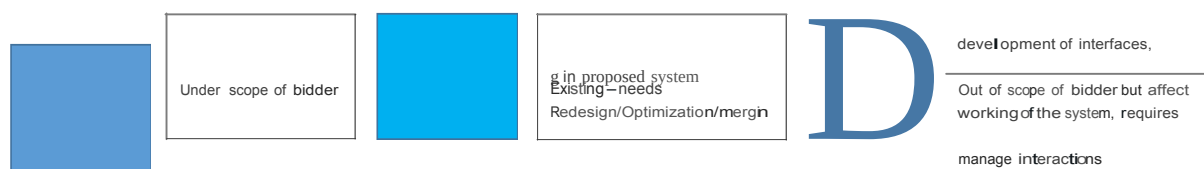
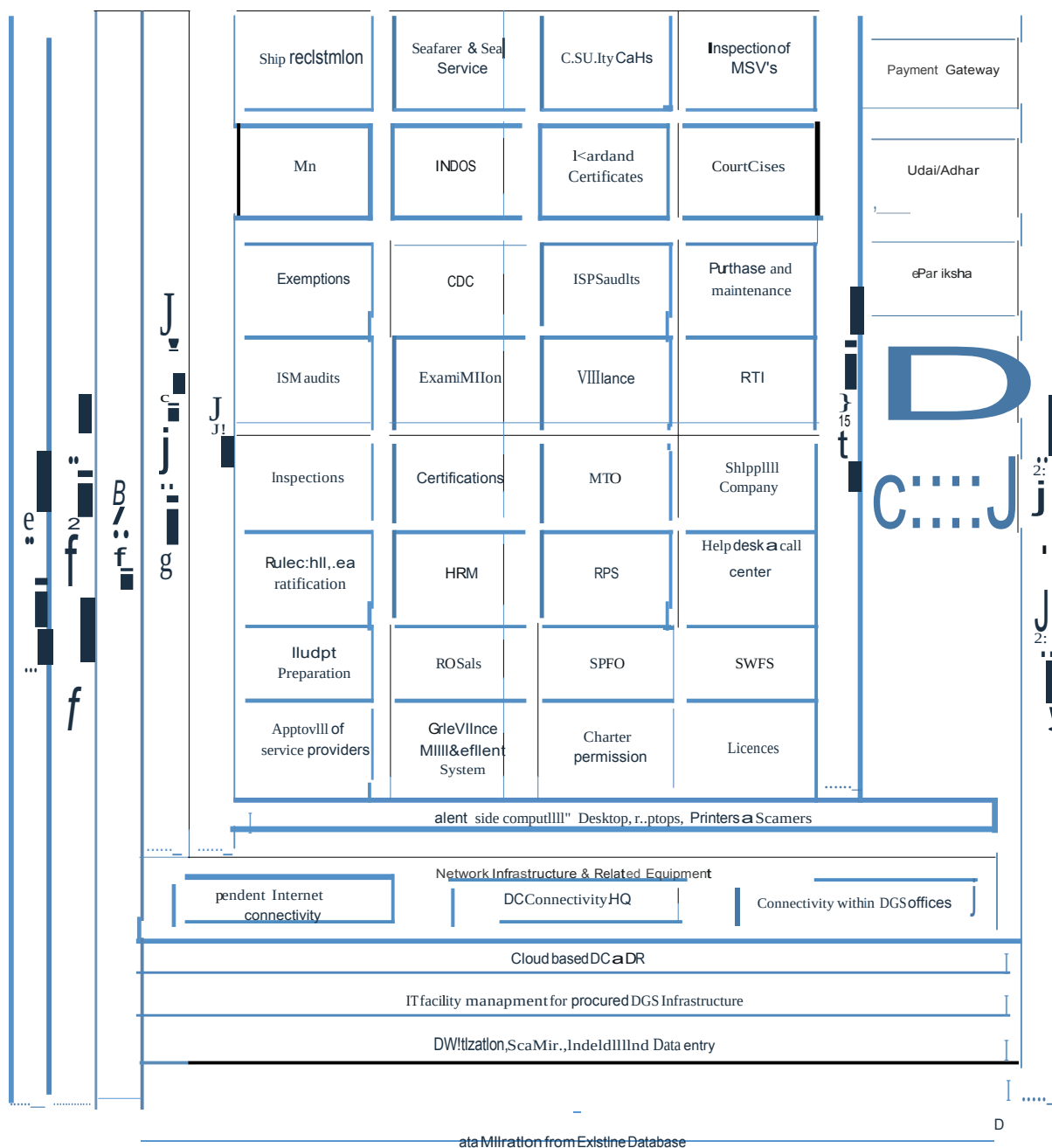
Figure 3: Proposed Back-End Interface



SELECTION OF SYSTEM INTEGRATOR FOR EGOVERNANCE SOLUTION AND TRANSFORMATION OF DIRECTORATE OF GENERAL SHIPPING, GOVT OF INDIA

The following provides a pictorial representation of envisaged scope of work and related components for the bidder. These have been explained in later sections.

Schematic representation of bidder's scope of work



1. Project governance and management

Bidder is expected to adopt industry best practices throughout the contract duration for project governance and management necessarily covering:

- A. Creation and update of project management plan
- B. Monitoring and execution of project as per plan
- C. Change control management
- D. Providing regular status updates

2. IT software and applications for service delivery and operations

3. A key component of the contract is development / customization and implementation of a comprehensive integrated IT solution which supports all service delivery processes and functions of DGS. These have to provide for necessary amendments/ upgrades / modifications that may be required in future, also taking into account any change in DGS Acts/Rules or any relevant notifications by DGS from time to time relating to any services envisaged under DGS. These components have been elaborated in the subsequent sections within this tender. Various subcomponents within are:

A. Communication channels and interface

- 1. Redesign, redevelopment and maintaining content on DGS website open to public
- 2. Creation of DGS e-Governance portal for registered users of DGS including seafarer, shipping companies, training institutes, government agencies, DGS employees, ship manager, shipping agents, Port authority, Seamen 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. Managing SMS and Email interfaces to enable push-pull services and alerts through these medium

B. Software development, roll out and maintenance

- 1. Seafarer management
Supporting all seafarer related functions including seafarer registration, seafarer profile, pre & post training, discharge, Examination, Certification, Sea service records etc.
- 2. Ship related processes
Ship related processes such as ship registration, issuance of certificate, charter permissions and licences, approval of plan, registration and survey of FFA / LSA
- 3. Internal operations
This includes standard government functions such as Human Resource management, administration, vigilance, crew branch, finance and accounts, concurrent feedback, RTI, grievances etc.
- 4. Gratuity

- DGS is required to manage and pay gratuity of the seafarer
5. Provident fund
DGS manages provident fund by making investments into defined instruments, disbursement of loans against provident fund being managed, managing employee PF accounts and settlement at time of retirement as per defined business rules
6. Legal function
Software shall provide facility to manage various court cases, legal proceedings, litigations of DGS, managing operations and costs related external legal help taken by DGS, maintaining case history, among others as mentioned subsequently
7. Ship Registration
For a ship 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 MMD, Generations of certificates by RO, Transfer of port of registry, Registration and discharge of mortgage, Change of command, NOC from SMO, SWFS and SPFO, closure of registry are related activities for a Ship registration.
8. Inspection of MSV's
RO (sails) are allied offices of DG Shipping. They assist sailing vessel owners in organizing themselves for better securing of cargo. Apart from looking at welfare and amenities of seafarers under sailing vessels industry, RO (sails) is also responsible to conduct annual inspection of mechanized sailing vessels (MSVs)
9. MTI
Maritime Training Institutes (MTIs) are educational institutions imparting pre-sea or/and post-sea training as per DG 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.
10. INDOS
INDOS No. is a unique number allocated to each seafarer at the very start of their careers, when they enroll with an MTI. Both seafarers and MTIs can apply for the same and the process is housed within the INDOS Cell, the Directorate.
11. I-card and certificates
Management of I-card and certificates is one of the internal processes. This process is managed by Administrative wing of DGS
12. Court cases
Management of court cases is one of the internal processes. This process is managed by Administrative wing of DGS
13. Exemptions
This is one of the sub-processes related to ships. 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 MS Act or those mandated by international conventions such as SOLAS or MARPOL. All exemptions are handled by the Directorate. Exemptions have been classified into Maritime safety & security, Environment pollution prevention, Licensing, Education & training of seafarers.

14. 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 Seafarers (STCW). A seafarer may apply for the same after completing all aforementioned STCW courses from an approved MTI. The process is housed at the Shipping Master's Office (SMO). Application for New CDC, Renewal of CDC, Replacement of CDC, Duplication of CDC, Discontinuation of CDC are the processes related to CDC

15. ISPS audits

This is one of the sub-processes related to ships. All ports that come under the purview of DG Shipping need to adhere to the ISPS code. Each ISPS compliant port has its own security plan that has been approved by MMDs.

16. Purchase & Maintenance

Management of Purchase & Maintenance is one of the internal processes. This process is managed by Administrative wing of DGS

17. ISM Audits

The ISM code was created by IMO to ensure safety of life at sea, To prevent human injury or loss of life, To avoid damage to the environment and to the ship. The ISM code is implemented by DGS in India by performing DOC and SMC audits. The Directorate has a dedicated ISM cell that issues DOCs & SMCs.

18. Examination

It is necessary for a seafarer to have a valid Certificate of Competency (COC) of some grade to work as an officer on a Merchant Navy ship. To get a particular grade COC, a seafarer is required to clear all functions, written and oral of that grade. There is hierarchy in grade of COCs and a seafarer 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.

19. Vigilance

Vigilance department looks after all the vigilance related matters of the Directorate. Complaint processing, Annual Property Returns, Issuance of VCC are the processes undertaken by Vigilance department. Apart from these process, Vigilance department also annually conducts the awareness week as instructed by the Ministry.

20. RTI
Since the Directorate is a government body, it is bound to share information under the Right to Information (RTI) act. When any stakeholder files an RTI, Crew branch coordinates with the shipping master/MMD to provide relevant information.
21. 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 ship 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 Directorate are appointed by respective Principal Officers.
22. Certifications
Seafarers sailing on every Indian ship except home-trades ship of less than two hundred tons gross engaged in coasting trade of India, while going to sea from any port or place, need to have a number of Certificates of Competency (COC) and Certificate of Proficiency (COP) as per MS ACT, 1958. A seafarer is eligible for a COC once he has cleared all the functions (written and oral) of that particular grade/rank.
23. MTOs
Multimodal Transport Operators or MTOs are those entities that use more than one modes of transport to facilitate the transportation of cargo from one place to another.
24. Shipping Company
Shipping Company is one of the Stakeholders at DGS .The sub-processes covered are Payment of PF Contribution, Payment of Gratuity Contribution, and Annual Fee Payment.
25. Rule change & ratification
Existing rules may need change or ratification with time to match the advancement in technology. MSL forms an internal committee of concerned branch heads and other relevant stakeholders to prepare a draft of the new/updated rule. The draft of the new/updated rule is updated on Directorate's website for comments from general public. Useful comments/suggestions are incorporated by the committee in the final draft. The final draft is approved by DG and later by the Ministry of Shipping and is subsequently published on the Directorate's website.
26. HRM
Human resource process is one of the internal processes. This process is managed by Administrative wing of DGS.
27. RPS
Recruitment and Placement of Seafarer's Licenses (RPSL's) are issued to manning agencies which are involved in recruitment and placement of seafarers. The processed under this module are housed both at SEO and SMO.

- Approval of RPSL, Renewal of RPSL, Correction of RPSL Details, Payment of PF Contribution, Payment of Gratuity Contribution, and Background Process Check are the sub processes related to RPS.
28. Budget Preparation
Finance & Account department is responsible to coordinate with all the departments and prepare the non-plan budget every year. F & A in coordination with all the branches prepares proposed budget and sends to Ministry of Shipping for approval. The Ministry of Shipping sends the proposed consolidated budget to the Finance ministry which approves certain amount of the budget. The approved amount is generally less than the proposed amount. Hence, F & A re-distributes the approved budget among all departments and the approved department wise budget is sent to all the departments.
29. RO Sails
The Regional Office (Sails) established at Mumbai, Jamnagar and Calicut assist be sailing vessel owners for standardization of trade by securing cargo and elimination of mal practices, registration of Sailing Vessels, issuance/renewal of identity cards to sailing vessels seamen, repatriation of stranded seamen in other countries due to sailing vessel casualties etc. This office is headed by the Regional Officer (Sails) and assisted by the supporting staff and functions under the administrative control of the respective MMD (HQ).
30. SPFO
The Seamen's Provident Fund Scheme framed under the Seamen's Provident Fund Act, 1966 (4 of 1966) was introduced retrospectively with effect from 1st July, 1964 to provide for the institution of a Provident Fund for all Seamen, in view of the obvious need to provide old age retirement benefit to the seamen members engaged in the Shipping industry (Merchant Navy) and their family members in the event of death.
31. SWFS
The Seafarer's Welfare Fund Society (SWFS) is a Central Organization for Welfare of Indian seafarers and their families. It is registered under the societies Registration Act 1960 and as a Trust under the Bombay Public Trust Act 1950. Amongst other things, their main objective is to provide welfare facilities in general to seamen at ports in India and to seamen engaged as per provisions of section 101 of the Merchant Shipping Act, 1958, while at ports abroad and to give pensions, gratuities or charitable aid to employees or ex-employees of the society & their next of kin.
32. Grievance Management System
The Directorate 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 branch. The concerned branch responds within two days. If not, the helpdesk coordinates with the concerned branch to get the query resolved at the earliest.

33. Charter Permissions

To traverse Indian waters, a ship requires permission from the Indian government. For ships 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 ship is not allowed to sail in Indian waters without a permission.

Other key support modules

34. 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 DGS and implement the same.

35. 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

36. Others as mentioned in subsequent sections within tender

4. Integration with existing DGS systems

As part of the scope 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. Indicative lists of interfaces and integrations have been provided in the tender. These may be further enhanced by bidder at the time of implementation. Bidder will be expected to provide options of integration / interfacing with different systems. It is understood that some interfaces require involvement of third parties which may be delay implementation of these interfaces. Bidder is expected to proactively highlight any such delays and provide updated plan for implementation of all such interfaces. Bidder shall also provide interface for uploading data in CSV formats for manual data upload.

Bidder is expected to develop and support interfaces as required to ensure complete service delivery from DGS as a single unit

5. Network infrastructure with IT

Bidder is expected to design and determine requirements for various ICT infrastructure components as required for functioning of the solution, procure, install and commission and further maintenance ICT infrastructure which includes:

- A. Software licenses and required support for any bespoke applications / custom changes
 - B. Cloud based Data centre and disaster recovery centre for hosting the solution
 - C. Client-side infrastructure including desktops, Laptops, printers, scanners, etc.
 - D. Networking infrastructure including connectivity of HQ with DC and DR, providing internet connectivity and MPLS to all office locations and new networking infrastructure and its maintenance
 - E. Any other components required for functioning of solution
6. 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
- A. Change Management and Capacity Building strategy for effective use of the system
 - B. Carrying out training of various internal and external users of the system
 - C. Creation of user manuals / tutorials for using the system
 - D. 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
 - E. And other as mentioned subsequently
7. Design, development, integration and maintenance of mobile application
8. Implementation and adherence to IT policies as defined by DGS
Bidder will provide all support required to implement the solution as per STQC guidelines
9. Operations and maintenance of entire solution at DGS
Post go-live and stable operations, bidder is expected to provide operations and maintenance services for the entire solution deployed including software, ICT infrastructure, etc. for a period as defined. This includes
- A. Provision, deployment and supervision of personnel required by DGS
 - B. Obtain relevant Certifications and adherence to respective Industry Standards as detailed later in this RFP
 - C. Manage entire project from conceptualization to operationalization and maintenance as well as subsequent transfer of infrastructure/ applications and handholding for a period of six months from the end of this contract.
 - D. Defining exit management program and knowledge transition to DGS officials
 - E. Any additional overarching requirements of the solution for strengthening the services relating to DGS and this project.
10. IT facilities management for new DGS infrastructure
Bidder shall provide IT facilities management services to provide first line services related to all IT issues including software, applications, client side infrastructure, servers, network, etc.
Scope for bidder includes

- A. Managing IT facilities within DGS which have been provided by the bidder and existing infrastructure available at DGS as defined subsequently
- B. Establishment and maintenance of IT helpdesk for supporting DGS's IT facilities

11. Scanning and digitization services as per DGS requirements

Bidder is expected to provide scanning and digitization services which includes supply of manpower and scanners and related facilities to carry out scanning of department's documents and importing the same into DMS solution as per defined document management policy. The bidder shall set up the necessary infrastructure at required DGS locations for the execution of the project. Parallel scanning of documents should happen at required DGS locations.

12. Other key requirements:

- A. Bidder should propose only one solution that is best suited for the needs of the DGS. Bidder should provide only one choice for each of the goods and services proposed as part of this tender.
- B. The solution should be sized and delivered for the load at the end of 6th year from the effective date of Contract. DGS will requisition additional resources as and when required by the Purchaser from time to time. Such request should be governed by the change order procedure as defined.
- C. Bidder should ensure that all the software, hardware, peripherals, accessories, sub-components required for the functionality and completeness of the solution, including but not limited to devices, equipment, accessories, patch cords (copper / fibre), cables, software, licenses, development / testing kits, tools, etc. should also be provisioned according to the requirements of the solution.
- D. The system software licenses shall be genuine, perpetual, full use and should provide patches, fixes, security updates directly from the OEM at no additional cost to DGS for the entire period of contract
- E. All the software licenses that the Bidder proposes should be perpetual software licenses. The software licenses should not be restricted based on location and the Purchaser should have the flexibility to use the software licenses for other requirements if required.
- F. The Bidder shall be responsible for providing the perpetual licenses so as to maintain the IPR and source code (customized / extension) with DGS
- G. The bidder shall provide with a full use database license
- H. All the licenses and support should be in the name of DGS
- I. Bidder should ensure that the Annual Maintenance Support for the software and hardware components is provided for the period from date of deployment of the software and hardware component till the end of contract period. Annual Maintenance support should include patches, updates and upgrades of the software and hardware components. Bidder should ensure that there is a comprehensive onsite warranty / support arrangement for the aforementioned period with all the OEMs.
- J. Bidder should ensure that none of the components and sub-components is declared end-of-sale or end-of-support by the respective OEM at the time of submission of bid.

If, the OEM declares any of the products / solutions end-of-sale subsequently, Bidder should ensure that the same is supported by the respective OEM from its date of deployment till the end of the contract period.

- K. Considering the criticality of the infrastructure, bidder is expected to design the solution considering the tender condition of no single point of failure with high level of redundancy and resilience to meet the uptime requirements
- L. Bidder is expected to carry out an independent exercise to size the solution and accordingly provision the requirements. Bidder should ensure that all the components are sized adequately and it should also be noted that Bidder would be responsible for meeting the performance requirements stipulated in the tender, contract and SLA for the entire solution at all times during the currency of the contract
- M. If a product is not supported by the OEM for any reason whatsoever, from the effective date of Contract till the end of the contract period, Bidder should replace the products/solutions with an alternate that is acceptable to the Purchaser at no additional cost to the Purchaser and without causing any performance degradation and/or project delays
- N. Sizing considerations and minimum ratings wherever provided in this document are indicative. Bidder is expected to carry out an independent exercise to size the solution and accordingly provision the requirements. Bidder should ensure that all the components are sized adequately and it should also be noted that Bidder would be responsible for meeting the performance requirements stipulated in the tender, contract and SLA for the entire solution at all times during the currency of the contract.
- O. Bidder should meet all the defined acceptance and operations criteria for each phase of the project covering the proposed solutions.
- P. Any additional components, sub-components, assemblies, sub-assemblies that would be required to meet the desired performance requirements will have to be provisioned by Bidder at no additional cost to the Purchaser and without any project delays.
- Q. It is expected that Bidder will provide an integrated solution after due consideration to the compatibility issues between various components and existing internal systems. If there is a problem with compatibility between components, Bidder should replace the components with an equivalent or better component that is acceptable to the Purchaser at no additional costs to the Purchaser and without any project delays.
- R. Bidder should provide minimum Two hard and Two soft copies of all the reports, manuals, documentation, including but not limited to, detailed operations manual, maintenance manual, administration manual, etc. for each and every equipment / component proposed as part of this tender. The documentation should be supplied for Installation, Maintenance, Servicing and operations of equipment / components.
- S. Bidder should arrange for desktops / workstations, printers and other peripherals and consumables for its team members deployed.
- T. Bidder should have to arrange for necessary tools for defect tracking, defect logging, application performance monitoring, automatic testing etc. to deliver the complete software development and maintenance services.

- U. Bidder should ensure the usage of configuration management and version control tool and own the necessary licenses for its team to deliver software development and maintenance services. Additionally, Bidder should provide single user license for the configuration management and version control tool for the Purchaser.
 - V. Bidder should provide a single user development environment license in the name of the Purchaser for the various tools used by Bidder during the development phase of respective solutions. These tools would typically include Application Development Framework / Environment for custom built and COTS based products, XML Schema Designer, PDF Designer, etc.
 - W. The Bidder will be responsible for providing the necessary development and testing environment and maintaining the related software and hardware for the Contract period.
 - X. The bidder shall transfer all the assets including all its components of software, hardware etc. to the DGS at the end of contract period at no additional cost to the DGS.
 - Y. During the Contract period, all project assets including data and intellectual property should be in safe custody and due reasonable care should be taken on the behalf of the DGSto prevent any unauthorized use.
13. Any other overarching requirements of solution not covered above but required by bidder to ensure proper functioning of solution.

1.3 Detailed scope of work

The various activities which are envisaged to be undertaken by bidder have been detailed out in subsequent sections. Bidder is expected to consider these when preparing the response.

1.3.1 Project management

1. Within the defined timelines, bidder shall prepare a comprehensive project plan for entire project covering detailed tasks which are to be carried out as a part of this project along with delivery schedule and key milestones.
2. Bidder should setup a project management information system which will enable sharing of project plan, regular status updates, issue register with all stakeholders involved
3. Bidder should define the project governance structure detailing and highlighting roles and responsibilities for all stakeholders involved from bidder's team, DGS team, other vendors/ stakeholders. Requirements that are expected from DGS need to be jointly arrived at and have to be signed off between the bidder, DGS and all relevant parties involved.
4. Bidder is expected to detail the project implementation approach, phases involved, highlighting dependencies
5. Project plan should necessarily cover areas of time, scope, quality, and risk management for the entire project.

6. Plan should also include a work breakdown structure detailing various components expected as outcomes which need to be mutually agreed with DGS.
7. In addition bidder should also provide timelines for sharing of supplementary plans such as development schedule, user testing plan, pilot release plan, deployment plan, etc.
8. Considering that the project involves a major transformational change within DGS, bidder will be expected to detail out a comprehensive change and communications management strategy and plan.
9. The project plan will be revised within mutually decided timeline and shared with all stakeholders
10. On a monthly basis, bidder will provide a project status report which will necessarily highlight milestones achieved / missed, milestones currently in execution, deviations observed, changes made to project plan, issues raised and resolved/pending. The format for status report will be mutually agreed with DGS.
11. Bidder along with DGS'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 under RFP Volume I. No change will be accepted without approval of the change control board (CCB) formed and defined as a part of project governance structure.
12. The bidder shall form a project team comprising the following key positions proposed in their proposal and as defined in this tender under section 1.3.8:
 - A. Project Manager
 - B. Subject Matter Expert
 - C. Business Analyst
 - D. Solution Architect
 - E. Database Administrator
 - F. Schedule for deployment of personnel will be shared upfront with DGS and will comply with the conditions as laid down in this tender.
 - G. Cloud Expert
 - H. Cloud Support Engineers
13. Initial Composition, Full Time Obligation; Continuity of Personnel
 - A. 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.
 - B. 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 DGS that would have the same effect):
 - i. Unless that person resigns, is terminated for cause, dies, is long-term disabled, is on permitted mandatory leave under Applicable Law or retires; and
 - ii. Without DGS's prior written consent. The clauses of non-disclosure agreement shall always operate in any such case.
 - iii. Bidder shall promptly notify DGS of its intention to re-hire any member of the Key Personnel who had resigned from bidder in the previous 12-month period. DGS 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.

14. Evaluations

- A. 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 DGS of the date of each evaluation of each member of the Key Personnel and DGS shall be entitled to provide bidder with input for each such evaluation.
- B. Bidder shall promptly provide the results of each evaluation to DGS, subject to Applicable Law.

15. Replacement

- A. In case the resource has resigned, then the bidder has to inform DGS within one week of such resignation.
- B. 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 30 days, subject to reasonable extensions requested by bidder of DGS.
- C. Before assigning any replacement member of the Key Personnel to the provision of the Services, bidder shall provide DGS with:
 - a. A resume, curriculum vitae and any other information about the candidate that is reasonably requested by DGS; and
 - b. An opportunity to interview the candidate, if required.
- D. 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, DGS may request for an interview of the candidate and notify bidder within mutually agreed timelines. If DGS does not request an interview within mutually agreed timelines then it would be deemed as accepted.
- E. If DGS 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.
- F. The bidder has to ensure at least 4 weeks of overlap period in such replacements.

16. High Attrition

- A. If in the first 6 month period from the Contract Effective Date or in any rolling 12 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 DGS's prior written consent, bidder shall:
 - i. Provide DGS 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

- ii. 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.

1.3.2 Designing, configuration / development, implementation and support of entire IT application portfolio for service delivery and operations

The component covers all software, applications and other related components which are required for functioning of DGS. Bidder is expected to design a comprehensive ICT solution and implementation strategy for the project with consent of DGS. The following sub-components are expected to be covered under this component at the minimum. Bidder may add additional components as felt necessary

1.3.2.1 Functional coverage

The scope of software and applications to be covered by the bidder includes all processes, functions and activities being carried out by DGS. This will include but not limited to:

- Entire Shipping and seafarer operations
- Functionality including registration, service requisition, service fulfilment, billing, payment, refund, demand, grievance management, and others.
- ERP functions as required including HR management etc.
- Workflow management consisting of all workflows of DGS departments
- Service desk management for IT and service delivery of all port operations
- Enterprise level DMS solution
- Internal service desk for DGS functions
- Enterprise level SMS and Email solution
- Payment gateway
- Website content management solution
- SPFO & SWFS
- Software for customer service centres, service desks, and others as identified at the time of requirement gathering
- SLA monitoring
- Single sign-on
- Network security, network monitoring, etc.
- Designing and developing necessary interfaces as required for seamless integration with other systems to get required information
- Office collaboration tools
- Any other components as required for functioning of solution as per requirements

1. The integrated solutions (COTS & Bespoke as developed above) shall have to be integrated with payment gateway, sms gateway, Aadhar etc.
2. Requirement of any database user licenses, system software etc required for the purpose is to be supplied by the firm till maintenance contract period. The firm has to study the same properly so that operation, maintenance and administration can continue smoothly without any interruption from the day of acceptance of the system.
3. No excuse of ignorance on any activities, functions, reports, bills, outputs etc. shall be entertained during operation and maintenance period. The firm shall develop the suitable interface to integrate it with the integrated application, so that all the benefits of the new system environment are made available to the users and the monitoring of shipping operations are made feasible for the DGS management.
4. Data security and management
5. Other functions as mentioned in the functional architecture, process flows, requirement specifications and other sections within this tender.

1.3.2.2 Requirement gathering

1. A high-level analysis of processes has been done and functional requirements have been identified. Broad-level proposed processes and related functional requirements and specifications are included in later sections of this tender. Department manuals and existing processes and related inefficiencies will be shared with the bidder after signing of contract.
2. Bidder shall consider these documents as a base, translate these into logical system requirements and develop a systems requirements specifications (SRS) document. Here the bidder is expected to expand on the individual workflows within specific workflows and capture functional logic and check points involved in each workflow. The SRS document should necessarily contain the following details:
 - A. User groups, roles and types of access
 - B. System attributes
 - C. Use cases for workflows
 - D. Sequence diagrams for workflows identified
 - E. Functional logic and checks expected from the system while execution of the project
 - F. Software components which will be used including Shipping and seafarer operations systems, ERP, DMS, electronic workflows, etc.
 - G. Reporting requirements
 - H. Interfaces with other DGS systems and external systems
 - I. Device requirements
 - J. Security requirements
 - K. Audit and application logging requirements
 - L. Archival requirements
 - M. Migration requirements
 - N. SLA monitoring requirements
 - O. Functional, non-functional, performance and external interface requirements
 - P. Other details which are required to clearly articulate software requirements

3. Bidder will conduct workshops with relevant users of the systems wherever necessary, to obtain more details on the requirements of the project and have to get a sign-off the requirements. The bidder should identify the customization requirements for the implementation. Any changes required in the proposed processes will have to be explicitly discussed and agreed with DGS and relevant stakeholders.

1.3.2.3 Solution design

1. The bidder is expected to adopt any of the following approaches or combination of following approaches:
 - A. Configuration / Customization of an existing application that may be Commercially available Off-the-shelf product (COTS)
 - B. Be-spoke development of the application
 - C. Combination of above 2 options
2. Irrespective of the option above chosen by the Bidder, the Bidder is required to meet all the requirements of this RFP including the activities listed, timelines and deliverables mentioned in this RFP, functional, performance, service level related and any other requirements stated in this RFP.
3. Open source tools may be used wherever bidder feels necessary.
4. Design should be comply with latest Indian e-Governance standards and specifications and those updated time-to-time
5. The Bidder shall ensure bilingual (English & Hindi) support and other relevant standard formats for display, Printing and transmitting of data.
6. The Bidder must ensure that the solution technology components adhere to flexibility, interoperability, usability, availability, manageability, security and integration standards
7. Design should make use of common government components wherever possible
8. Design should comply to minimum functional requirements as specified within this tender
9. Design should be flexible to adapt to changes required as per directives from ministry of shipping and DGS
10. The bidder shall make necessary provisions for management reports, dashboards, Mail/SMS gateway and Data migration in line with the expectations of users provided in the functional requirements and understood during requirement gathering phase.
11. Bidder shall prepare a complete system design for the solution envisaged. The design will necessarily cover the following:
 - A. Solution architecture covering minimum technical architecture view, data architecture view, application architecture view, network architecture view, data centre architecture view, security architecture view, end user computing view
 - B. Software components and their interaction with each other
 - C. Customizations which are being made in the products being installed
 - D. Interfaces with other systems internal and external
 - E. Data architecture
 - F. Format of all input screens including data entry requirements
 - G. Flow of screens and controls of the software
 - H. Format of all reports that would be generated by the proposed system

- I. Access control mechanisms, data security and audit trails to ensure that databases are not tampered with or modified by unauthorized users
 - J. User input forms and screen designs for all processes
 - K. Report design for operations users and end users
 - L. Dashboard design for leadership and senior stakeholders
 - M. DMS design
 - N. Enablement of Single sign-on, access control measures
 - O. Other software components as required
12. 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.
13. Design and Implementation of the System Architecture: The bidder shall be entirely responsible for the architecture of the system implemented to satisfy all features, functions, performance and security as described in this document including sizing of the required hardware. System architecture description provided in this document is for reference only. The bidder should ensure all possible and required improvements.
14. The system design must be such as to require the minimal installation, if at all, at the user's end, besides the Internet Browser. The proposed system should be able to support all latest common browsers (like Internet Explorer, Mozilla, Chrome, Safari etc.) and should work on popular operating systems on computers and other portable devices including mobile phones, tablets and other handheld devices proposed within the solution.
15. Bidder shall consider users' inputs when they are finalizing all design components including user interfaces, mode of data entry, storage and retrieval, outputs reports, queries and the application design as a whole.
16. Low-level design document (LLD) will be prepared and updated
17. The design document will be regularly updated to incorporate changes as applicable. All changes being done will be mutually discussed with relevant DGS officials.
18. Sufficient knowledge transfer will be provided to nominated DGS officials about maintaining the design documents

1.3.2.4 Procurement of software components, solution configuration / development and testing

- 1. The bidder shall deploy a dedicated team experienced in installation, configuration, customization, integration and testing, implementation, deployment of the proposed solution. Every custom development must be documented in detail and the code / script should be properly annotated with comments.
- 2. The bidder has to implement application software using latest available technologies after in-depth study of the prevailing ground conditions, processes and workflows.

3. Bidder shall be responsible for procurement of necessary licenses for proper functioning of the software. All licenses will be procured in the name of DGS and will include ASC/AMC for the entire duration of the contract. Bidder will maintain an inventory of all software components procured (commercially or open source), license renewals, etc. This list will be made available to DGS on request.
4. Solution shall be able to handle the peak workloads. Bidder is expected to conduct the sizing of the application.
5. Bidder shall ensure that latest patches/upgrades for software components being used will be applied in consultation with DGS
6. Bidder shall be responsible for configuration / customization of the software components procured as required for the solution
7. Bidder shall carryout development of any software which is required within solution adopting industry leading practices.
8. Bidder shall maintain a software configuration management system with appropriate version control for the software deployed
9. Bidder shall adopt leading practices for release deployment in production environment
10. 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
11. Testing cases executed, testing logs, bugs fixed, testing results, etc. will be maintained by bidder and shall be made available to DGS on request if required.
12. 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
13. 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
14. 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.
15. 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

1.3.2.5 User training

1. Bidder is expected to train end users so as to enable them to test and use the system in totality. Details about trainings have been covered in the “Migration, transitioning support and change management “ component later
2. Training will be provided to DGS e-governance officials so as to enable them to carry out minor changes / configurations
3. Identified users within DGS will be trained by the selected bidder on the entire functionality of the solution
4. Train the trainer model may be adopted by bidder

1.3.2.6 User acceptance testing, conference room pilot and phased deployment

1. The bidder shall provide Plans for User Acceptance Tests (UAT) and System Integration Tests (SIT) including Performance Tests (PT) to DGS and make the necessary changes to solution to optimize performance.
2. Bidder will provide necessary support required for user acceptance testing by DGS and related users.
3. Bidder will maintain the UAT environment and deploy releases as per mutually decided policy.
4. 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

1.3.2.7 Full scale deployment and Go-live, Post deployment and stabilization, Post-stabilization support and operations, Incremental updates to solution

1. Bidder shall ensure that the software solution is properly rolled out.
2. Bidder will be responsible for the generation and submission of necessary documentation required during various stages viz. Planning, Development / Customization, Commissioning and Rollout. Prior approval of DGS would be required on all such documentation before commencement of activity.
3. The software solution would be considered acceptable only after the conditions and requirements of this tender are completely met to the satisfaction of DGS.
4. Bidder should be responsible for co-ordination with vendors, troubleshooting, addressing borderline issues, coordinating with users at DGS, to ensure successful rollout of the application
5. Development of necessary solution requirements, configuring the specific functional modules, third party applications, development of interfaces wherever and whenever necessary.

6. The Bidder shall ensure that the proposed solution provides adequate interfacing mechanisms (both at the application and data level) with a view to integrate future applications of DGS. Such interfaces shall follow industry standards such as Application Programming Interface (API's) and web services. Along with API's the bidder shall develop interface to upload data manually using CSV formats.
7. The Bidder shall supply and install the application, database and related software, integration tools, along with the customized source code and requisite perpetual licenses for the solution, if any. The Bidder shall also describe and document the process to be followed for installing and operating the same.
8. The Bidder shall design the hardware configuration in line with contemporary principles and ensure that it comprises various servers including database, application, web servers etc.
9. The Bidder shall consider stakeholder inputs when they are finalizing all processes including user interfaces, mode of data entry, storage and retrieval, output reports, queries and the application design as a whole.
10. The Bidder must ensure that granularity is built in the solution, sub-modules and individual functionalities so that these functionalities can be enabled or disabled through the application administrator as per requirement.
11. The system must possess easy-to-use user interfaces, able to perform tasks with minimum of clicks, maximum select options and provide suitable short-cuts wherever possible and guided through screens.
12. The Bidder shall create and manage all necessary master files for the proposed solution.

1.3.2.8 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:
 - a. Communication Plan listing all stakeholders in the project, defining their roles and responsibilities
 - b. All Architecture documents, Design documents and, testing and deployment manuals etc.
 - c. 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.
 - d. Interface Control Document, documenting the interface characteristics of one or more systems and any previously documented information together with any agreements between interface owners.
 - e. 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.

- f. Operations Manual providing instructions for installing the application, troubleshooting, interpreting message logs, and FAQs (Frequently Asked Questions).
 - g. 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 inputs to, and interpret outputs from the application.
 - h. A data dictionary listing out all the data elements shall be prepared.
2. The Bidder shall maintain all documentation related to the system including software artefact and database with adequate traceability matrix and version control.

1.3.2.9 Software Application Maintenance

1. The objective of application maintenance is to provide application maintenance and support services, including request based services (problem requests/defect fixes), enhancements, configuration management and post release support. As part of these services, Bidder should provide support for bug fixes, enhancements, operational support, and assistance to DGS.
2. Bidder should be required to undertake the Application maintenance and Support services.
3. Bidder should commit to provide all necessary resources and expertise to resolve any issues and carry out required changes, optimizations and modification so that complete system as a whole works according to the specified requirements and satisfaction of DGS.
4. Bidder should ensure that the entire solution as a whole is operational and run according to stipulated performance standards.
5. Bidder should ensure efficient knowledge transfer on a continuous basis so as to ensure that application knowledge is passed on to new members subsequently joining the team.
6. The following sections explain the scope of each activity Bidder is expected to perform under application maintenance and support services for the period of contract.
7. End User Support

The end user support would include all activities related to resolving the bugs / defects reported by application users. Every bug / defect should be logged. Every bug / defect should be categorized on the severity levels.

8. Bidder should identify the solution and take necessary approvals from DGS and release the patch for UAT after fixing the defects.
 9. Bidder should document defects / bugs encountered as well as document the resolution of the same. Bidder should also update the Consolidated List of Common Errors and their Resolution document.
10. Bidder activities would be monitored as per SLAs defined in this tender
11. Application enhancement / New Development

The application may require modifications or enhancements in the functionality. The enhancements or new development may also be required to fix some complex problem requests or defect fixes and upgrade the application performance.

- A. Bidder should ensure that correct version of the application / program units are being considered to carry out application enhancements/ new development.
 - B. Bidder should follow the configuration management plan for configuration management and version control using the version control software.
 - C. Bidder should support DGS in carrying out the UAT for the modifications / enhancements.
12. Configuration management and version control
- A. 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.
 - B. 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 DGS.
 - C. Bidder may be required to assist DGS personnel in ensuring that a copy of the production environment is backed up and stored in the repository before the new / modified components are copied to Production. Bidder may be required to assist DGS personnel in restoring the backed up application versions for testing purpose mainly addressing the restorability of the media.
13. Release management

Release management procedure should be defined in conjunction with DGS 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:

- i. Bidder should group the related change requests, assess their development progress and accordingly prepare a schedule for their release.
- ii. Bidder should in consultation with DGS 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.

1.3.3 Design, installation, commissioning, and maintaining entire IT infrastructure

- 1. The bidder shall be responsible for procurement, supply and installation of entire IT infrastructure required for setting up and operations of the envisaged solution. The IT infrastructure includes data centre, disaster recover, networking infrastructure, internet connectivity, client side computing devices including desktops, laptops, printers, scanners, related system software, other software and any other related IT infra required for running and operating the envisaged solution. The IT infrastructure procurement will be planned considering the below factors:
 - A. Minimum impact to business operations continuity
 - B. Maximum availability of services to users
- 2. Bidder shall procure all required infrastructure as required for functioning of the solution.

3. IT infrastructure deployed should be dedicated for the project and bidder shall not be used for any other purpose.
4. The ownership of IT infrastructure shall get transferred to DGS after “Acceptance and Go Live”
5. Bidder shall ensure warranties/ASCs/AMCs are procured for all the IT components for entire duration of the project. For all components the support from OEM to be obtained for prescribed components. There would be a mechanism to verify these details on annual basis or as required by DGS. Bidder shall warrant that the Infrastructure procured for Project shall have no defects arising from design or workmanship or any act or omission. The warranty shall remain valid for period of five years from the date of “Go-Live” of the Solution.
6. Bidder shall provide the warranty for IT Infrastructure (Software & hardware) supplied for Project for a period of five years from the Go-Live on all the items supplied as per the contract. Bidder shall replace any parts/components of the IT Infrastructure supplied for project if the components are defective and during the entire warranty period bidder shall apply all the latest upgrades/patches/releases for the software after appropriate testing
7. Minimum specifications of the IT infrastructure are detailed in Volume I along with workload details, the bidder is expected to carry out independent assessment of IT infrastructure and design and size the solution to meet the project functional requirements and Service Level Agreements (SLAs). Any additions/modifications which have to be done in order meet the SLA and operational requirements will have to be borne by the bidder
8. Bidders are to prepare and submit along with their technical proposal, the details of methodologies and computations for sizing and capacity of storage, compute, routers, switches, Internet facing IPS, backup, tape libraries, sizing of security appliances and their compute requirements.
9. The solution being deployed is expected to be hosted and running at following key physical infrastructure facilities. These are as given below:
 - A. Data Centre: This will be cloud based primary site for hosting the central system supporting the entire solution. This will include live production, testing and development environments.
 - B. Disaster Recovery Site: This will be a fully functional cloud based disaster recovery center which will be used in case of disaster.
 - C. DGS office locations across India: Location list has been attached under section 5 of this document. Solution is expected to support DGS users working out of these locations. Bidder is expected to ensure supply of client side computing as per tender, setup network connectivity and carry out maintenance of equipment provided at these locations.
 - D. The responsibility shall include setting-up the IT infrastructure. Bidder shall also provide staff, technical and supervisory, in sufficient numbers to operate and manage the functioning of DC and DR at desired service levels.
10. Scope shall include providing internet connectivity at all DGS locations and MPLS link interconnecting all the locations recommended in this tender. Also, 2 factor

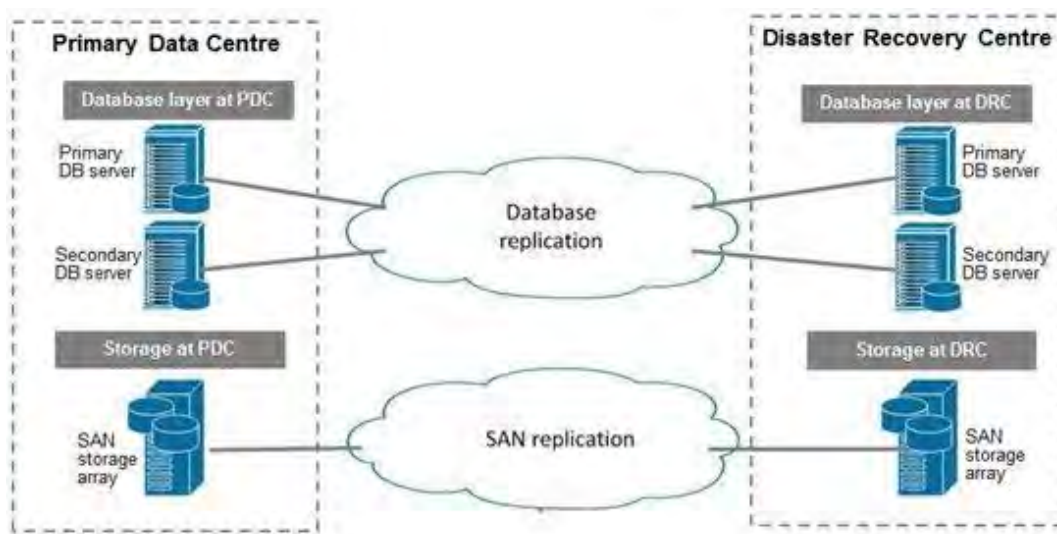
authentication mechanism should be in place for users connecting from outside the DGS network.

11. The bidder has to perform an independent assessment of the Infrastructure requirements for proposed system and provide a detailed BOM for the proposed infrastructure in line with the requirements of the project and performance on service level agreements.
12. DGS shall review and approve the BOM of the successful bidder at the time of implementation/deployment/commissioning. It is clarified that the BOM approved by DGS shall in no case be a lower version than the one proposed by the bidder in its technical proposal submitted to DGS and the same shall be scaled up / upgraded by the bidder as per the requirement for performance on the service levels at no additional cost to the DGS.

1.3.3.1 Data center and Disaster Recovery center

1. Bidder shall host the entire application centrally at the data centre. The core infrastructure shall provide:
 - A. Performance i.e. the system shall provide fast and steady response times (Quality of Service). The speed and efficiency of the system shall not be affected with growing volumes, especially during search operations, reporting, MIS, online processes and batch processes.
 - B. Availability i.e. all component shall provide adequate redundancy with no single point of failure to ensure high availability.
 - C. The systems shall be designed for 24x7 operations and meet all SLA requirements. Designing for availability assumes that the systems will fail, and therefore the systems must be configured to recover from component or server failures with minimum application outage.
 - D. Version Control and Management i.e. the system shall have versioning features to track, document and process revisions made in the system
2. The cloud hosting shall include the following:
 - A. All compute infrastructure like web servers (VMs), application servers (VMs), database servers (VMs), etc.
 - B. Software Licenses (Database, Application, etc.)
 - C. Cloud based data storage
 - D. Backup Solution (including VMs and software)
 - E. Networking components like high availability switches, routers, firewalls, etc.
 - F. Load Balancing components
 - G. Any other components required for functioning of the solution
3. Bidder to provide primary and secondary connectivity for each site.
4. Bidder shall carry out DR drill minimum once every year or as per DGS's policy.
5. The bidder will be responsible for all the technology, infrastructure at these sites over the period of the contract. The bidder will be required to procure, commission the required IT infrastructure as presented in Volume I of RFP.
6. The proposed applications shall be centrally hosted at these sites and access provided as online service to users
7. Replication technique

A. The indicative representation for the replication technique infrastructure and its connectivity is presented below.



- i. All data should be replicated between DC and DRC. There shall be no data inconsistencies issues with either data centre sites.
- ii. The expected RTO from the proposed design would be 2 hours and RPO to be 1 hour. The bidder is encouraged to propose a solution that will minimize the data loss.
- iii. PDC and DRC shall operate in active -passive mode.
- iv. The connectivity between both sites should ensure the replication works seamless with minimal data loss.
- v. Replication should ensure that there are no data inconsistencies on both application as well as storage level.
- vi. In event of disaster, DRC should be brought up as primary site within the defined timelines
 - i. The applications infrastructure provisioned in DRC shall be capable to handle minimum 50% load at any point in time.
 - ii. Storage at DRC should be 100% of the PDC at any point in time.
 - iii. The infrastructure by the bidder must be designed to avoid a “single point of failure” with redundant components to eliminate system outage.
 - iv. The proposed infrastructure should have high availability i.e. there should be no disruption in services on account of routine maintenance procedures, troubleshooting, loading hardware and software revisions, patches, etc.
 - v. Services shall be available with at least 99.5% availability on the Infrastructure
 - vi. Application and website should be hosted on Enterprise class server and storage system
 - vii. Network Infrastructure and security infrastructure should be complaint with technology and security principles as mentioned later in this tender
 - viii. Bidder shall carry out a detailed assessment of the LAN, WAN and Internet leased line networking requirements considering sufficient redundancy of the proposed system with respect to the scope of work.

- ix. The redundant internet connectivity (same bandwidth in the case of primary connectivity) would also need to be provided by the bidder
- x. Bidder also needs to estimate and provide the internet (active and redundant) bandwidth requirements for system portals to be hosted at PDC for the expected portal users.
- xi. Field offices and select DGS officials will access the systems for accessing the services. Such access would be as depicted in the network overview
- xii. Officials as may be authorized by DGS shall be allowed to access the systems or its components including databases, subject to such rights & privileges as DGS may decide from time to time for the purpose of testing, audit, certification, review, inspection etc.

Overall cloud requirements:

- i. CSP should be empanelled under MeitY's "Provisional Empanelment of Cloud Service Offerings of Cloud Service providers (CSPs)"
- ii. Meet any 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. Meet the ever evolving security requirements as specified by CERT-In (<http://www.cert-in.org.in/>)
- iv. The CSP data center facilities considered for cloud services should be located within India
- v. The Data Center 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
- vi. The primary DC and the disaster recovery site should be in different seismic zones within India
- vii. The Data Center should be certified for the latest version of ISO 27001:2013 and provide service assurance and effectiveness of Management compliant with SSAE 16 / ISAE 3402 standards

Cloud service requirements:

- i. The cloud services should provide scalable, redundant, dynamic compute and storage
- ii. Service shall provide users with the ability to procure and use compute and storage capabilities remotely over the SSL with two factor authentication.
- iii. 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.
- iv. 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
- v. CSP shall ensure that VMs receive OS/Database/Middleware/Application/VM/etc. patching, upgrade, update, health checking, Systematic Attack Detection and backup functions.

- vi. Monitor VM up/down status and resource utilization such as RAM, CPU, Disk, IOPS and network
- vii. The purchaser retains ownership of all virtual machines, templates, clones, and scripts/applications created for the organization's application
- viii. The purchaser retains the right to request full copies of these virtual machines at any time.
- ix. The purchaser retains ownership of loaded business solutions / bespoke software installed on the VMs
- x. Support a secure administration interface - such as SSL/TLS or SSH - for the purchasing organization's designated personnel to remotely administer their virtual instance
- xi. Provide the capability to dynamically allocate virtual machines based on load, with no service interruption
- xii. Provide the capability to copy or clone virtual machines for archiving, troubleshooting, and testing
- xiii. The CSP should provide tools and mechanism to the purchaser or its appointed agency for defining their backup requirements & policy.
- xiv. The CSP 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.
- xv. Transfer data back in-house either on demand or in case of contract or order termination for any reason
- xvi. CSP shall not delete any data at the end of the agreement (for a maximum of 45 days beyond the expiry of the Agreement) without the express approval of the purchaser.
- xvii. Provide capability to perform live migrations (ability to move running VM's) from one host to another.
- xviii. Provide support to all Application Programming Interfaces (APIs) including REST API that CSP develops/provides.
- xix. CSP should offer fine-grained access controls including role based access control, use of SSL certificates, or authentication with a multi-factor authentication.
- xx. 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.
- xxi. 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.
- xxii. CPU, RAM, Disk, Storage, etc. of virtual machine should scale automatically whenever there is spike in load to deliver application availability even during spike in load
- xxiii. Provide facility to configure virtual machine of required vCPU, RAM and Disk.

- xxiv. CSP to design the solution for different types of disk like SAS, SSD, etc. based on the application performance / SLA requirements considering the volume growth.
- xxv. CSP is responsible for Disaster Recovery Services so as to ensure continuity of operations in the event of failure of primary data center 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.
- xxvi. The Bidder (in consultation with CSP) shall clearly define the procedure for announcing DR based on the proposed DR solution. The Bidder / CSP 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. The Bidder / CSP shall plan all the activities to be carried out during the Disaster Recovery Drill and issue a notice to the purchaser at least two weeks before such drill.
- xxvii. The Bidder / CSP should offer switchover and switchback of individual applications instead of entire system.
- xxviii. Any lag and/or loss in data replication should be reflected in terms of the business requirements in terms of the defined RTO and RPO impact.
- xxix. Support replication of data between primary and DR cloud environment
- xxx. Allow replication of data between cloud and on premise sites
- xxxi. When the purchaser or Bidder /CSP (with prior approval of the purchaser) scales down the infrastructure services, Bidder / 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.

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 / CSP to perform patch management appropriate to the scope of their control including:
 - 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
 - Patch approved VMs on the next available patch management change window
 - Application of automated OS security patches, unless deferred or rejected by purchaser or designated agency

- Send regular approval reminders to purchaser or authorized agency designated email address five (5) days prior to patch cut-off dates
- Bidder / CSP should undertake OS level vulnerability management – all OS images created within the cloud platform are regularly patched with the latest security updates
- v. Provide the artifacts, security policies and procedures demonstrating its compliance with the Security Assessment and Authorization requirements as described in Security Requirements in this RFP.
- vi. Monitor availability of the servers, CSP -supplied operating system & system software, and CSP's network
- vii. The Bidder / CSP is fully responsible for tech refreshes, patch management and other operations of infrastructure with regards to the cloud environment (DC and DR).
- viii. Investigate outages, perform appropriate corrective action to restore the hardware, operating system, and related tools
- ix. CSP should manage CSP provisioned infrastructure including VMs as per the ITIL or equivalent industry standards.
- x. Comply with technology refresh requirements as mandated by CERT-IN and MeitY
- xi. Software within the CSP's scope will never be more than one version behind unless deferred or rejected by MeitY / Purchaser / Purchaser's authorized agency

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 greater than 1-hour of unscheduled downtime within a month
- iii. Helpdesk tickets reports submitted
- iv. Monthly and quarterly utilization reports (peak and average volumetric details)
- v. CSP should provide a portal for the purchaser (administration role) which should provide data related to:
 - Utilization reports (with threshold limits defined by the user)
 - SLA reports
 - Cloud service usage
 - Helpdesk and tickets
 - User profile management
- vi. The Bidder should set the baseline threshold limits for cloud infra utilization.
- vii. In the event of cloud infra utilization breaching the baseline threshold limits, the CSP is required to notify the purchaser and Bidder with adequate justifications for increasing baseline capacity.

Scope of work for infrastructure provisioning at on cloud data center includes the followings:

- i. The entire hosting should be from a Single location for all Data Centre equipment with perimeter and physical security. The Data Centre Site should be located in India only.

- ii. Bidder to ensure scalability of the DC cloud environment considering the future growth for next 5 -7 years.
- iii. Installation and commissioning of Servers as per solution requirement.
- iv. Installation and provisioning of Storage and backup as per solution requirement.
- v. Installation and commissioning of Software (OS/VM/backup software) along with relevant and requisite patches but not limited to.
- vi. Installation and commissioning of requisite Clusters for High Availability.
- vii. Installation and commissioning of Network and Security equipment for providing secured network environment.
- viii. Liaison with Network Bandwidth Service Provider for Link provisioning and commissioning.

Scope of work for infrastructure provisioning at on cloud disaster recovery center includes the followings:

- i. The entire hosting for all Disaster Recovery equipment should be from a Single location with perimeter and physical security. The Disaster Recovery Site should be in India and at a different seismic zone from Data Centre Site.
- ii. Bidder to ensure scalability of the DR cloud environment considering the future growth for next 5 -7 years.
- iii. All the VM, OS, DB, Middleware, application, etc version should be identical at DC and DR.

1.3.3.2 Client side computing – Assess, procure, install, commission and maintenance

- i. Bidder shall provide client side computing requirements as mentioned in the indicative bill of material (BOM). It is again stressed that bidder is expected to carryout independent assessment of the requirements at each of the location, charges related to any additions will have to be borne by bidder
- ii. Client side computing includes
 - i. Supply of components listed in indicative bill of material including computers, laptops, printers, scanners, wireless routers, wireless adapters for existing computers, among others mentioned in indicative BOM.
 - ii. Maintenance and support of the components provided under the contract, including replacement in case of issues
 - iii. Developing necessary interfaces for connecting the devices to central system for functioning of the solution

1.3.3.3 Network infrastructure – Design, install/configure, implement and maintain

- 1. Bidder shall carry out a detailed assessment of the LAN, internet connectivity and Internet leased line networking requirements considering sufficient redundancy of the proposed system with respect to the scope of work.

2. The redundant internet connectivity (same bandwidth in the case of primary connectivity) would also need to be provided by the bidder. For primary connectivity and redundant connectivity two different service providers should be considered.
3. Bidder also needs to estimate and provide the internet (active and redundant) bandwidth requirements for system portals to be hosted at PDC for the expected portal users.
4. Offices and select DGS officials will access the systems for accessing the services. Such access would be through intranet of the DGS.
5. Officials as may be authorized by DGS shall be allowed to access the systems or its components including databases, subject to such rights & privileges as DGS may decide from time to time for the purpose of testing, audit, certification, review, inspection etc.
6. Connectivity shall necessary include but will not be limited to:
 - a. DGS connectivity to DC and DR along with redundant connectivity
 - b. Other independent DGS locations and offices
At far off locations as mentioned in the table below, DGS users are expected to connect via Internet-based VPN.
 - c. Connectivity with Central system from DGS offices and for external users
Internet link with sufficient redundancy for external users, DGS users are expected to connect via Internet-based VPN. Bidder is expected to provision for the same.
7. The key expectation from bidder in setting up a robust networking infrastructure for DGS include:
 - A. Passive network optimization of existing setup within DGS
 - B. Establishment of redundant internet connectivity at all DGS locations
8. Details of existing network connectivity available have been provided under section XI. Bidder is expected to leverage investment already made by DGS.
9. Bidder is encouraged to carry out a site visit of key DGS offices and locations in order to understand the existing network infrastructure setup.

SITE VISIT

 - A. Bidder will be required to submit a permission request at least 3 working days prior to date of proposed visit to DGS in order for DGS to arrange for necessary permission for visit. Request for site visit permission should include:
 - i. Details of the officials visit carrying out site visit such as Name, Age, photo copy of Proof of Identity. All individuals must carry original of that proof of Identity at the time of visit
 - ii. Serial numbers of any electronic equipment being carried out by the individuals visiting
 - iii. Details of vehicles being brought inside
 - iv. Bidder will have to bear the charges related to dock entry for individuals and vehicles
10. Bidder is expected to provision for the sufficient bandwidth at all DGS offices, operational areas and data centre sites including DC and DRC. The cost for any

additional component/equipment/connectivity/bandwidth required by the bidder to meet the SLAs shall be borne by bidder.

11. Specific link available currently at various DGS offices

Sr. No.	DGS Office Location	Existing mode of connectivity
1.	D.G Shipping (HQ), Mumbai	10MBPS
2.	PO, MMD, Mumbai	2MBPS
3.	PO, MMD, Kolkata	10Mbps
4.	PO, MMD, Chennai	10/100Mbps
5.	PO, MMD, Kochi	To be provided by DGS
6.	PO, MMD, Kandla	2Mbps
7.	SIC, MMD, Jamnagar	To be provided by DGS
8.	SIC, MMD, Tuticorin	To be provided by DGS
9.	SIC, MMD, Vizag.	256Mbps
10.	SIC, MMD, Mangalore	To be provided by DGS
11.	SIC, MMD, Port Blair	To be provided by DGS
12.	SIC, MMD, Haldia	To be provided by DGS
13.	SIC, MMD, Paradeep	To be provided by DGS
14.	SIC, MMD, Goa	To be provided by DGS
15.	SIC, MMD, Noida	To be provided by DGS
16.	SM, Mumbai	10Mbps
17.	SM, Kolkata	To be provided by DGS
18.	SM, Chennai	To be provided by DGS
19.	SEO, Mumbai	256Mbps
20.	SEO, Kolkata	To be provided by DGS
21.	SEO, Chennai	To be provided by DGS
22.	RO(S), Mumbai	To be provided by DGS
23.	RO(S), Jamnagar	To be provided by DGS
24.	RO(S), Tuticorin	To be provided by DGS
25.	SPFO, Mumbai	To be provided by DGS
26.	SWFS, Mumbai	To be provided by DGS

12. Bidder is expected to carryout following activities while establishing backbone cabling across DGS locations:

The bidder will be responsible for the supply of the cabling and associated hardware as part of this scope. All hardware required (including, but not limited to. copper cable, optical fibre cable, connectors, cabinets, patch and fly leads, patch panels etc.) shall be supplied by the bidder to perform all activities in relation to the design, construction, maintenance and implementation of this hardware as outlined below;

A. Bidder will carry out site audits

- i. Examine existing cable pathways and their suitability for use.
- ii. Identify new or modified cable pathways that would be required across DGS locations, particularly ones that relate to the backbone connectivity.
- iii. Examine suitability of any existing backbone and distribution cabling for use of DGS.
- iv. Present all documentation to DGS and relevant stakeholders

B. Technical Design Drawings

- i. The bidder shall produce detailed documentation, design calculations and technical design drawings for each location within the DGS campus
- ii. Bidder drawings shall be created using computer aided design (CAD) software enabling the accuracy and flexibility required for this project.

C. Backbone Installation Requirements;

Data backbone cabling will be required to connect each point of presence (POP) with data switches at distribution points throughout the DGS locations Data switches will be located within enclosures (to be provided by the bidder where not available)with fibre optic cabling to be installed from the POP to each nominated distribution point. The type of fibre to be installed (Multi Mode OF and Single Mode OF) will be dependent on the distance of cabling required and must be agreed with DGS to ensure correct components have been ordered. The following are general requirements relating to the provision of data backbone cabling:

- i. Supply and install fibre cable from the POP to each distribution point location in accordance with the approved drawings.
- ii. Supply and install FOBOTs for all fibre cables installed.
- iii. Supply and install cable managers for each FOBOT installed. The cable managers can be separate or integrated with the FOBOT.
- iv. Label the front of each FOBOT installed in TER. The label is to show the element number, and destination of each cable.
- v. Terminate all fibres with Subscriber Connector (SC) style connectors (or as otherwise agreed).
- vi. Label each element at both ends of the fibre cable. The label is to be within 200mm of the termination to enable easy element identification.
- vii. Label each cable at both ends within 200mm of the end of the sheath with the label to be clearly visible on completion of the installation.
- viii. Test all cables as required in accordance with testing requirements for the losses by performing OTDR
- ix. Provide printed test results for all elements

D. Cable Installation general guidelines

- i. Cabling Systems shall only to be installed by properly qualified and experience personnel in a professional and tradesman like manner.
- ii. All installation methods, standards of workmanship and equipment supplied shall fully comply with the technical procedures, practices, specifications and standards published in conjunction with the planning and installation guidelines published or established by the Cabling Systems equipment manufacturers.
- iii. The bidder shall consult with relevant parties, including (as a minimum) the relevant DGS official who shall be responsible for approving the design, scope of works and installation schedule prior to any works commencing.
- iv. OFC cabling shall also be installed in designated cable pathways provided by DGS.
It is the responsibility of the bidder to ensure that cable pathways provided by DGS are adequate for the installation work.
- v. Prior to installation the bidder shall inspect all cable pathways and notify DGS if they are not free of burrs and sharp edges.
- vi. At no time shall the cabling bidder penetrate walls, ceiling tiles or other permanent infrastructure without the written approval of DGS.
- vii. Cables emanating from equipment cabinets and/or equipment racks shall be neatly loomed in the cabinet. All cable looms shall be installed towards the rear of the rack.
- viii. All cabling shall be installed in a neat manner and run in an inconspicuous manner. Approved cable fasteners shall be used at intervals for all OFC cabling.
- ix. Where cabling is run through a false (suspended) ceiling it shall be supported by means of suspension, from purpose installed flat cable trays or by one or more catenary cables. Fixing of the cable tray and/or catenary shall be directly to the walls and slab above. Under no circumstances are cable tray and catenary to be secured to any other fittings.
- x. DGS must be consulted for any circumstance where cabling cannot be located in building spaces.
- xi. All cabling shall be adequately protected from damage, not run through hazardous environments, away from hot water and heating pipes, flues or chimneys and power sources.
- xii. All cable runs shall be continuous between the termination points specified. No joints, splices, junctions, or similar are permitted except for specific requirements identified within the detailed design documentation. All UTP cabling, terminations, jumpering, and/or patching shall be at the chosen manufacturers' distribution frames.
- xiii. Where two or more cables run adjacently, the cables shall be appropriately tied together at
- xiv. Intervals of 3000mm to create a 'trunk' effect, with appropriate separation from power cables.
- xv. The installation of all cables shall be in accordance with the installation requirements of the cable manufacturer with specific reference to cable bend radius, pulling and static, and maximum pulling tension.

- xvi. OFC Cables shall not be installed under residual tension or pressure except as required to secure to cable tray or catenary cable.
- xvii. Inter-building pathways may be underground, buried and aerial. Segregations must comply with applicable international standards. Installation on cable pathways where segregation standards cannot be achieved shall not be used.
- xviii. Where cable is run in an exposed area, it shall be enclosed in PVC ducting or conduit. External grade cable must be used where appropriate in accordance with applicable international standards.

E. Optical Fibre Cabling guidelines

- i. All optical fibre cables should be selected based on internationally accepted standards and appropriate for their intended use (whether multi-mode or single-mode type).
- ii. Optical fibre cables shall be clearly marked as such to distinguish them from other cables. Such marking may include tracer marking on the sheath and/or distinctive sheath colours.
- iii. Provision is to be made for an additional 3 metres of cable (looped) at the end of each cable run, to provide additional cable for unscheduled fibre cable re-termination. This spare cable shall be provided within the POP typically in the FOBOT at both ends of the link.
- iv. Cable looping shall not exceed the manufacturer's minimum bend radius requirements. The bidder must conduct an audit and notify DGS if any protective ducting or enclosures are not suitable to ensure all optical fibre cables shall be protected from breakage or stress.
- v. All connectors shall be supplied with protective caps.
- vi. Where the fibre is run through external conduit and pit systems, there shall be an allowance of 2 metres of fibre looped within the first pit located closest to the communications cabinet or originating end, and an allowance of 2 metres looped within the final pit before the termination point.
- vii. Optical fibre cable shall be terminated with SC type fibre connectors.
- viii. Network equipment that uses Small Form Factor (SFF) optical connectors shall be interfaced to the SC connectors at the patch panel using optical patch cords to provide adaptation between SC and the particular SFF connector.

F. Copper Cable cabling guidelines

- i. The cable used for permanent and overlay distribution cabling installation shall be category 6 UTP cable for data applications.
- ii. To provide an allowance for cable re-termination at some future time, provision is to be made for an additional 1 metre of cable to be looped at each end of each cable run. This spare cable shall be provided within the communications cabinet and also within the area located at the outlet position, typically in the ceiling space or under floors.

G. Labels and Marking

- i. All outlets, patch panels and cables (including backbone copper and OFC) shall be systematically and permanently labelled. OFC shall be labelled in accordance with relevant standards to indicate the potential hazardous light source.
- ii. The labelling format must be uniform across all DGS locations and agreed in writing by DGS prior to the commencement of installation works. It is expected that all outlets will be labelled with the distribution point identifier, unique number and usage signifier: 'DA' for data.
- iii. A schematic diagram showing the arrangement of circuit groups for the distribution frames shall be provided.
- iv. Labels for cables and cable cores, as applicable, shall be computer generated using a system used for equivalent works. The marking system characters shall be sized to suit the cable and the amount of text required for proper and legible identification.
- v. Labels for the enclosures and outlets shall be machine generated permanent labels clearly indicating the service contained within that enclosure. All hazard identification labels shall be affixed to relevant enclosures.
- vi. For outlets, the label shall be clearly visible and securely mounted to the outlet surface box as applicable. Each outlet shall be identified by a colour bezel corresponding with the cabling colour.
- vii. All labels must be clearly visible.

H. Installation testing

- i. The installation of all Cabling Systems shall be thoroughly tested to ensure the as-built performance meets the requirements specified within the detailed design document and such other specifications referenced either explicitly or implicitly.
- ii. Testing is to be conducted in accordance with industry standard testing standards and expectations.
- iii. The bidder shall supply all labour, materials and equipment required for fully testing and commissioning the installation.
- iv. All optic fibre links shall be tested with an approved Light Loss Power Meter. The length/loss method of loss calculation shall be used to calculate the total loss value using the values consistent with international standards.
- v. Test reports (in original form i.e. not presented in MS Word) must be submitted to DGS within two days of test completion.
- vi. The installation shall not be deemed complete until all wiring and equipment supplied by the bidder has been checked and tested to the satisfaction of DGS.

I. Earthing, equipotential bonding and system isolation

- i. All metallic conduit, catenary, boxes and enclosures shall be permanently and effectively grounded in accordance with the relevant electrical codes.
- ii. Provision regarding earthing protection of cabling systems must comply with Indian Standards.

- iii. All communications cabinets shall be separately earthed to a common earth via a 2.5mm green yellow stranded earthing conductor to the nearest accessible protective earth location or and electrical switchboard. The bidder shall not to rely on the earth of a general purpose outlet.
- iv. Cable lugs shall be fitted where necessary. Any connections where exposure to moisture or rain can occur should be done using stainless steel washers and nuts.

1.3.4 IT facility management services across all DGS locations

In addition to the components being brought on by the bidder, bidder is expected to extend IT facility management services to DGS. Scope of work under IT facility management services include:

1. Overall management and maintenance of desktops, laptop, peripherals, printers, scanners which are currently available with DGS.
2. Overall management and maintenance of Networking and internet connectivity by checking and managing network status and taking remedial action in case of problems.
3. Setting up a central IT helpdesk and Call centre for attending to problems faced by users
4. User Support
It would cover basic guidance and support for handling the IT infrastructure which will constitute items like desktops, laptops, printers, operating systems, office software's, internet and other such applications installed at all specified location of DGS. To ensure continuous availability of PCs, Servers, Printers, and other equipment included in the contract available at various locations as per the details.
 - A. To maintain the PC's, Servers, Printers, scanner, laptops and other hardware equipment
 - B. To repair / replace faulty components with standard spares excluding consumables like, Ink Cartridges, Toner etc.
 - C. Installing/Configuring/Trouble shooting of Operating Systems (OS), Office automation Products (MS-office, MS Project etc.), add-ons, Required Drivers, Network communications software etc.
 - D. Service support for all IT peripherals like data card, pen drive, external hard disk etc.
 - E. Relocation of IT equipment
5. Help desk services
 - i. A helpdesk is envisaged to be provided for the resolution of ICT related issues faced by DGS users. Helpdesk activities shall include:
 - a. Helpdesk setup and operations for the duration of this contract
 - b. Deployment of sufficient manpower to attend the helpdesk requests for extending technical support on application to end users. Helpdesk of minimum five persons is envisaged by DGS but bidder is advised to assess helpdesk manpower based on the scope of work provided.
 - c. Provide Help Desk facility for agreed SLAs for reporting technical incidents / issues / problems with the system. Help desk facility shall be

- provided through a dedicated phone number. Landline/ Mobile number will be provided by bidder in DGS's name. This number will be published and users can call this number for their issues. The cost of this has to be included in commercial bid and no additional cost shall be borne by DGS.
- d. Implement a call logging system in line with the severity levels as per the SLAs. The Help desk shall log user calls related to system and assign an incident/ call ID number. Severity shall be assigned to each call as per the SLAs.
 - e. Track each incident / call to resolution.
 - f. Escalate the calls, to the appropriate levels, if necessary as per the escalation matrix agreed upon and developed by Bidder and DGS
 - g. Coordinate with respective OEM for closure of calls.
 - h. Analyze the incident / call statistics and provide monthly reports including but not limited to:
 - i. Type of incidents / calls logged
 - ii. Incidents / calls resolved
 - iii. Incidents / calls open
 - iv. Update the frequently asked questions on DGS website to assist end users in resolving basic issues themselves.
 - ii. Following is also part of scope of work of bidder
 - i. Development of training material for Customer Service executives (CSE) and supervisors
 - ii. Training to be imparted to CSEs and supervisors
 - iii. Provision of Call centre application including CRM
 - iv. Development of standard operating procedures with call prioritisation guidelines, problem security codes and escalation procedures etc. in consultation with DGS
 - v. Helpdesk related infrastructure.
 - vi. Chat support for users and IVRS solution for external users
 - iii. Estimated number of CSEs at the start of the project: team of 9 +1 (1 Supervisor) operational during working hours of working days. After 6 months of execution team of 5 + 1 (1 Supervisor) will be operational
 - iv. During non-peak hours reduced number of seats may be operated. The call statistics will be analysed every quarter after Go-Live and the number of CSEs may be ramped up or down accordingly on a week's notice.
 - v. Bidder shall deploy helpdesk application accessible to all users through a common portal for logging issues.
 - vi. In the technical proposal bidder needs to provide details of help desk and call centre facility including address, IT and non IT infra facilities available as well as other details of the facility. DGS reserves the right to visit the proposed facility during bid evaluation stage as well as during operations phase.
 - vii. 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).

6. Hardware asset management services

It will cover all the IT hardware of DGS such as Servers, network devices, Desktops, Laptops, Printers, scanners, other peripherals etc. covered under this contract. The activities will involve maintenance of hardware asset database by recording information like configuration details, serial number, asset code, warranty, AMC details and issue details etc. and regular update of the same.

7. Virus control services

- A. All the servers, desktops, laptops of DGS will be covered.
- B. Use of DGS's licensed copies of antivirus software for Servers and Desktops.
- C. Registering and updating the anti-virus tool on all the server, Laptops and desktops in DGS.
- D. Diagnosing and rectifying any virus problems that can be fixed by the anti-virus tools or OS patches.
- E. Make arrangement to get all software bug fixes, patches, upgrades from the concerned software principals. However, DGS shall provide necessary software support agreements that have provision of the same

8. Network Management Support

To ensure that the network is trouble free and well optimized along with liaising with the Internet Service Provider for uninterrupted Internet connectivity.

- A. LAN Management, Network Security Management
- B. Re-patching of patch cords on need basis.
- C. Manage effectively and efficiently the day today network operations of internal LAN
- D. Fault Management – Diagnose active/passive network device issues and resolution thereof through concerned local vendor/supplier.

9. IT Hardware Maintenance Support

This includes upkeep & smooth operation of all IT infrastructure

- A. The IT Infrastructure maintenance support will cover the machines with operating system, Desktops, Laptops, Printers, scanners, etc. installed at DGS. The deputed personnel will ensure backup of data in the system before attending / rectification of fault and will be responsible for restoration of the same after rectification.
- B. Diagnosing the reported problem and attending to the same and coordinating with the supplier/OEM to resolve the issues for the items under warranty.
- C. Repair of the hardware, which is found to be faulty at site or at their local service centre
- D. Some of the devices are under warranty with their respective OEMs, for these devices only Facility Management Services are to be provided at present (Based on the final agreement with the DGS)

10. The Scheme for Provision of the Services

- A. The FMS service provider will initiate action immediately after reporting of any fault by the helpdesk. If the complaint cannot be closed in 48 Hrs. then the FMS service

- provider will provide a standby hardware of equivalent configuration and take the faulty hardware under repair which shall be restored after repairs
- B. For the upkeep of IT Infrastructure under warranty, FMS service provider will make necessary arrangements /coordination with the supplier firms.
 - C. It is a mandatory requirement that the technical service personnel have mobile phones
 - D. Details of onsite technical service personnel

#	Qualification	Min no.
1	Any Graduate with diploma in computers OR Degree/Diploma in Computers/ Electronics from recognized Engineering. College/ Polytechnic. Experience Minimum 2 years on installation/configuration and support on desktop O/S such as Win 7 /Windows 8, PC assembling & disassembling, printer/MFP troubleshooting	10

1.3.4.1 Central IT helpdesk for IT facilities management

1. Bidder should ensure availability of AMC support with all the OEMs for proposed software components. This AMC support period should commence from the deployment of software components till the end of contract.
2. Bidder should track the Annual Maintenance Contracts for all software at the DGS office location and data centre and initiate procedure for renewal of the same at appropriate points in time.

1.3.5 Migration, transitioning support and change management

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 DGS users but not directly related to functioning of solution may be done post go-live with consent from DGS. Decision of DGS 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 data be 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 relationships 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 DGS, document the findings and get it signed-off from DGS. 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. Transitioning

- 1. DGS is 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

Change management and capacity building

- 1. Scope of work for training and capacity building for bidder includes:
 - A. DGS employees
 - B. DGS Partners
 - 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 DGS's request.
- 5. The bidder shall impart training to DGS employees 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 DGS which addresses the various aspects of capacity building and training. Bidder will provide tentative number of sessions envisaged by bidder for each type of user considering their function and interaction with system.
9. DGS 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. DGS 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 decentralised 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 DGS. DGS 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. DGS HQ
 - ii. 4 locations in 4 different zones(Final locations will be provided by DGS)
12. The training material prepared by bidder will be owned by DGS and cannot be used without prior approval of DGS.
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	• Carrying out user desired functions through system • Additional training on handheld devices, cash registers, 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: • Leadership access

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		• Customer groups • Functional heads • Process supervisors • Process operators • Shipping and seafarer 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.	• Steps to carry out functions related to special privileges as defined • Workflow definition and creation • Second level roles & responsibility assignment • Trainings should necessarily include: • 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
Technical	DGS's IT users	• 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 - o Database management - o Application management - o Troubleshooting - o Data backup, - o Networking, etc.

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

1.3.6 Implementation and adherence to IT policies as defined by DGS

The bidder has to apply, obtain and maintain the STQC certification for the project. The cost incurred for obtaining and maintaining the certification shall be borne by the bidder. The bidder shall get the certificate as per timelines defined in volume I failing which the subsequent payments will be deferred till the certification is obtained.

Adherence to Standards

The selected SI should ensure that the system complies with defined industry and open standards.

1. Compliance with Open standards

The proposed system would be designed based on open standards and in line with overall system requirements, in order to provide for good interoperability with multiple platforms and avoid any technology or technology provider lock-in. The system should adhere to the all open standards guidelines and other guidelines relevant to the project as issued by Gol

2. Compliance with Standards for State Portal, SSDG and forms Framework

The SI while developing the Application shall take cognizance of the technicalities of the State Portal, SSDG and e-forms framework and any other guidelines issued in this regard by the Government. The SI also has to ensure that all content of the Department's Portal are as per the State Portal Framework guidelines. The web portal must comply with all the Guidelines for Indian Government Websites as defined at the following websites: <http://web.guidelines.gov.in/> and <https://egovstandards.gov.in/guidelines>. It is a mandatory requirement that the developed application be Web1 compliant i.e. it should look good on all resolutions and platforms and be simple as well as user friendly. Also the functionalities developed the application should be easily accessible to all intended users.

3. Compliance with Industry Standards

In addition to above, the proposed solution has to be based on and be compliant with industry standards (their latest versions as on date) wherever applicable. This will apply to all the aspects of solution including but not limited to its design, development, security, installation, and testing. The suggested architecture must be scalable and flexible for modular expansion. It should ensure ease of integration with software /

applications developed using common industry standards since the solution may be linked and connected to other sources (websites, contents, portals, systems of other Tax administrations etc.) as well as there may be loose/tight integration with backend system of other departments depending on individual service processes. The solution architecture should thus have provision to cater to the evolving requirements of the Department.

1.3.7 Operations and maintenance of entire solution at DGS

1. Overall monitoring and management of the systems implemented for the Project at DRC and DGS locations, which includes administration of Infrastructure at DC (Web /Application servers, database servers, storage, etc.), Networks, and all other services ancillary to these facilities to ensure performance and availability requirements of the Project.
2. Ensuring compliance to the uptime and performance requirements for Solution performance as defined in the tender.
3. Implement Helpdesk solution and provide issue resolution support for addressing the issues reported by the internal users of Information systems deployed in the project.
4. 24x7 monitoring & management of availability & security of the infrastructure & assets (including data, network, servers, systems etc.) through the Enterprise Management Solution implemented for Project.
5. Implementation of a comprehensive security policy in respect of the digital systems and assets, to comply with the requirements of this RFP and conforming to relevant standards.
6. Ensuring uptime, performance and other key performance requirements of DGS Project including data backup & business continuity.
7. Perform patch management, testing and installation of software upgrades issued by the OEM/vendors from time to time. These patches/upgrades, before being applied on the live infrastructure of the Data Repository at DC, shall be adequately tested. Any downtime caused due to upgrade & patches shall be to the account of the Implementation Agency and it shall not be considered as 'Agreed Service Downtime'.
8. Ensure overall security of the solution including installation and management of Antivirus solution for protection of all the servers and systems implemented for the project, application of updates/patches etc. The antivirus patches have to be updated and applied from time to time, after appropriate testing of the patches in the staging area.
9. Develop the Standard Operating Procedures (SOPs), in accordance with the ISO 27001& ISO 20000/ITIL standards, for Project Infrastructure management. These SOPs shall cover all the aspects including Infrastructure installation, monitoring, management, data backup & restoration, security policy, business continuity & disaster recovery, operational procedures etc. Bidder shall obtain sign-offs on the SOPs from the DGS and shall make necessary changes, on a half yearly basis, to the fullest satisfaction of DGS.
10. Preventive maintenance, carrying out the necessary repairs and replacement of parts wherever needed to keep the performance levels of the hardware and equipment in tune with the requirements of the SLA. Such preventive maintenance shall not be attended during working hours of the DGS, unless inevitable and approved by the DGS.

11. Reactive maintenance that is intended to troubleshoot the system with sufficient teams
12. Performance tuning of system as may be needed to comply with SLA on continuous basis
13. Continuous monitoring & management of network during the working hours & restoration of breakdown within prescribed time limits.
14. Monitoring security and intrusions into the system, which include taking necessary preventive and corrective actions.
15. Monitor and record, server & network performance and take corrective actions to ensure performance optimization on a daily basis.
16. Escalation and co-ordination with other vendors for problem resolution wherever required.
17. System administration tasks such as managing the access control system, creating and managing users, taking backups etc.
18. Ensure that daily back-up copies of the data are created and maintained safely.
19. Produce and maintain system audit logs on the system for a period agreed to with the DGS. On expiry of the said period the audit logs should be archived and stored off-site.
20. Regularly review the audit logs for relevant security lapses.
21. Review security advisories (such as bulletins generally available in the industry) on a regular basis to determine vulnerabilities relevant to the information assets and take necessary preventive steps.
22. Supply consumables required for day-to-day operations of the Data Repository at DC. During the warranty/operations/management period, bidder shall not charge any additional cost to the DGS for replacement of these consumables.
23. Ensure that persons from DGS support team are duly trained and prepared in a progressive manner so as to operate the system on their own, with a view to eventually takeover operations at the end of contractual term
24. Ensure that all necessary know-how is transferred to DGS support team in an effective manner to facilitate a smooth transition. Performance metrics for the transition will need to be agreed between the Bidder and DGS
25. Produce and maintain system audit logs on the system for a period agreed to with the DGS. On expiry of the said period, the audit logs should be archived and stored off-site. Location for off-site storing of logs will be the responsibility of the bidder at no additional cost.
26. Regularly review the audit logs for relevant security lapses and share the same with DGS.
27. Review security advisories (such as bulletins generally available in the industry) on a regular basis to determine vulnerabilities relevant to the information assets and take necessary preventive steps.
28. Supply consumables required for day-to-day operations of the Data Repository at all locations of DGS where this project has been deployed. These consumables include, but not limited to, storage medias, CD/DVDs, data cables etc. During the warranty/operations/management period, bidder shall not charge any additional cost to DGS for replacement of these consumables. **Supply of Printer cartridges and paper will be the responsibility of DGS.**

29. Bidder will ensure that the entire DGS setup is certified and is in compliance with the applicable standards. The Industry Standards which bidder is required to comply with are given below:

#	Component / Application / System	Prescribed Standard
1	Workflow Design	WFMC / BPM Standard
2	Portal Development	W3C Specification
3	Information Access/Transfer Protocols	SOAP, HTTP/HTTPS
4	Interoperability	Web Services, Open Standard
5	Scanned Documents	TIFF / PDF (Resolution of 600 X 600 dpi)
6	Digital Signature	RSA standards
7	Document Encryption	PKCS specification
8	Information Security	ISO 27001 certified system
9	Operational Integrity & Security Management	ISO 27002 certified system
10	Operation	ISO 9001 certification
11	IT Infrastructure Management	ITIL/ EITM specification
12	Service Management	CMMI / ISO / IEC 20000
13	Project Documentation	IEEE/ISO specifications for documentation

Quality Audits:

- A. The bidder is expected to align all phases of the project and sustenance as per best industry standards e.g. CMMI, ITIL, ISO 20000, ISO 27001, etc. It is expected that an independent Quality Team of bidder shall independently and regularly audit this system against these standards and processes laid down by bidder. The frequency of such audits must be at least once per half-year for every process. The result of the audit shall be directly shared with DGS with an effective action plan for mitigations of observations/non-compliances, if any.
- B. DGS, at its discretion, may also engage independent auditors to audit any/some/all standards/processes. The bidder shall support all such audits as per calendar agreed in advance. The result of the audit shall be shared with the bidder who has to provide an effective action plan for mitigations of observations/non-compliances, if any.

1.3.8 Provision, deployment and supervision of personnel required for project

1. The BIDDER shall be responsible for sourcing of the personnel and the management of all matters relating to such personnel, to carry out the responsibilities assigned to the BIDDER under the agreement with the BIDDER. In particular, these include:
 - A. Recruitment of the personnel possessing the qualifications prescribed in the RFP;
 - B. Training of the personnel;
 - C. Payment of salaries and benefits to the personnel;
 - D. Meeting all statutory obligations / payments arising out of engaging the personnel;

E. Meeting all the liabilities arising out of the acts of the personnel

2. Below table gives the indicative number of resources which need to be deployed across locations for this project.

#	Personnel	Value
1	Project Manager	1
2	System Administrator	1
3	Network Administrator	1
4	Database Administrator	1
5	Network Engineers	1
6	Operations Manager	1
7	Cloud Expert	1
10	Helpdesk personnel	10 – for first 6 months post go live 6 – For remaining term
11	Helpdesk personnel – DGS HQ	To be provided by DGS
12	Helpdesk personnel – PO, MMD, Mumbai	To be provided by DGS
13	Helpdesk personnel – PO, MMD, Kolkata	To be provided by DGS
14	Helpdesk personnel – PO, MMD, Chennai	To be provided by DGS
15	Helpdesk personnel – PO, MMD, Kochi	To be provided by DGS
16	Helpdesk personnel – PO, MMD, Kandla	To be provided by DGS
17	Helpdesk personnel – SIC, MMD, Jamnagar	To be provided by DGS
18	Helpdesk personnel – SIC, MMD, Tuticorin	To be provided by DGS
19	Helpdesk personnel – SIC, MMD, Vizag.	To be provided by DGS
20	Helpdesk personnel – SIC, MMD, Mangalore	To be provided by DGS
21	Helpdesk personnel – SIC, MMD, Port Blair	To be provided by DGS
22	Helpdesk personnel – SIC, MMD, Haldia	To be provided by DGS
23	Helpdesk personnel – SIC, MMD, Paradeep	To be provided by DGS

24	Helpdesk personnel – SIC, MMD, Goa	To be provided by DGS
25	Helpdesk personnel – SIC, MMD, Noida	To be provided by DGS
26	Helpdesk personnel – SM, Mumbai	To be provided by DGS
27	Helpdesk personnel – SM, Kolkata	To be provided by DGS
28	Helpdesk personnel – SM, Chennai	To be provided by DGS
29	Helpdesk personnel – SEO, Mumbai	To be provided by DGS
30	Helpdesk personnel – SEO, Kolkata	To be provided by DGS
31	Helpdesk personnel – SEO, Chennai	To be provided by DGS
32	Helpdesk personnel – RO(S), Mumbai	To be provided by DGS
33	Helpdesk personnel – RO(S), Jamnagar	To be provided by DGS
34	Helpdesk personnel – RO(S), Tuticorin	To be provided by DGS
35	Helpdesk personnel – SPFO, Mumbai	To be provided by DGS
36	Helpdesk personnel – SWFS, Mumbai	To be provided by DGS

3. During the course of the contract, if it becomes necessary to replace any of the Key Personnel, the BIDDER shall forthwith with due approval from DGS, provide as a replacement, a person of equivalent or better qualifications and experience than the resource being replaced / or proposed in the bid.
4. The team proposed in the proposal should be on the rolls of the bidder(s) at the time of submission of the proposal. For any change of the resource or any resource being proposed for operations, the bidder should have to submit the CV of the resource, at least 2 weeks in advance for DGS to decide on the replacement.

1.3.9 Scanning and digitization services as per DGS requirements

1. As part of its initiatives, DGS plans to digitize the Old Records available to preserve their life and ease the search and retrieval of the documents when needed. The various DGS offices have the following size Pages for digitization.

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 will be required to setup and install at least the following infrastructure (but not limited to) in adequate numbers at DGS's offices:
 - A. Desktops
 - B. Scanners
 - C. Network setup
 - D. UPS, etc.
4. The bidder shall make arrangements for maintenance of IT infrastructure (Scanners, Desktops, UPS, Network setup, etc.) installed at his own cost and make sure the work shall not be stopped.
5. The bidder shall set up the necessary infrastructure at required DGS locations for the execution of the project. Parallel scanning of documents should happen at required DGS locations.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.

13. Under no circumstances shall the documents be changed, mutilated, destroyed or replaced by some other documents
14. The DMS proposed should be able to integrate with the electronic work flow (e-File) system that is proposed as part of this tender.
15. 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 incurred against theft, fire and damages.

1.3.9.1 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 (DGS Official)
 - D. Collected by and signature (Bidder Representative)
 - E. Date of collection
 - F. Expected date of return
 - G. Returned to (DGS 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.

1.3.9.2 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, un-binding 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).

1.3.9.3 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.

1.3.9.4 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.

1.3.9.5 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.

1.3.9.6 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.

2 Business Processes

The following section provides an overview of business processes which are expected to be covered by the envisaged system. Process flows of existing processes shall be made available to the bidder at the time of implementation. Bidder will be expected to create system TO-BE system processes on basis of this information and proceed with system design and implementation after necessary approvals. The system design is expected to be flexible to changing process needs.

2.1 Description of key processes

The following section gives indicative functionality expected to be supported through the envisaged system.

2.1.1 Generic functions available to users

Seafarer Related Processes	Description
Apply for INDOS	INDOS No. is a unique number allocated to each seafarer at the very start of their careers, when they enrol with an MTI. Both seafarers and MTI's can apply for the same and the process is housed within the INDOS Cell, DGS.
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 Seafarers (STCW). A seafarer may apply for the same after completing all aforementioned STCW course from an approved MTI. The process is housed at the Shipping Master's Office (SMO)
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 seafarer intends to end his seafaring career. It is necessary for the said seafarers 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. This process is housed within the SMO.
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	Seafarer have to meet the minimum requirement in form of training, courses and sea-service for being eligible for any grade of examination. Seafarer shall have an option to check whether he is eligible for particular grade of examination on a single click
Examination Application (including eligibility verification)	Seafarer need to get eligibility verification before applying for any Examination. This Assessment is usually a complete assessment of Seafarer 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 seafarer 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 except the month of May. Except for MEO-Class IV examination, all examinations of Officer Grades of Foreign going ships exams are conducted in Exam centres of DGS. MEO-Class IV exams are managed by International Institute of Information Technology, Bangalore (IIITB) and are conducted at an external institute Aptech Examination of Near Coastal Voyage examination are conducted by Indian Maritime University (IMU) in case of Nautical department and Institute of Marine Engineer (IME) in case of Engineering department.
Conduct of oral exam and update of results	Oral examination in all the cases are conducted at exam centre of DGS
Update marks from external parties	Results for examination conducted by external third parties like IIITB, IME or IMU have to be updated on system. So they need to forward the list of results to assigned DGS staff to upload and update on system
Review of results	Seafarer are eligible to apply for review of results until 30 days from issue of results
Certifications	
Issue of fresh COC	Seafarer on every Indian ship except home-trades ship of less than two hundred tons gross engaged in coasting trade of India, when going to sea from any port or place, need to have a number of Certificates of Compliance (COC) and Certificate of Proficiency (COP) as per MS ACT, 1958. A seafarer is eligible for a COC once he have cleared all the functions (written and oral) of that particular grade/rank.
COC Revalidation	The Certificate of Competency issued by the Directorate is 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 seafarer have to be on board of ship despite of his COC getting invalid during that tenure. In that case either seafarer or the shipping company get extension of validity of the COC
COC Suspension	There might be cases where a seafarer might have been caught in malpractices by a shipping company or Recruitment and Placement Agency or Marine Training Institute. In such cases third party can make a complaint against that seafarer. Case can lead to suspension of certification if the seafarer is found guilty
COC Debarment	Seafarer can be caught in any malpractices during examination. In such cases the examiner can complain against that seafarer and if the concerned seafarer is found guilty he may be debarred from appearing for examination for a specified duration
COC Duplication	Seafarer can apply for a duplicate COC in case he have lost or damaged his current COC. He need to make a police complain and also publish it on two local newspaper and 30 days post making the both a seafarer can request for duplicate COC in case of loss.
COP- Dangerous Cargo Endorsement	Dangerous cargo endorsement is a certificate of authorization for a seafarer, qualifying him/her for working on any vessel dealing with cargo that are categorized as maritime dangerous goods

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GOC-GMDSS	The Global Maritime Distress and Safety System (GMDSS) is an internationally agreed-upon set of safety procedures, types of equipment, and communication protocols used to increase safety and make it easier to rescue distressed ships, boats and aircraft. Ministry of Communication is responsible for conducting examination and providing certification to the seafarer and the directorate is responsible for endorsement of certificate.
COE-UK	An endorsement allows officer holding STCW certifications issued by some non- Indian countries to work as officer on Indian registered merchant ship. Currently India have recognized UK whose certification would be considered for endorsement
COS- Naval	Indian naval officer holding valid certificate of service can apply for certain COC to work on merchant ships
Restricted COC	Restricted COC means that the seafarer holding that COC will have restricted in terms of GT of the vessel for making any sail
Watch keeping Certificate	Watch ratings on merchant ships need a CoC if they're performing navigation or engine room duties.
Sea Service	
AOA	Article of Agreement is a contract between the ship-owner and a crew member (seafarer) regarding stipulations of a voyage, signed prior to and upon termination of a voyage and is applicable only for Indian flagships. The shipping company is responsible for completing this process. The process is housed at SMO.
AOA Sign Off	Sign off on the AOA is a process undertaken by the shipping company to confirm the date the seafarer is off service and officially signs off.
Form I	Form I is a contract between the ship-owner and a crew member regarding stipulations of a voyage, signed prior to and upon termination of a voyage and is applicable only for foreign flagships. Recruitment and Placement agencies for Seafarers (RPS) are responsible for filling Form 1 on behalf of the foreign flagships and the process is housed with SMO.
Form I Sign Off	Sign off on the Form I is a process undertaken by the RPS to confirm the date the seafarer is off service and officially signs off.
Other Processes	Description
RPS	
Approval of RPS	All manning agencies or any other firms / agencies organization involved in recruitment and placement of seafarers have to obtain registration from the DG Shipping under the Merchant Shipping (Recruitment and Placement of Seafarers) Rules, 2005 as amended to carry out their respective functions. This process is housed with the Seaman Employment Office (SEO)
Renewal of RPS	RPS need to renew their license every 5 years. The process is housed with the SEO.
Correction of RPS Details	RPS may avail this service to correct any of the detail in their RPS profile.
Payment of PF contribution by RPS	RPS are liable to pay the PF amount on behalf of the seafarer's placed with them. This process is housed with SPFO.
Payment of Gratuity contribution by RPS	RPS are liable to pay the gratuity amount on behalf of the seafarer's placed with them. This process is housed with SWFS.

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Annual Fee Payment by RPS	RPS is liable to pay a fee which is calculated on the basis of all the seafarer's they have signed on and signed off (Form I) in that year.
Shipping Company	
Payment of PF contribution by RPS	Shipping Companies are liable to pay the PF amount on behalf of the seafarer's placed with them. This process is housed with SPFO.
Payment of Gratuity contribution by RPS	Shipping Companies are liable to pay the gratuity amount on behalf of the seafarer's placed with them. This process is housed with SWFS.
Application for Tonnage taxation certificate by shipping company in beginning of the year	Maritime training trust has been set up by government headed by a Chief Executive Officer and is responsible to provide facilities for training and employment and encourage Indians to opt for seafaring as career. Tonnage Taxation regime has been linked to mandatory training for Indian seafarers and MTT have been appointed to administer it. The Tonnage Taxation opted companies have to adhere to a three-pronged scheme under which they give an annual plan as basic training commitment
Payment of fees (Tonnage taxation)	Shipping company need to make payment in lieu of administrative charges per seafarer for basic training commitment. They also need to make payment in lieu of penalties if they delay in submitting any required document
Annual Return- Tonnage taxation	A shipping company can make an annual adjustment (a retrospective update of the training commitment in tune with net increase or decrease of vessels) in form of Annual return
Fee Payment (AOA)	Shipping Companies are liable to pay a fee which is calculated on the basis of all the seafarer's they have signed on and signed off (AOA) in that year.
MTI	
Approval of MTI	This process allows the Maritime Training Institutes (MTI) to get recognized and approved by DG Shipping to impart pre-sea or/and post-sea training according to DG approved curriculum. This process is housed with the Training Department at DGS.
Approval of courses	This process allows the Maritime Training Institutes (MTI) to get recognized and approved additional courses as per DG approved curriculum. This process is housed with the Training Department at DGS.
Fee payment by MTI	MTI's are liable to pay 1% of the tuition fee earned throughout the year to DGS. This process is housed with the Training Department at DGS.
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 DGS approved course. This process is housed with the Training Department at DGS.
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. This process is housed with the Training Department at DGS.
Update Batch Details	MTI's are required to submit the details of all the enrolled seafarers batch-wise within a day of the start date of the batch. This process is housed with the Training Department at DGS.

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Update Placement Details	MTI's are required to submit the placement details of all the enrolled seafarers within a specified time limit from the day of placement. This process is housed with the Training Department at DGS.
Certifications issued	MTI's are required to submit the certification details of all the enrolled seafarers as and when they complete a certain course. This process is housed with the Training Department at DGS.
Correction of profile & seafarer's details	
SPFO	
Opening of Account	This process allows seafarers, shipping companies and/or RPS to open a provident fund (PF) account for the seafarer. This process is housed at SPFO.
Interim Withdrawal	A seafarer is allowed to carry out an interim withdrawal (non-refundable) for circumstances covering marriage, higher education, purchase of house/flat/house site etc. This process is housed at SPFO.
Final Withdrawal	A seafarer is allowed to carry out the final withdrawal from their PF account once the CDC has been discontinued. This process is housed at SPFO.
SWFS	
Opening of Account	This process allows seafarers, shipping companies and/or RPS to open a gratuity account for the seafarer. This process is housed at SWFS.
Interim Withdrawal	A seafarer is allowed to carry out an interim withdrawal (non-refundable) for circumstances covering marriage, higher education, purchase of house/flat/house site etc. This process is housed at SWFS.
Final Withdrawal	A seafarer is allowed to carry out the final withdrawal from their gratuity account once the CDC has been discontinued. This process is housed at SWFS.
Welfare Scheme	Under this process, a seafarer is allowed to apply for various welfare schemes with SWFS.
RO Sails	
Issuance of ID Cards	This process allows Sailing Vessel Seaman to be issued an identity card by RO Sails.
Renewal of ID Cards	This process allows Sailing Vessel Seaman ID Card to be renewed every 5 years by RO Sails.
Duplicate ID Cards	This process allows Sailing Vessel Seaman ID Card to be duplicated in case it is misplaced/lost etc. This process is housed within RO Sails.
Tindal Certificate	A Sailing Vessel Seaman may be issued a Tindal Certificate if he/she has sailed for more than 5 years.
Sign on	Sign on is the process wherein the Tindal of the vessel applies to RO sails for approval on behalf of all the vessel seaman before the vessel sails out.
Sign off	Sign off is the process wherein the Tindal of the vessel applies to RO sails for approval on behalf of all the vessel seaman after the sailing is complete.
Cancellation	Seaman may apply to RO Sails to cancel his ID Card.

Ship Related Processes	Description
Ship Registration	
Technical Clearance	► 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, MMSI, Call Sign, Official number, Carving & Marking Note	► Each ship is assigned a name, an MMSI number (relating to radio equipment), Call Sign and Official Number. ► All the aforementioned items are issued together at once. Once a ship has a name, its Name, Port of Registry and Official Number must be carved and marked on various locations of the ship'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 PO
Amendments to Registry	► There are certain fields in the ship's profile which can be edited without prior approval from DGS authorities. However, a few amendments require approval of DGS authorities
Declaration of Ownership	► The ship owner needs to sign a declaration stating that he is, in fact, the owner of the ship. This is a requirement of the MS Act.
Issuance of Certificates	► Certificates are of 2 types: the statutory certificates are issued by MMD, while the class certificates are issued by the classification societies. ► All certificates are issued through DGS' website
Certificate of Registry	► For a ship to be recognized as an Indian flag vessel, it has to be registered in India. ► A ship can be bought at a foreign port/yard or at an Indian port/yard. If the ship is bought outside India, a provisional certificate of registry is issued to the ship by Recognized Organizations so that the ship can travel to India. This is valid for 6 months. ► A provisional certificate of registry is issued when the ship is not currently at the intended port of permanent registration or if the DGS authority finds that not all the documents of the ship are fulfilling the requirements.
Closure of Registry and Issuance of Deletion Certificate	An owner applies for closure of registry of his ship under the following circumstances: 1. Ship is being registered under a foreign flag 2. Ship is being scrapped 3. Ship is being converted into an Inland Vessel. (Exception: Vessels that are intended to be used as river-sea vessels)
Plan Approval	
	► A ship's architectural plan must be approved by DGS according to the ISM code. ► Most cargo ship plans are delegated to be approved by ROs. However, in case of exceptions, plans would need to be approved by the RO. ► All passenger ship plans are approved by DGS authorities
FSI/ PSC inspection	

	▶ 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 ship 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 DGS are appointed by respective Principal Officers. ▶ PSC reports are uploaded onto IOMOU's official website, while FSI reports are uploaded onto the FSICS website <u>Note:</u> FSI inspections are a requirements regardless of whether or not a PSC inspection is done or not
ISM Audits	
	▶ ISM guidelines were created by the International Maritime Organization. ISM audits are conducted by DGS as mandated under the SOLAS convention. The audits are done for the following reasons: ▶ To ensure safety of life at sea ▶ To prevent human injury or loss of life ▶ To avoid damage to the environment and to the ship ▶ The ISM code is implemented by DGS in India by performing DOC and SMC audits. DGS has a dedicated ISM cell that issues DOCs and SMCs. ▶ Companies must first apply for an interim DOC which is valid for 12 months. Within these 12 months, they must obtain a ship and apply for its interim SMC, which is valid for 6 months. They must run the ship for a minimum of 3 months before they can apply for the full term DOC certificate and full term SMC certificate. An intermediate audit is done by DGS for SMC between 2nd and 3rd year after issuance of initial certificate. ▶ The ISM Code requires companies to develop, implement and maintain a safety management system (SMS) which includes functional requirements in the ISM Code ▶ The DOC is specific to the ship type(s) operated by the Company and for which the SMS is implemented at the time of the audit ▶ A DOC is issued to those companies which are found to comply with the ISM code ▶ Subsequent to a successful audit, an SMC will be issued to each individual ship provided that the company holds a valid
Annual Inspection - MSVs	
	▶ RO (sails) are allied offices of DG Shipping. They assist sailing vessel owners in organizing themselves for better securing of cargo. Apart from looking at welfare and amenities of seafarers under sailing vessels industry, RO (sails) is also responsible to conduct annual inspection of mechanized sailing vessels (MSVs).
Charter Permissions & Licenses	

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	► Charter permissions and licenses are given when an Indian entity charters a foreign ship to facilitate trading from one port to another within India, from India, to India ► A chartered foreign flag ship is not allowed to sail in Indian waters without a permission. This includes even near coastal vessels
Exemptions	
	► All exemptions are granted only by DGS authorities
MTO	
	► Multimodal Transport Operators or MTOs are those entities that use multiple means to facilitate the transportation of cargo from one place to another. For example, an MTO can transport cargo by road in the first leg, by ship in the second leg and by rail in the final leg of the journey. DGS issues licenses for MTOs
Service Providers	
	A service provider can be any entity who provides ship related services. This includes: ► labs which conduct testing on cargo ► insurance providers for ships ► service stations for fire-fighting equipment and life-saving equipment
Internal Processes	Description
Personnel Branch	
Recruitment & Posting	The process of 'Recruitment & Posting' is initiated to when new employees are to be hired DGS and its allied offices. The interview for officers is conducted by Union Public Service Commission (UPSC) while for the staff is conducted by Staff Selection Committee (SSC). Subsequently, selected candidates are posted to one of the DGS's location and all their information is maintained in a register called- service book.
Completion of prohibition period	To become a permanent employee of DGS, all new recruited employees have to complete a prohibition period of 2-3 years depending upon the department and designation of joining. After completion of the prohibition period, every employee is reviewed. In case of positive reviews, employee becomes the permanent employee of DGS.
APAR	APAR is annual reporting system followed by all central government offices. This is an annual assessment system which allows the employee to get constructive feedback its seniors in the hierarchy. An individual's score of APAR is communicated to the employee. APAR is one of the parameters used in deciding promotions.
Training (Foreign trainings)	Various trainings are conducted at international platforms to update seafarers on emerging technologies & issues. An annual list of all the upcoming trainings is shared by International Maritime Organisation (IMO). Approvals for such trainings is taken from Director General, Ministry of Shipping and External Affairs. In case the expenses are borne by Government of India, approval from ministry of finance is also taken.

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Promotions	As employees at senior employees retire, the employees at junior posts are promoted to senior positions on the basis of their current designation and APARs. Seniority roaster provides information about upcoming vacancies and Recruitment rule (RR) provides information about required number of positions at a particular post. Department promotion committee (DPC) is set up as per RR. This committee is a part of UPSC and is the final decision taking authority.
Transfer	As per Government of India rules, all central government employees are required to be transferred every 3 years. Likewise, all technical officers are transferred to a different location. However, the staff is transferred with in different sections of DGS. Using the seniority roaster, and yearly a list of employees is generated who are required to be transferred. Subsequently, the final transfer locations are decided and the employees are transferred to their transfer location/ section.
Leave Application	All central government employees are entitled to take a certain number of leaves. However, it is not their right to take leaves and the leave application can be denied in certain situations as per the leave rule. Leaves include 30 end leaves, 20 medical leaves etc. for which the employee can apply and use them upon approval. However, there are 8 cash leaves which do not require any approval.
Claim Advances	Central government employees are entitled for facilities such as Medical, LTC etc. Employee can seek the advance to spend money in these facilities. Advances can also be claimed for PFs, loans etc. Approval for each advance is guided by Advance rule book which has specific details for every designation.
MACP	MACP is a provision provided to central government employees which can be used when they do not receive any promotion in 10 years. This facility can be availed thrice in the life time. Under this provision, though the designation of the employee does not change, he receives salary as applicable for designation one higher to his.
Retirement	All central government employees have to end their service at the age of 60 years. 5 years before the retirement, all particulars, mainly pay fixation, is checked for smooth retirement procedure. The major process starts 6 months before the retirement date of an employee. At this stage, all previous records are checked and submitted to the F & A department who submits the report to pay & accounts officer who in turn sends it to the pension division.
Court Case- by employee	Personnel branch deals with all court cases filled by the employees of DGS and its allied offices. DGS receives the information about the case from Ministry of Law, which also allocates an advocate to the case.
Auto Service verification	Every year, all employees' leave records are matched with their biometric attendance to ensure no unrecorded leaves have been taken by any employee. Service is said to be verified for an employee, if the leave record matches with the biometric attendance.
Administration	

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New purchase < 1 lakh	All procurement of goods and services such as such as lease, appointment of contract workers & cleaners, regular maintenance & repair, AMC etc. involving a budget of more than 1 lakh needs to be executed via the tendering process.
New purchase >1 lakh	Procurement below 1 lakh does not involve the process of tendering. For procurement within 15 thousand to 1 lakh, local purchase committee performs market surveys, calls for quotation and takes approval from administration department. For procurement of goods and services below 15 thousand, only approval from the administration department is taken.
Payment of bills	All bills submitted by the contractors, vendors, canteen etc. are submitted to the administration department. Once the bill is approved by the competent authority, it is sent to the Finance and accounts department.
Inward	Inward section receives all the letter and parcels that arrive at DGS. Inward section maintains record of all posts received at DGS according to the inward number. Inward section responsible for delivering to the branch to which the letter is addressed to.
Outward	Outward section receives letters and posts from branches which are to be posted. It maintains a record for all the posts that go out from DGS. Normal post letters are posted twice a week and speed post is posted daily (after 5.30 PM daily). All the letters addressed to MMDs are posted weekly except for the urgent letters like examination papers. Examination papers of Engineering Branch are sent through outward section while those of Nautical are sent by the branch directly to MMDs.
New Construction	All decisions to start major new construction are taken by the Ministry of Shipping. Once decided, Ministry issues a letter to DGS mentioning all the specifications and phase wise financials about the constructions and DGS starts the construction process. All construction work is under taken by CPWD (Central Public Works Department).
Residential Accommodation/CGHS	DGS employees are eligible for using the CGHS facilities and avail accommodation as per their designation, both of which are provided to all central government employees. Approval of the application for Accommodation/ CGHS is approved at DGS.
Crew	
Mishap- Foreign waters-Indian National	In case of any mishap of Indian national on foreign waters, such as death, permanent injury, accident or missing of Seafarer, RPS Cell/Shipping company informs DGS about the mishap? An investigation report is taken from the flag state, fact checking report from Indian embassy and insurance report from the P & I club to process the compensation and pending wages of the seafarer.
Mishap- Indian waters-Indian National	In case of any mishap of Indian national on Indian waters, such as death, permanent injury, accident or missing of Seafarer, RPS Cell/Shipping company informs DGS about the mishap? An investigation is carried out by the nearest MMD and its report is used to process the compensation and pending wages of the seafarer.

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Dissertation	After signing off from the ship, seafarer is provided air tickets and dropped till the airport. At the arrival airport, agents of shipping company receive the Seafarers. In case a Seafarer is not received at the arrival airport, the Shipping Company or RPS Cell informs DGS about the Dissertation. Shipping master conducts the enquiry and the report is maintained at DGS.
NWB	NWB (National welfare board) was set up to ensure Seafarer's welfare. It has 14 members including representatives from unions, SWFC, public sector etc. Regular meetings of NWB are conducted by SWFS. In case someone is interested in join NWB or replace a retiring member, Ministry or unions write an application to DGS on his behalf and approval process is completed at DGS.
Court Case- by Seafarer	In case of grievances such as injury, improper wages, harassment etc., the seafarer may choose to go to the court. In this case, the advocate of the Seafarer will write to DGS or respective MMD or both. DGS coordinates with the MMD involved throughout the court procedures.
Ministry Complaints	In case seafarer has complaints regarding wages, sexual harassment, RPS Cell not updating sea service etc. seafarer may write to the ministry which in turns writes to DGS.
RTI	Since DGS is a government body, it is bound to share information under the RTI act. When any stakeholder files an RTI, DGS coordinates with the shipping master and provides relevant information.
Vigilance	
Complaint processing	Complaints made by various stakeholders are received by the Vigilance Department either through post or via e-mail. They are processed by officials of DGS and CVO.
Annual property returns	Annual Property Return is managed for all group A and B officers by the Vigilance Department.
Issuance of VCC	Vigilance Clearance Certificate (VCC) is provided by the vigilance department to the personnel branch when an employee goes for foreign training or gets a promotion or retires.
Coastal	
Seam I Card for MSV	Coastal branch is responsible for issuing and keeping a track of I cards of seamen on sailing vessels.
Coordination	
Quarterly Report of RTI work	Coordination branch makes a consolidated report of the work done by all the departments related to RTI and submits it to the Ministry of Shipping.
Response to questions	Various questions are asked to DGS by the ministry, parliament or other offices, some of which need to be responded on an urgent basis. Coordination branch coordinates with different departments to get responses to all the questions.
Hindi Vibhaag	
Quarterly Report of work done in Hindi	As per Section 3 (3) of official language Act, a certain percentage of circulars, tenders, office memorandums, office orders, general orders should be in both English and Hindi. Also, letters received

	in Hindi should be replied in Hindi. Hindi Vibhag is responsible to prepare a quarterly report informing about the work done in bilingual languages by all the departments in DGS and its allied offices.
MSL	
Rule change and ratification	There is an ever emerging need for developing new rules and changing the existing rule with time. MSL consults various stakeholders before sending the final proposal to the ministry for approval of changed or new of rules. While amendments in MS ACT may involve in-depth consultation with all stakeholders, issuing new small circulars may involve consultation with limited stakeholders.
Advice on MSL	MSL provides advice to all departments in DGS to queries regarding MS Act, MS rules, circular, policies etc. The concerned officer of the department may send the complete file with marked paragraphs where clarifications are required or may simply send the specific query to the MSL team.
Concurrent Feedback Mechanism	
Grievances redressal	DGS has an online portal through which external stakeholder convey their grievances and feedback and DGS addresses their grievances in a time bound manner
Finance & Accounts	
Budget Preparation	Finance & Account department sends the format of budget to all the branches of DGS to fill their budget break up of plan and non-plan budget. The budget of all individual branches is consolidated to prepare the complete budget.
Nautical Branch	
Mishap-Indian water-Foreign national	In case of any mishap of foreign national on Indian waters, such as death, permanent injury, accident or missing of Seafarer, foreign company will contact the Nautical department to conduct an inspection and send them the report on the basis of which the process of compensation would be initiated by the company.

2.2 Design principles

2.2.1 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 DGS.
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 Domain Schema

2.2.2 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.
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.

2.2.3 Management Principles

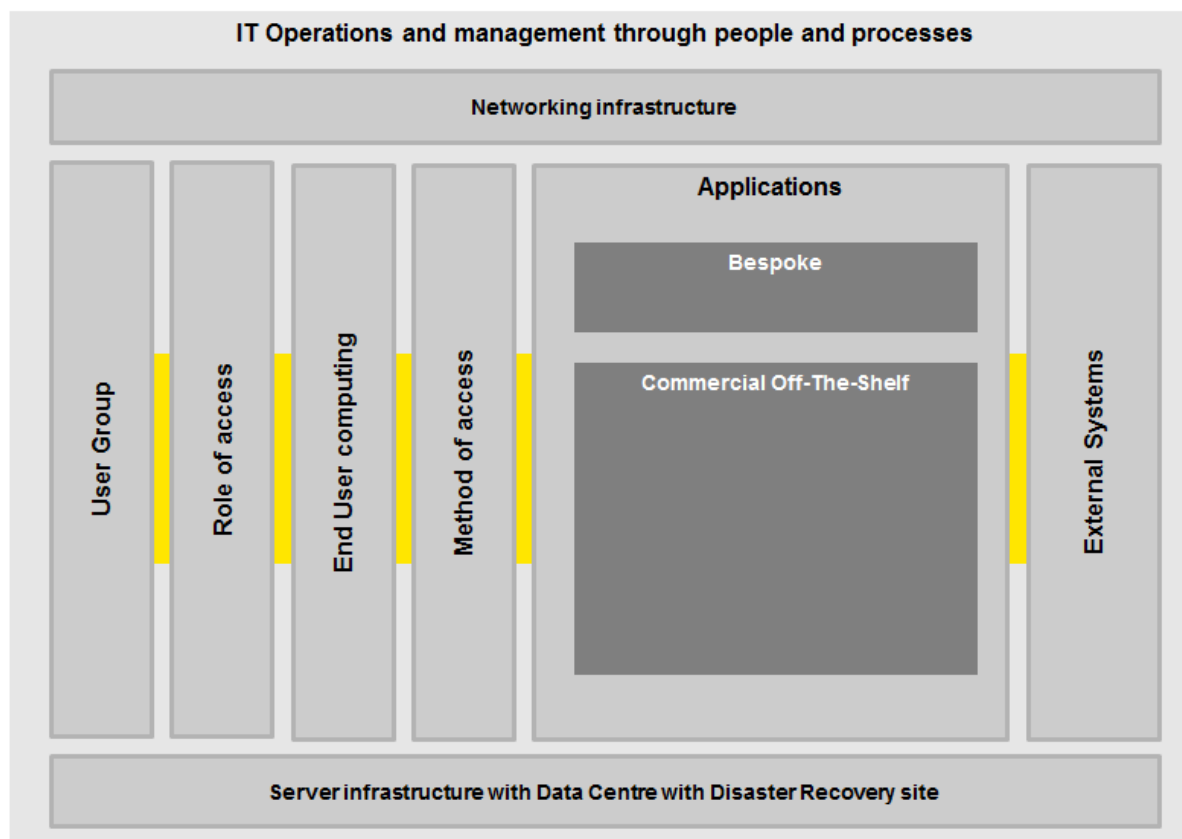
1. The management of system shall be SLA based.
2. SLA management will take place via SLA monitoring system which will provide system generated reports on level of compliance/non-compliance against defined SLA parameters
3. System should have an Enterprise Management Solution that provides end-to-end, comprehensive, modular and integrated management of IT infrastructure components to maximize the availability of IT services and SLA performance

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.
5. Management to have minimal overhead on the system
6. Management of ICT should be automated.
7. Extensive reporting to help management and administrators to take quick decisions
8. System should track all the assets in use or acquired for use in real time.
9. Real-time status of the system should be available at all times.
10. System Management should intelligently perform root-cause analysis to rapidly bring the system back to normal working conditions
11. The system should be upgradeable without affecting the production
12. It should be possible to proactively manage all the system hardware and software components maintenance and licenses throughout their life cycle.

2.2.4 Technology Principles

1. The system should be built from best of breed components with no obsolescence and with futuristic designs.
2. The technology adopted should be periodically refreshed to achieve significant improvements in TCO.
3. All the system components must follow open standards and open source technologies. All application deployed should be OS platform agnostic
4. Interoperability of servers from different vendors is required at all levels.
5. Scalability, manageability to handle huge data volumes
6. Efficient Resource Utilization by separation of Compute and Storage resources and by distribution of load among all sites.

2.3 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:

1. 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 DGS employees / contracted employees or staff which will be considered as internal staff working for DGS as far as system is concerned.
- B. Customers: Customers: These are end users who will avail services from DGS. These include Shipping and Seafarers. 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. 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:

- A. External Users: These are all entities external to DGS. 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 suppliers, 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

- B. Customer Service Centre: This refers to a central customer service centre which will be manned by DGS officials. This will be front office for DGS operations. It is expected that users interact with DGS 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.
- C. Sub-Customer Service Centre: this refers to any touch point which will be spread across DGS estate for cash collection, enrolment of visitors to DGS premises or any other ancillary functions. It will be manned by DGS staff.
- D. Call Centre: In addition to having a customer service centre a dedicated toll free number for resolving grievances of customer and helping them operate on DGS website will be setup. This call centre will be manned by DGS staff.
- E. Employee Service Centre: This is an internal service centre which will be setup for DGS employees who do not have a computer to access personnel and administration services
- F. Dispatch Centre: This will be a department wise single checkpoint for physical correspondences
- G. Service Desk Support: This will be a logical group formed within DGS consisting of service providing departments to manage services/tasks/activities required to be accomplished for internal consumption. Groups will be formed within each DGS 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 DGS during the course of the contract.
- H. Operational Support Group: This will be central team within DGS which will assist core operations group in carrying out the task. It will provide necessary support for verification of documents, help in billing, 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 shipping/seafarers
- 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.
- K. Establishment & Administration: This will be department-wise team which supports and administers personnel and administration activities within DGS.

3. End user computing

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

- A. Computers / laptops / thin clients: refers to all PCs, laptops being used by internal or external users interacting with the system
- B. 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 seafarer operations
- C. Mobile computing: system is expected to interact with multiple mobile computing devices such as cell phones, tablets, etc.
- D. Printers and scanners

4. Method of access

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

- A. External portal: access channel for external users, all interactions will be made available through this portal
- B. Internal portal: access channel for internal users, interactions related to shipping and seafarer operations will be carried out through this portal. Also, access to all internal systems for HR, Administration etc. will be provided through one portal. Single-sign on facility will be available to eliminate requirement of logging on to different systems
- C. E-Tendering portal: Users will be interacting with central government e-Tendering portal.
- D. SMS and Emails will be another channel for access
- E. Phones to call centre and letters may be used for interaction.
- F. All letters which are responses will be barcoded to simplify tracking and collation.

5. 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:

6. Core capabilities

- A. HR Management System:

A HRMS should be a comprehensive system catering to all functionalities of HR, Administration, Establishment & Welfare services. It should be an integrated system primarily with Financial Management module, Legal Case Management, Workflow management & Port Operations system. Key integration would be with Resources Management sub-module of Port Operations

Key components of the integrated HRMS system are including:

- i. Leave & Attendance management
- ii. Time Management
- iii. Payroll
- iv. Transfers
- v. Promotions
- vi. Terminal Benefits & Separations
- vii. Reservation Roster

- viii. Recruitment
- ix. Training & Development
- x. Appraisal & Performance Management
- xi. Manpower Planning
- xii. Welfare Services

B. Provident Fund

DGS manages the provident fund of its employees. The provident fund module should have provision to deduct provident fund contribution from employee's salary & processing of cases of provident fund advance and loans against provident fund.

C. E-Forms

All standard forms which are presently used as physical paper-based copies will have to be converted into an e-form. It is expected that a service will be provided by DGS only if there is a Service request e-form associated with it on the DGS portal. The input fields of these forms will have to be redesigned to reduce the redundancy of data inputs. e-Forms should incorporate all validations based on the business rules of DGS.

D. Grievance management

Any grievance raised by the outside customer/ citizen on DGS 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

E. 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.

F. 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, due date, etc. would be sent by SMS/ E-mail to users.

G. 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.
- 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 supports 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
- 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 Image rendering extensions

H. 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 system widely 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 DGS. 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 DGS. SI has to select the proper architecture / platform for application. The selected application architecture / platform will support all Smart phone platforms. DGS is looking forward for Mini App Store from where DGS staff & end users can easily download the apps.

7. Enabling capabilities

A. Workflow management

Workflow management module shall enable the workflows for various business processes. This shall include process tasks and routing. Workflow shall allow configuring

various users such as officers from various locations of DGS, seafarers, other users, different roles etc. into the business processes for various kinds of approvals / rejections.

8. 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 DGS 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 DGS. The system should also provide capability to carry out ad hoc queries. This would enable DGS 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.

MIS

1. Internal Shipping and seafarer 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

9. Analytics and Forecasting

As maturity of users on reporting platform increases, DGS 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 DGS 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 port revenues
- E. Policy Implication Modelling – This will help department in analysing whether there are differential outcomes of applying any specific changes in port policies

10. 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.

11. 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.

12. Email solution

DGS 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.

13. 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 DGS officers or other port users as and when required.

14. 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 DGS requirements and make it scalable for future. The menu options for the IVRS number will be finalized in consultation with Purchaser and other stakeholders.

15. 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 DGS departments for raising and resolving services requests related to port operations and internal administrative functions.

16. 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 DGS however installation and other technical implementation along with the maintenance will be done by SI.

17. 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 DGS's policy.

18. 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.

19. 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

20. 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:

- A. Application
- B. Network
- C. Server

- D. Service desk
- E. Remote management
- F. Patch management
- G. Security operations
- H. SLA advisor
- I. Reporting

21. 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 DGS'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 DGS. Indicative SLA modules which are to be made available by the bidder for the DGS includes but is not limited to:

- A. Solution (modules) availability
- B. DC / DR server infrastructure availability
- C. Network availability at various locations
- D. CPU utilization
- E. I/O utilization
- F. Quality of Service
- G. Audit observations and the action taken
- H. Training modules – Feedback, Number of sessions. Trainees
- I. Incidents report and Ticketing dashboard

22. Antivirus solution

The bidder shall provide an anti-virus security solution that protects DGS's 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.

23. 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

24. System Interfaces

- A. 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.
- B. 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 DGS's agreement on the type of interface for these systems.

25. 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 integration for these systems will have to be looked at by the bidder and integration with these systems as possible after mutual discussion with DGS 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	Provident Fund	Web service based
6	Aadhar	2 way
7	SBI (To be decided)	To be provided by DGS later
8	There will be provision to integrate with any external interfaces as required by DGS later. Ex: • elmmigration, • Tab based examination • e-Office	To be provided by DGS later

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

26. 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

27. 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

28. 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.

3 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:
 - A. Functional and system requirements
 - B. Infrastructure (including Hardware, server, storage, network, client-side computing, etc.) Compliance Review
 - C. Availability of the project services within the defined locations
 - D. Performance
 - E. Security
 - F. Manageability
 - G. System adoption
 - H. SLA Reporting System
 - I. Project Documentation (Requirements, design, development, configuration, training and administration manuals etc.)
 - J. Data Quality Review
2. As part of Acceptance testing, performed through a third party agency, DGS 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 DGS. The solution deployed by the vendor has to satisfy third party acceptance testing upon which the system shall provisionally go-live, subject to DGS approval.
4. DGS 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. DGS 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 DGS.

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

i. 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 DGS 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, DGS shall identify the employees from respective divisions, 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.

ii. Infrastructure Compliance Review

DGS'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.

iii. 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.

iv. **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.

v. **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.

vi. **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.

vii. **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 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 DGS after deducting the necessary penalties.

viii. **Project Documentation**

The Agency shall review the project documents developed by the DGS 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 DGS.

ix. 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.

4 Detailed requirements and specifications

4.1 Functional requirement specifications

Refer to annexure 1

4.2 Technical requirement specifications

Refer to annexure 2.

5 Annexures

5.1 DGS HQ and its allied offices list

Sr. No.	Various locations where DGS operates from
1.	D.G Shipping (HQ), Mumbai
2.	PO, MMD, Mumbai
3.	PO, MMD, Kolkata
4.	PO, MMD, Chennai
5.	PO, MMD, Kochi
6.	PO, MMD, Kandla
7.	SIC, MMD, Jamnagar
8.	SIC, MMD, Tuticorin
9.	SIC, MMD, Vizag.
10.	SIC, MMD, Mangalore
11.	SIC, MMD, Port Blair
12.	SIC, MMD, Haldia
13.	SIC, MMD, Paradeep
14.	SIC, MMD, Goa
15.	SIC, MMD, Noida
16.	SM, Mumbai
17.	SM, Kolkata
18.	SM, Chennai
19.	SEO, Mumbai
20.	SEO, Kolkata
21.	SEO, Chennai
22.	RO(S), Mumbai
23.	RO(S), Jamnagar
24.	RO(S), Tuticorin
25.	SPFO, Mumbai
26.	SWFS, Mumbai



REQUEST FOR PROPOSAL (RFP)
FOR
SELECTION OF SYSTEM INTEGRATOR FOR
EGOVERNANCE SOLUTION AND IT
TRANSFORMATION OF DIRECTORATE
GENERAL OF SHIPPING, GOVT OF INDIA

VOLUME 3 OF 3

Tender Number: DGS/E-Gov./NP(1)/2015-Vol-I

Disclaimer

This Request for Proposal ("RFP") is issued by the Directorate General of Shipping (DGS).

1. Whilst the information in this RFP has been prepared in good faith, it is not and does not purport to be comprehensive or to have been independently verified. Neither DGS, nor any of its officers or employees, nor any of their advisers nor consultants accept any liability or responsibility for the accuracy, reasonableness or completeness of, or for any errors, omissions or misstatements, negligent or otherwise, relating to the proposed Project Insight or makes any representation or warranty, express or implied, with respect to the information contained in this RFP or on which this RFP is based or with respect to any written or oral information made or to be made available to any of the recipients or their professional advisers and, so far as permitted by law and except in the case of fraudulent misrepresentation by the party concerned, and liability therefore is hereby expressly disclaimed.
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3. This RFP includes certain statements, estimates, projections, targets and forecasts with respect to the Project Insight. Such statements estimates, projections, targets and forecasts reflect various assumptions made by the management, officers and employees of DGS, 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 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.

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MASTER SERVICES AGREEMENT

THIS MASTER SERVICE AGREEMENT (“Agreement”) is made on this the <***> day of <***> 2016 at Mumbai, India.

BETWEEN

----- having its office at -----
----- India hereinafter referred to as ‘**Directorate General of Shipping**’/‘**DGS**’ 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:

DGS is desirous of undertaking ‘eGovernance of DGS’

In furtherance of the same, DGS 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 DGS 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 DGS 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 DGS 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 volume 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 DGS 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 DGS 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, DGS 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 DGS or its nominated agencies; and
- (b) to provide DGS 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 DGS under this Agreement shall commence from the fulfilment 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 DGS 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 fulfilment of the Bidder's Conditions Precedent, DGS or its nominated agencies shall not be liable in any manner whatsoever to the Bidder and DGS shall forthwith forfeit the Performance Guarantee.
- (c) In the event that possession of any of DGS 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 DGS 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 DGS 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 DGS 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, DGS 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 DGS (which shall not be Bidder or any of its associated entities).
- (c) If such a guarantee is not furnished within 30 days of DGS requiring the replacement, DGS 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 DGS 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 DGS 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, DGS 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 DGS 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;
- (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 DGS'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 DGS 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 DGS in connection therewith. For this purpose DGS will sign integrity pact separately with Bidder enclosed with this agreement.

6.2 Representations and warranties of DGS

DGS 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 DGS

Without prejudice to any other undertakings or obligations of DGS under this Agreement, DGS 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) DGS 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 DGS, the Deliverables as set out in Annexure C of this Agreement.
- 8.2 It shall perform the Services as set out in Volume 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 DGS 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 DGS will co-operate with each other in achieving a reasonable alternative arrangement as soon as reasonably practicable for DGS 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 DGS 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 DGS 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 DGS , DGS 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 DGS 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 DGS LOCATIONS

- 11.1 For so long as the Bidder provides services to DGS location, as the case may be, on a non-permanent basis and to the extent necessary, DGS as the case may be shall, subject to compliance by the Bidder with any safety and security guidelines which may be provided by DGS as the case may be and notified to the Bidder in writing, provide the Bidder with:
 - (a) reasonable access with prior approval of DGS, in the same manner granted to DGS employees, to DGS 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 DGS 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 DGS 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

DGS 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;

DGS 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 DGS as specifically stated in the RFP and follow the industry standards related to safety and security (including those as stated in the RFP), insofar as it applies to the provision of the Services.
- (b) Each Party to the SLA/Agreement shall also comply with DGS or the Government of India's security standards and policies in force from time to time at each location of which DGS 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 DGS as the case may be or any of their nominees data, facilities or Confidential Information.
- (d) The Bidder shall upon reasonable request by DGS 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 DGS, 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 DGS 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, DGS 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 DGS will pay the service credits as stated in accordance with the Schedule VI of this Agreement and DGS 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, DGS 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) DGS 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 DGS.
- (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 45 working days of the receipt of invoice along with supporting documents by DGS subject to penalties. The penalties are imposed on the Bidder as per the penalty criteria specified in the SLA.
- (d) DGS 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 DGS 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 DGS under this Clause shall not entitle the Bidder to delay or withhold provision of the Services.
- (e) DGS 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 DGS 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) DGS 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) DGS shall provide Bidder with the original tax receipt of any withholding taxes paid by DGS on payments under this Agreement. The Bidder agrees to reimburse and hold DGS 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 DGS, 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 DGS after submission of the proposal, the consequential effect after determination of the nature of the new tax or levy by DGS shall be to the account of DGS 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, DGS 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 DGS 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, DGS will have the option to terminate this Agreement. Further, DGS 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 DGS 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 DGS and / or failing to make payment of undisputed amount within 45 working days from date of submission of invoice, then the Bidder will give a one month's notice for curing the Material Breach to DGS. After the expiry of such notice period, the Bidder will have the option to terminate the Agreement.
- (b) DGS 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, DGS may, as an alternative to termination, require a full Performance Guarantee for the obligations of Bidder by a guarantor acceptable to DGS. If such a guarantee is not furnished within 30 days of DGS's demand, DGS 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 DGS 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 DGS 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) DGS agrees to pay Bidder for
 - i. all charges for Services Bidder provides 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

DGS 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 DGS or its allied offices.

15 INDEMNIFICATION & LIMITATION OF LIABILITY

- 15.1 Subject to Clause 15.2 below, Bidder (the "Indemnifying Party") undertakes to indemnify DGS (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 DGS 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 DGS or any of their nominated agencies of any material assets or rights of the Bidder;
- c) unlawful or unauthorized revocation of, or refusal by DGS 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 DGS 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 DGS 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 DGS 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
- (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 DGS 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 DGS 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 DGS 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 DGS 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 DGS for effective performance of the Services, the provisions of the Clause 17.1 to 17.3 shall apply mutatis mutandis on DGS.

18 AUDIT, ACCESS AND REPORTING

The Bidder shall allow access to DGS 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 DGS 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 DGS 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 DGS. The bidder shall provide source code, object code and all other relevant materials, artefacts etc of all bespoke development to DGS and DGS 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 DGS (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 DGS. Bidder shall provide to DGS (to the satisfaction of DGS) 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 DGS.

20 WARRANTY

- 20.1 Standard: The Bidder warrants that the Project, including all the system(s) and other Services provided, shall be free from any defect or deficiency in the material, design, engineering, and performance/workmanship that prevent the Project 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 Project and/or any of its system(s) as per the performance guarantee / warranty period defined in the Schedule. 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 Bidder, the Bidder shall promptly, in consultation and agreement with DGS, and at the Service provider's sole cost repair, replace, or otherwise make good (as the Implementation Agency shall, at its discretion, determine) such default, defect or deficiency as well as any damage to the Project caused by such default, defect or deficiency. Any defective system that has been replaced by the Bidder shall remain the property of the Bidder. However, damaged hard disks and storage media shall be retained by the department and the data on the damaged disk shall be made non recoverable. If the Project or any of its System cannot be used by reason of such default, defect or deficiency and/or making good of such default, defect or deficiency, 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 DGS because of such defect and/or making good of such default, defect or deficiency.
- 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. The Bidder 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 Bidder,
 - (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 Bidder;
 - (iii) the deliverables having been tampered with, altered or modified by DGS without the written permission of the Bidder, or
 - (iv) use of the deliverables otherwise than in terms of the relevant documentation.

21 LIQUIDATED DAMAGES

Time is the essence of the Agreement and the delivery dates are binding on the Bidder. In the event of delay or any gross negligence, for causes attributable to the Bidder, in meeting the implementation phase timelines, DGS shall be entitled at its option to recover from the Bidder as agreed, liquidated damages, a sum of 0.5% of the Gross Quarterly Payout for each completed week or part thereof subject to a limit of 10% of the Total Contract value.

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

22.2 Certificates of currency

The Bidder must, on request by DGS, 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.

22.3 Non-compliance

DGS 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 DGS that compliance is not permitted by the nature of Bidder's limited rights in such material.

- 23.2 Within ninety (90) days after the DGS' 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 DGS shall be entitled to obtain the deposited materials from escrow upon the DGS'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, DGS 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 DGS 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 DGS from escrow, the DGS shall use the deposited materials solely for the benefit of the DGS 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 DGS and the term of the DGS'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 DGS and DGS'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

- (a) 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 DGS. 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.
- (b) 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, DGS 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 DGS requests that any Bidder personnel be replaced, the substitution of such personnel shall be accomplished pursuant to a mutually agreed upon schedule.
- (c) In the event that DGS 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 DGS unless such removal is the result of an unavoidable circumstance including but not limited to resignation, termination, medical leave, etc.
- (d) 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. DGS 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.

- (e) 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.
- (f) 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:

- (a) incur any expenses on behalf of the other Party;
- (b) enter into any engagement or make any representation or warranty on behalf of the other Party;
- (c) pledge the credit of or otherwise bind or oblige the other Party; or
- (d) 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 DGS'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 DGS from any claims on the grounds stated hereinabove.

24.4 Assignment

- (a) All terms and provisions of this Agreement shall be binding on and shall inure to the benefit of DGS and their respective successors and permitted assigns.

- (b) Subject to Clause 5.3, the Bidder shall not be permitted to assign its rights and obligations under this Agreement to any third party.
- (c) DGS 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 DGS 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 along 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 DGS or its client lists for reference to third parties subject to the prior written consent of DGS not to be unreasonably withheld or delayed. Such approval shall apply to each specific case and relate only to that case.

24.6 Notices

- (a) 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.
- (b) 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:

- (c) 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.
- (d) 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).
- (e) 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

- (a) 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.
- (b) 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

- (a) 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.
- (b) 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 DGS 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 DGS 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.
- 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 Bombay, 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 Bombay, India. Any legal dispute will come under the sole jurisdiction of Bombay, India / State jurisdiction of Maharashtra, 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/DGS-designated carrier for shipment to DGS or DGS'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 above

Written in the presence of:

WITNESSES:

Signed by:

(Name and designation) For and on behalf of DGS

(FIRST PARTY)

Signed by:

(Name and designation)

BIDDER

(SECOND PARTY)

(Name and designation) For and on behalf of Bidder

Signed by:

SCHEDULE I – DEFINITIONS	
Adverse Effect	means material adverse effect on (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 (b) the legal validity, binding nature or enforceability of this Agreement;
Agreement	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;
Applicable Law(s)	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;
Assets	shall have the same meaning ascribed to it in Clause 10.1 (a)
Software	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;

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Business Hours	shall mean the working time for DGS 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 DGS 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 DGS 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, trade secrets, 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;
DGS Data	means all proprietary data of the department or its nominated agencies generated out of operations and transactions, documents all taxpayers 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) DGS 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;
Force Majeure Costs	shall have the same meaning ascribed to it in Clause 16.4 (b);
Gol	means the Government of India;

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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-gradation systems and compilation rights (whether or not any of these are registered and including 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
Additional Insurance	Not Applicable

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Material Breach	means a breach by either Party (DGS 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 Volume I of the RFP;
Parties	means DGS 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 10% 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 DGS 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 DGS 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 DGS 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 DGS 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 DGS 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 DGS's Intellectual Property Rights, rights and other authorizations as may be required to be obtained for the software and other items that DGS or their allied offices are required to make available to Bidder pursuant to this Agreement;
Services	means the services delivered to the Stakeholders of DGS or its allied offices, employees of DGS 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
SLA	means the Performance and Maintenance SLA executed as part of this Master Service Agreement;

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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 DGS 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 Implementation Agency 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 in Clause 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, batch processing time, routine maintenance time) would not be considered;
Network Uptime	Uptime refers to network availability between Nodal Agency's Head Quarters to Data center. "%Uptime" means ratio of 'up time' (in minutes) in a month to Total 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 project for all hardware, software and other components comprising of the solution and any extended period notified by DGS.
Safety and Security	Shall, in addition to those specified in 12.4, include the requirements specified in Volume – II of the RFP.

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Value of the Project / Cost of the Project / Project Cost	shall have the same meaning ascribed to it in Volume – 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.

DGS 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 DGS 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 DGS, during the Project Implementation Phase and DGS 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.

- (iii) 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 DGS or its nominated agencies or as decided and approved by DGS 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.
- (iv) 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 DGS, 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 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 TRANSFER OF ASSETS

- 2.1 DGS 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 DGS with a complete and up to date list of the Assets within 30 days of such notice. DGS 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 DGS or its nominated agencies at book value 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 DGS, DGS 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:
 - (i) 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 DGS.
 - (ii) All risk in and title to the Assets to be transferred / to be purchased by DGS pursuant to this Article shall be transferred to DGS, on the last day of the exit management period.
 - (iii) 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 Income Tax Rules.

- (iv) Payment to the outgoing Bidder shall be made to the tune of last set of completed services / deliverables, subject to SLA requirements.
- (v) The outgoing Bidder will pass on to DGS and/or to the Replacement Bidder, the subsisting rights in any leased properties/ licensed products on terms not less favorable to DGS/ Replacement Bidder, than that enjoyed by the outgoing Bidder.

3 COOPERATION AND PROVISION OF INFORMATION

During the exit management period:

- (i) The Bidder will allow DGS 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 DGS to assess the existing services being delivered;
- (ii) promptly on reasonable request by DGS, 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). DGS 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 DGS 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 CONFIDENTIAL INFORMATION, SECURITY AND DATA

- 4.1 The Bidder will promptly on the commencement of the exit management period supply to DGS or its nominated agency the following:
- (i) information relating to the current services rendered and customer and performance data relating to the performance of consortium partners in relation to the services;
 - (ii) documentation relating to Project's Intellectual Property Rights;
 - (iii) documentation relating to sub-contractors;
 - (iv) all current and updated data as is reasonably required for purposes of DGS transitioning the services to its Replacement Bidder in a readily available format nominated by DGS, its nominated agency;
 - (v) all other information (including but not limited to documents, records and agreements) relating to the services reasonably necessary to enable DGS, or its Replacement Bidder to carry out due diligence in order to transition the provision of the Services to DGS, or its Replacement Bidder (as case may be).
- 4.2 Before the expiry of the exit management period, the Bidder shall deliver to DGS 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, DGS or its nominated agency shall deliver to the Bidder all forms of Bidder confidential information, which is in the possession or control of DGS or its users.

5 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 DGS 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 DGS 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 TRANSFER OF CERTAIN AGREEMENTS

- 6.1 On request by DGS 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 DGS or its nominated agency or its Replacement Bidder.

7 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) DGS 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 DGS or its nominated agency, or any Replacement Bidder right of reasonable access to the Implementation Partner's premises and shall procure DGS 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 DGS or its nominated agency, or a Replacement Bidder.

8 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 DGS 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 EXIT MANAGEMENT PLAN

- 9.1 The Bidder shall provide DGS 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.
- (i) 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;
 - (ii) 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 DGS's operations as a result of undertaking the transfer;
 - (iii) (if applicable) proposed arrangements for the segregation of the Bidder's networks from the networks employed by DGS and identification of specific security tasks necessary at termination;
 - (iv) 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 DGS.
- 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 DGS 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 DGS 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, DGS or its nominated agency and thereafter during the operation Phase, DGS 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 DGS 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 DGS 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 DGS 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 DGS 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 DGS 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 DGS 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 DGS 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 DGS 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 DGS 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 Volume –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 DGS 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, DGS, 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.
- 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.

SCHEDULE – VI - TERMS OF PAYMENT SCHEDULE

As per the payment terms defined in volume I of RFP.

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 DGS	Date:
Name:	
Signature:	Date:
Received by the SI	
Name:	
Signature:	
Change Control Note	CCN Number:

Part B : Evaluation	
(Identify any attachments as B1, B2, and B3 etc.)	
Changes to Services, charging structure, payment profile, documentation, training, service levels 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 :

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 DGS 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 Volume II of RFP.

ANNEXURE C – REQUIRED DELIVERABLE AND ASSOCIATED TIMELINES

As per deliverables and timelines defined in Volume I of RFP.

ANNEXURE D - BID

Bid Response

ANNEXURE E – BILL OF MATERIAL

As per the bill of material and the proposal submitted by the bidders.

ANNEXURE – F – 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 DGS.
- b) Procure, install, commission, operate and maintain:
- c) Requisite hardware & system software at DGS'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 lightening.
- 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 DGS 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 DGS.
- 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 equipments, 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 DGS.
- v) Generation of the report for the monitoring of SLAs.
- w) Meet the defined Technical Specifications for the IT Infrastructure including Hardware and networking equipments 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 DGS

- a) Provide adequate space at DGS 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 DGS 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 DGS.
- 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.

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 '**DGS**' 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. DGS is desirous to implement the project of -----.
2. DGS 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,
representations and provisions set forth herein, the Parties hereto agree as follows:

**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 Implementation

Agency by: DGS

SIGNED, SEALED AND DELIVERED

For and on behalf of the Nodal

Agency by:

(Signature)

(Signature)

(Name): Shri.

(Name)

(Designation):

(Designation)

(Address)

(Address)

(Fax No.)

(Fax No.)

In the presence of:

1.

2.

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 'DGS' 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:

DGS is desirous for Implementation and Operations Management of Project Insight.

2. DGS and Bidder have entered into a Master Services Agreement dated <***> (the "*MSA*").

SELECTION OF SYSTEM INTEGRATOR FOR EGOVERNANCE SOLUTION AND IT
TRANSFORMATION OF DIRECTORATE GENERAL OF SHIPPING, GOVT OF INDIA

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) DGS
- (b) Bidder

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 DGS by:
(Signature) (Name) XXX (Designation) XXXX (Address) XXXX (Fax No.)	(Signature) (Name) (Designation) (Address) (Fax No.)

In the presence of:

- 1. _____
- 2. _____

1 ANNEXURE: 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 (DGS) 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:

- DGS (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
DGS 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 <***> and will be available 24X7.

	Title	Telephone	e-Mail
DGS 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 DGS 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 DGS 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 Volume I. Measurement Tool: Project Management Office (PMO) Periodic Project Progress Reports	Rs. 1,00,000 per week of delay If the delay exceed more than 12 weeks, DGS 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 tickets logged in the system for the measurement period Measurement Tool: Reports from SLA monitoring tool and ticket issuance tool	>=99% 95% - 99% Below 95%	No Penalty 2% penalty on quarterly billing of the bidder. If SLA breach continues for consecutive 3 quarters, DGS may decide to invoke breach clause. 3% penalty on the quarterly billing of the bidder. If SLA breach continues for consecutive 3 quarters, DGS may decide to invoke breach clause.

#	Services	Parameters	Validation	Level	Penalty
2	Network Uptime	Bidder to ensure uptime of the following network components Internal LAN at DC, Internet Links at central system, Link between DC and DR and central network infrastructure	Reports on network performance. Non Availability of even one of the service would amount to deviation of this purpose Any downtime for maintenance shall be with prior written intimation to the DGS Measurement Tool: Reports from Network monitoring tool	>=99.5%	No Penalty
				98.5% - 99.5%	2% penalty on the quarterly billing of the bidder. If SLA breach continues for consecutive 3 quarters, DGS 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 , DGS may decide to invoke breach clause
3	Hardware Uptime	Bidder to ensure uptime of all hardware at Data Center & DR Site	Monthly Hardware components functioning report Non Availability of even one of the service would amount to deviation of this purpose Any downtime for maintenance shall be with prior written intimation to the DGS Measurement Tool:	>=99.5%	No Penalty.
				98.5% - 99.5%	2% penalty on the quarterly billing of the bidder. If SLA breach continues for consecutive 3 quarters, DGS 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

#	Services	Parameters	Validation	Level	Penalty
			Reports from SLA monitoring tool		quarters, DGS may decide to invoke breach clause.
4	Availability of the central integrated system	24/7 availability of the central integrated system	Monthly report on application availability	>=99.5%	No Penalty.
			Non Availability of even one of the service would amount to deviation of this purpose	98.5% - 99.5%	2% penalty on the monthly bill of the bidder. If SLA breach continues for consecutive 3 quarters, DGS may decide to invoke breach clause.
			Measurement Tool: Reports from SLA monitoring tool	Below 98.5%	3% penalty on the quarterly billing of the bidder. If SLA breach continues for consecutive 3 quarters, DGS may decide to invoke breach clause.
5	Resource availability for Bidder Services	Number of shift days for which resource is present at the designated location/Total number of shift days	Attendance Registers through system	>99%	No Penalty
			Measurement Tool:	95% - 99%	1 % penalty on the quarterly billing of the bidder. If SLA breach continues for consecutive 3 quarters, DGS may decide to invoke breach clause.
			Average out of all of the resources deployed by the bidder	Less than 95%	2 % penalty on the quarterly billing of the bidder. If SLA breach continues for consecutive 3

#	Services	Parameters	Validation	Level	Penalty
					quarters, DGS may decide to invoke breach clause.
6	Infrastructure Availability (Cloud DC & DR)	Uptime of Cloud Solution (Including all modules specified in FRS/TRS)	Monthly report on Cloud Data Center and Disaster Recovery Center availability	>=99.5%	No Penalty.
			Non Availability of even one of the service would amount to deviation of this purpose	98.5% - 99.5%	2% penalty on the monthly bill of the bidder. If SLA breach continues for consecutive 3 quarters, DGS may decide to invoke breach clause.
			Measurement Tool: Reports from SLA monitoring tool	Below 98.5%	3% penalty on the quarterly billing of the bidder. If SLA breach continues for consecutive 3 quarters, DGS may decide to invoke breach clause.
7	Cloud Service Provisioning	Provisioning and De-provisioning Of Virtual Machines	Per occurrence. This will be calculated monthly Measurement Tool: Reports from SLA monitoring tool	Within 15 minutes	0.5% of the Quarterly Payments for every 1 hours of delay beyond the target time. To the maximum capping of 5 hrs. Beyond 5 hours, 1% of the Quarterly Payments for every 1 hour.

** Thresholds will be defined at the time of implementation

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 DGS.	90 Minutes	15 Minutes
Urgent	There is a problem with part of the system, which impacts on DGS'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 DGS 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 DGS 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 DGS 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 DGS 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, DGS may invoke breach and terminate the contract. The decision of DGS in this regard shall be final and binding on the bidder, the DGS 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 DGS 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 DGS authorities are not satisfied with the reply, the DGS will initiate termination process as described in clause 41 of Section III, GCC.

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 DGS's side. Any such delays shall be notified in written by the DGS

1.14 Monitoring and Auditing

DGS 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. DGS 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 DGS 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 DGS 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. DGS 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 DGS 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 DGS'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.
- DGS 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 DGS'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 DGS 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 DGS, 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 DGS. 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 State of Maharashtra 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.

ANNEXURE 1

FUNCTIONAL SPECIFICATIONS

0. Common Process	
Common Functional Requirements	
A1	Profile Creation
A1.1	System to create profiles for all stakeholders - internal and external: 1. External: Seafarer, Shipping Company, MTI, MTO, RPS, RO, Ports, Ship Agents and Managers, Facilitation Centres, MTT, SWFS, SPFO and Service Providers including Labs, LSA/ FFA - Service Stations, Insurance provides. 2. Internal: Individual profiles of the Directorate staff across Wings: Administrative wing, Engineering wing, Nautical wing, Naval architecture Sections: Personnel Branch, Administration, Crew, Vigilance, Coastal, Coordination, Hindi Vibhag, MSL & International Coordination, Finance & Accounts Field offices: MMD, Shipping Master's Office, Seamen Employment Offices, Regional Office (SAILS)
A1.2	The system should have provision for capturing fields as per checklist for each stakeholder (explained separately in each process) creating new user log-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 be displayed by the system highlighting the missing fields
A1.3	Any request/application made to the Directorate shall be made only through the stakeholder profile - available to stakeholder on a single click
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 first login
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 incase 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 the Directorate department 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 Directorate department 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.
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 seafarere profile will have direct links to CDC, COC etc. while ships will have links to registration of ships, 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 DG Shipping or by third parties shall be linked to INDOS number for seafarers and IMO number alongwith Yard number for ships
A3	Service Request (Services provided by DG Shipping
A3.1	The system should have forms/ format with all required fields as per checklists (for each process as mandated by the Directorate) 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 an 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 Directorate 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 Directorate nodal authority for e-gov system
A3.9	System to have provision to direct the request to the concerned person in the concerned department
A3.10	System shall have provision for bilingual forms and checklists

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 DG Shipping
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 Directorate entities will be able to look at the audit trail for all stakeholder profiles as well as internal the Directorate 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 Directorate
A6.1	After any service request is received internally (the Directorate), the system shall allow the Directorate personnel at all levels to: - 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: - The system will follow the Directorate approval hierarchy and within the the Directorate approval hierarchy, system will allow the nodal officer to approve or reject the application - The system will have provision for a senior officer to delegate power to approve or reject an application to a junior officer - System will have provision to allow senior officers to delegate internal processing of service requests to a concerned officer - 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
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 - 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 DG Shipping
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 DG Shipping - for ships & Seafarer 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 DG Shipping and allied offices online.
A9	Certification/ Approval/ License/ Survey Letters issued by authorised third party agencies like RO,RPS, 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 agencies. The system shall not be liable to issue such certificates in hard/ soft copy
A10	Checker for certificates issues by DG Shipping/ Third party agencies
A10.1	The system shall have provision of a link to check authenticity of all certificates issued by DG Shipping 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 have 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

1. Seafarer		
S. No.	Process Type	System Requirement
SF1	Individual's (Seafarer) Profile	
SF1.1	Creation of Individual(Seafarer) 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(seafarer) applicants as well as MTI to create the profile for the seafarer(refer A1). However, in either case, the verification link with User ID and temporary password will be sent only to the individual seafarer 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 seafarer	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
		System check for application: a) Check that all applicants are enrolled at an Indian MTI b) System will ensure that if seafarer has not enrolled or completed the MTI courses i.e. 5 basic STCW courses (PSSR, PST, FPFF, EFA, STSDSD/SSO) or any DG 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.
		System will allow both individual(seafarer) applicants as well as MTI's to apply for INDOS (refer A2).
		System will allow for INDOS number to be auto-generated and interated 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

		System check for application: a) Check that nationality is Indian b) Check for valid INDOS number
		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, SMO for further process.
		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 seafarer 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, SMO.
		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 seafarer 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.
		MIS Reports: List of CDC 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.
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, SMO 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 with the seafarer database.
		System will allow insertion of tracking number for the dispatch sent out with the replaced CDC (Indian Postal Service dispatch). The same will be notified to the applicant.
		MIS Reports: List of CDC replacement 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.
SF3.4	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 to the Printing Section, SMO after approval of request. Parallely, 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 seafarer database.
		System will allow insertion of tracking number for the dispatch sent out with the duplicate CDC (Indian Postal Service dispatch). The same will be notified to the applicant.
		MIS Reports: List of CDC 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.
SF3.5	Discontinuation of CDC	System shall have all common functional requirement as mentioned from A2, A3, A5, A6, A7 and A9
		System will deactivate CDC Number on the database after approval of request.
		MIS Reports: List of CDC discontinuation 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.
SF3.6	Apply for New COC as Cook	System shall have all common functional requirement as mentioned from A2 to A7, A9 and A10
		System will allow for COC as Cook number and the certificate to be auto-generated after approval of application according to inbuilt system logic. The same may be forwarded to the Printing Section, SMO.
		System will have the provision for uploading the scan of the signed COC as Cook 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 COC as Cook (Indian Postal Service dispatch). The same will be notified to the applicant.
		MIS Reports: List of COC as Cook 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.
SF3.7	Replacement COC as Cook	System shall have all common functional requirement as mentioned from A2 to A7, A9 and A10
		System will allow for replaced certificate to be auto-generated after approval of application. The same may be forwarded to the Printing Section, SMO.
		System will have the provision for uploading the scan of the signed replaced COC as Cook 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 replaced COC as Cook (Indian Postal Service dispatch). The same will be notified to the applicant.
		MIS Reports: List of COC as Cook replacement 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.
SF3.8	Duplication COC as Cook	System shall have all common functional requirement as mentioned from A2 to A7, A9 and A10
		System will allow for duplicate certificate to be auto-generated after approval of application. The same may be forwarded to the Printing Section, SMO.

		System will have the provision for uploading the scan of the signed duplicate COC as Cook 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 duplicate COC as Cook (Indian Postal Service dispatch). The same will be notified to the applicant. MIS Reports: List of COC as Cook 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.
SF4	Examinations	
SF4.1	Online Eligibility Assessment	System shall allow seafarer to check the eligibility online on single click System shall allow the seafarer to choose the grade he intends to check eligibility System shall be configured to check eligibility as per grade and position which seafarer aims to apply for - to be developed in accordance with the Training, Examination and Assessment Programme (TEAP) for Merchant Shipping (Standards of Training, certifications and watchkeeping for seafarers) Rules, 2014. A sample assessment logic for one grade assessment (MEO Class IV Exam, Part-B) is attached. Like there are ~200 combinations possible System shall pick the basic information (trainings, certifications, sea service etc) from Seafarer's profile to perform the assessment System shall prompt the seafarer 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 seafarer'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 seafarer to request for eligibility verification and exam application on single click System shall pick up all the information required for eligibility verification from the seafarer's profile database maintained. System shall prompt the seafarer 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 seafarer 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 seafarer 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 DGS 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 seafarer to select between Oral or Written exam, and then select the function he wants to appear for within that particular grade
		System shall have provision to built 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 seafarer to choose the seat (course, exam centre, time slot) for written examination as per the seat availability
		System shall allow the seafarer to choose the month and exam centre on application for Oral examination
		System shall not allow the seafarer to make examination booking if he had been absent for last 3 consecutive exam (written or oral). Notification will be sent to seafarer by sms and e-mail asking him to take special permission from assigned DGS staff for appearing for that examination
		System shall allow the assigned DGS staff to allow the seafarer to appear for an examination in case the seafarer has been blocked by system as mentioned above
		System shall allow assigned DGS staff to allot time slot for Oral examination, and notification regarding this should be sent to seafarer 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 seafarer to payment gateway once the seafarer has selected the required field in exam application form
		System shall generate Admit card on successful payment for written exam application. System shall allow the seafarer 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 DGS staff
		System shall generate consolidated list of seafarer appearing for an exam a week before to assigned DGS staff of respective exam centre
		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 requirements 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 a question paper from the list of all questions
		System shall have provision to generate a question paper with all the 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 DGS staff 30 minutes before the time set for the exam of the question 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 written exam 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 DGS staff to mark the attendance of seafarer as per the attendance sheet generated
		System shall have provision for assigned DGS staff to fill in answer sheet code and examiner details for each seafafer who apperared for the examination
		System shall have provision for assigned DGS staff to fill in the results for each seafarer 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 Seafarer appearing for exam, slot wise, grade wise, exam centre wise, course wise, date wise, List of Seafarer present for exam , List of seafarer 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 DGS staff to mark the attendance of seafarer as per the attendance sheet generated
		System shall have provision for assigned DGS staff to allot and fill in details about internal and external examiner
		System shall have provision for assigned DGS staff to fill in the results for each seafarer 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 seafarer
		MIS Report: List of Seafarer appearing for exam, slot wise, grade wise, exam centre wise, course wise, date wise, List of Seafarer on a daily basis having Oral examination with respective internal and external examiner, List of Seafarers who were absent for 3 consecutive exams

SF4.6	Update marks from external parties	Few examinations are authorized by DGS to be conducted by third parties (Example: NCV examination are conducted by IMU, MEO Class IV exams are conducted by IITB). These third parties will be mailing the results in a particular format (CSV file) to assigned DGS 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 DGS 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
SF4.7	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 seafarer to apply for review
		System check: Seafarer can request for review of a paper with 30 days from issue of results of that particular paper as per Merchant Shipping (Standards of Training, Certification and Watch-keeping for Seafarers) Rules 2014, Miscellaneous Provisions, Chapter IX, point 77
		System shall route the seafarer to payment gateway on a single click once seafarer selects the examination paper for review
		System shall have provision to route the review request to assigned DGS staff of a particular MMD where initial assessment of that particular answer sheet was conducted
		System shall have provision for assigned DGS staff to check the previous examiner who corrected the paper and fill in new allotted examiner details
		System shall have provision for assigned DGS 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, MMD, 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 DGS staff for issue of Certificate of competency if that seafarer 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 DGS staff to fill in the Certificate of competency booklet number which shall be updated on system
		MIS Report: List of seafarer eligible for issue of Certificate of Competency grade wise with status

SF5.2	COC Revalidation	System will allow a seafarer to request for revalidation/renewal of certificate of competency already issued to the seafarer 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 seafarer 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 seafarer. Example of logic attached System shall route the seafarer to payment gateway on a successful completion of application form The application will be sent to 'MMD' based on work load at each department 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 seafarer to choose the nearest MMD for physical verification of certificates System shall have provision to transfer the particular application from the one MMD to the assigned DGS staff at another MMD System shall provide a option to assigned DGS 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, MMD due to verify for a specified period
SF5.3	COC Extension	System shall have provision for seafarer 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 System shall route the seafarer 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 System shall provide option to assigned DGS staff to fill in the validity of extension certificate MIS Report: List of Extension application form with status, date applied, date approved, MMD due to verify for a specified period

SF5.4	COC Suspension	System shall have provision for Shipping company, RPS, MTI or assigned DGS staffs (Assessing officers) to make a complain against any seafarer
		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 DGS staff to assign a officer for inspection
		System shall have provision to assign a DGS 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 seafarer. In that case, system will prompt the concerned seafarer via sms and e-mail
		System shall have provision for concerned DGS staff to fill in the final decision
		System shall have provision to generate suspension letter with an option with assigned DGS staff to edit it
		MIS Report: List of cases seafarer wise for a specified period with status, date, decision, who have made the complain
SF5.5	COC Debarment	System shall have provision for assigned DGS staff (Examiners) to request for debarment in case the seafarer 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 DGS 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 DGS staff to fill in the final decision
		System shall have provision to generate debarment letter with an option with assigned DGS staff to edit it
		MIS Report: List of cases seafarer wise for a specified period with status, date, decision, Exam Centre
SF5.6	COC Duplication	System shall have provision for seafarer 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 seafarer to payment gateway on a successful completion of application form
		The application will be sent to 'MMD' based on work load at each department
		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 seafarer to choose the nearest MMD for physical verification of certificates
		System shall have provision to transfer the particular application from the one MMD to the assigned DGS staff at another MMD
		System shall have provision to generate a soft copy of the certification after final approval
		System shall have a provision for an assigned DGS 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, MMD due to verify for a specified period
SF5.7	Certificate of Proficiency - Dangerous Cargo Endorsement- fresh and renewal	System shall have all common functional requirement as mentioned in A2, A3, A4, A5, A6, A7 and A8
		System shall allow a seafarer 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
		System shall have provision for application form to be generated with all required fields and option to upload required documents in specific format
		System shall route the seafarer to payment gateway on a successful completion of application form
		The application will be sent to 'MMD' based on work load at each department
		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 seafarer to choose the nearest MMD for physical verification of certificates
		System shall have provision to transfer the particular application from the one MMD to the assigned DGS staff at another MMD
		System shall have provision to generate certificate on final approval by assigned DGS staff
		MIS Report: List of application form seafarer wise with type of application, status, date applied, date approved, MMD due to verify for a specified period
SF5.8	General Operator Certificate (GOC) - Global Maritime Distress and Safety	Examination for GMDSS is conducted by Ministry of Communication and Information technology. Certificates are also issued by them. Seafarer have to get endorsement on that certificate to make it valid

	System (GMDSS) - 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 should provide following provisions for application: 1. Apply for new certificate 2. Renewal of certificate
		System shall have provision for seafarer to make a choice of location for endorsement of certificate
		System shall route the seafarer to payment gateway on a successful completion of application form
		System shall assign the request for GMDSS endorsement to assigned DGS staff of the location selected by the seafarer
		System to give provision to assigned DGS staff to provide the date to seafarer for endorsement of certificate
		System shall have provision to scan and upload the endorsed GMDSS certificate
		System shall have provision for assigned DGS staff to upload the file/document forwarded by Ministry of communication with list of seafarers eligible for GMDSS Endorsement
		System shall allow assigned DGS staff to fill in the eligible list and map it with profile using the INDoS number
		MIS Report: List of application seafarer wise with type of application, status, date applied, date approved, MMD due to verify for a specified period
SF5.9	Certificate Of UK Endorsement- fresh and renewal	DGS has recognized UK seafarers whose COC will be considered as equivalent Indian COC. For that he need to complete certain courses from approved MTIs and request for endorsement on system. In future DGS can recognize any other country also
		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 and option to attach required documents in specific format
		System shall route the seafarer 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
		System shall route the seafarer to payment gateway on a successful completion of application form
		The application will be sent to 'MMD' based on work load at each department
		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 seafarer to choose the nearest MMD for physical verification of certificates
		System shall have provision to transfer the particular application from the one MMD to the assigned DGS staff at another MMD
		System shall have provision to generate certificate after the final approval by assigned DGS staff

		MIS Report: List of application seafarer wise with type of application, status, date applied, date approved, MMD due to verify for a specified period
SF5.1 0	Certificate Of Service- Naval- fresh and renewal	After retiring from Navy any officer can request for working as a seafarer. For that he need 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 generated with all required fields
		System shall route the seafarer 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
		System shall route the seafarer to payment gateway on a successful completion of application form
		The application will be sent to 'MMD' based on work load at each department
		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 seafarer to choose the nearest MMD for physical verification of certificates
		System shall have provision to transfer the particular application from the one MMD to the assigned DGS staff at another MMD
		System shall have provision to generate certificate after the final approval by assigned DGS staff
		MIS Report: List of application seafarer wise with type of application, status, date applied, date approved, MMD due to verify for a specified period
SF5.1 1	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 seafarer 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
		System shall route the seafarer to payment gateway on a successful completion of application form
		The application will be sent to 'MMD' based on work load at each department
		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 seafarer to choose the nearest MMD for physical verification of certificates

		System shall have provision to transfer the particular application from the one MMD to the assigned DGS staff at another MMD
		System shall have provision to generate certificate after the final approval by assigned DGS staff
		MIS Report: List of application seafarer wise with type of application, status, date applied, date approved, MMD due to verify for a specified period
SF5.1 2	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 seafarer to payment gateway on a successful completion of application form
		System shall route the seafarer to payment gateway on a successful completion of application form
		The application will be sent to 'MMD' based on work load at each department
		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 seafarer to choose the nearest MMD for physical verification of certificates
		System shall have provision to transfer the particular application from the one MMD to the assigned DGS staff at another MMD
		System shall have provision to generate certificate after the final approval by assigned DGS staff
		MIS Report: List of application seafarer wise with type of application, status, date applied, date approved, MMD due to verify for a specified period
SF6	Sea Service	
SF6.1	AOA	System shall have all common functional requirement as mentioned from A2, A3, A5 and A6
SF6.2	AOA Sign off	MIS Reports: List of AOA 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
SF6.4	Form 1 Sign off	
OT1	RPS	
OT1.1	Approval of RPS	System shall have all common functional requirement as mentioned from A1 and A3 to A10
		System will allow inspection request to be sent to IRS. Thereafter, IRS will intimate the applicant of the inspection time and date through a notification.
		System will allow IRS to upload the inspection report

		System will allow for RPSL number and the RPS license (RPSL) to be auto-generated after approval of application according to inbuilt system logic. The license may be auto-forwarded to the Printing Section, SEO for further process. System will have the provision for uploading the scan of the signed RPSL from the back-end interface. This will then be integrated with the seafarer database. System will allow insertion of tracking number for the dispatch sent out with the RPSL(Indian Postal Service dispatch). The same will be notified to the applicant. MIS Reports: List of RPS 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	Renewal of RPS	System shall have all common functional requirement as mentioned from A2 to A7, A9 and A10 System will allow inspection request to be sent to IRS. Thereafter, IRS will intimate the applicant of the inspection time and date through a notification. System will allow IRS to upload the inspection report System will allow for the RPS renewal license (RPSL) to be auto-generated after approval of application. The license may be auto-forwarded to the Printing Section, SEO for further process. System will have the provision for uploading the scan of the signed renewed RPSL from the back-end interface. This will then be integrated with the seafarer database. System will allow insertion of tracking number for the dispatch sent out with the RPSL(Indian Postal Service dispatch). The same will be notified to the applicant. MIS Reports: List of RPS 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.
OT1.3	Correction of RPS details	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.
OT1.4	Payment of PF contribution by RPS	System will auto-calculate the amount due
OT1.5	Payment of Gratuity contribution by RPS	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 PF and gratuity payments with relevant details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.
OT1.6	Background Process Check	System will check is amount due is paid by the assigned deadline System will check if Form I and Form I sign off process have been completed by the assigned deadline System will have the provision to notify the applicant and DGS 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 RPS to a payment gateway to pay the penalty in order to re-activate User ID
		MIS Reports: Defaults in fee payment and Form I sign on and off for a specified time period. This list should allow sorting to generate further MIS with refined search parameters.
OT1.7	Annual Fee Payment by RPS	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.
OT2	Shipping Company	
OT2.1	Payment of PF contribution by RPS	System will auto-calculate the amount due
OT2.2	Payment of Gratuity contribution by RPS	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 PF and gratuity payments with relevant details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.
OT2.3	Application for Tonnage taxation certificate by shipping company in beginning of the year	System shall have all common functional requirement as mentioned in A2, A3, A5, A6, A7 and A10
		System shall have provision for shipping company to apply for tonnage taxation certificate
		System shall have provision for application form to be generated with all required fields (as per Tonnage Tax Cell Circular No. 2 of 2005)
		System to have provision to print out all the application by assigned MTT officer in PDF format for further approval
		MIS Report
		List of all the seafarer on board on a specific ship for a specific period along with their CDC details
		List of safe manning requirement of list of ship provided by the application
		List of application ship company wise with status
OT2.4	Payment of Fees (Tonnage Taxation)	System shall have all common functional requirement as mentioned in A2, A3, A4, A5 and A6
		System to be able to calculate the admin fees for each shipping company as per the logic which will be built in the system as per Tonnage Tax Cell Circular No. 1 of 2005
		System to be able to calculate the penalty fees of 10000 INR per week of delay in submission of application on 30th April of the year and submission of Annual return on 15th May of next year (as per Tonnage Tax Cell Circular No. 1 of 2005)
		System shall route the shipping company to payment gateway on a successful completion of application form

		MIS Report
		List of shipping company who comes under Tonnage taxation with liability of fees payment and actual fees paid with dates for each payment
OT2.5	Uploading Annual Return	System shall have all common functional requirement as mentioned in A2, A3, A5, A6, A7 and A10
		System shall have provision for application form to be generated with all required fields (as per Tonnage Tax Cell Circular No. 2 of 2005)
		System to have provision to print out all the application by assigned MTT officer in PDF format for further approval
		MIS Report
		List of all the seafarer on board on a specific ship for a specific period along with their CDC details
		List of safe manning requirement of list of ship provided by the application
		List of application ship company wise with status
OT2.6	Fee payment by shipping company (AOA)	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.
OT3	MTI	
OT3.1	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 MMD. Thereafter, MMD will intimate the applicant of the inspection time and date through a notification.
		System will allow MMD 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 Training Branch, DGS 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.
OT3.2	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 MMD. Thereafter, MMD will intimate the applicant of the inspection time and date through a notification.
		System will allow MMD 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 Training Branch, DGS 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
		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.
OT3.3	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.
OT3.4	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.
OT3.5	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.
OT3.6	Update Batch details	System shall have all common functional requirement as mentioned from A2 to A7
OT3.7	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.
OT3.8	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.
OT3.9	Correction of profile/ Seafarer'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.

OT3.1 0	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 DGS 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.
OT4	SPFO	
OT5	SWFS	
OT4.1	SPFO Opening of Account	System shall have all common functional requirement as mentioned from A2, A3, A5 and A6
OT5.1	SWFS Opening of Account	System will allow for opening of new account in the linked database, after approval of application.
		MIS Reports: List of PF and gratuity new account 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.
OT4.2	SPFO Balance Check	System will auto-calculate and display the balance in the PF account
OT5.2	SWFS Balance Check	MIS Reports: Balance statement for a specified time period.
OT4.3	SPFO Interim Withdrawal	System shall have all common functional requirement as mentioned from A2, A3, A5 and A6
OT4.4	SPFO Final Withdrawal	System will allow for transfer of amount from PF account to applicant's account in the linked database, after approval of application.
OT5.3	SWFS Interim Withdrawal	MIS Reports: List of PF and gratuity withdrawal 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.
OT5.4	SWFS Final Withdrawal	
OT5.5	SWFS Welfare Scheme	System shall have all common functional requirement as mentioned from A2, A3, A5 and A6
		System will allow for transfer of amount from gratuity account to applicant's account in the linked database, after approval of application.
		MIS Reports: List of welfare scheme 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	RO Sails	

OT6.1	Issuance of ID Cards	System shall have all common functional requirement as mentioned from A1, A3 to A7, A9 and A10
		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, RO Sails 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 RO Sails.
		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.
		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 RO Sails 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.
OT6.4	Tindal Certificate	System shall have all common functional requirement as mentioned from A2 to A7, A9 and A10
		System eligibility check for application: a) Check that nationality is Indian b) Check sea time > 5 years
		System will allow for Tindal number to be auto-generated after approval of application according to inbuilt system logic. The same

		shall be auto-forwarded to the Printing Section, RO Sails for printing of Tindal Sticker for further process.
		System will have the provision for uploading the scan and other details of the Tindal Sticker from the back-end interface. This will then be integrated with the seafarer database.
		System will allow insertion of tracking number for the dispatch sent out with the Tindal sticker (Indian Postal Service dispatch). The same will be notified to the applicant.
		MIS Reports: List of Tindal 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.
OT6.5	Sign on	System shall have all common functional requirement as mentioned from A2 to A7
		MIS Reports: List of Sign on 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.
OT6.6	Sign Off	System shall have all common functional requirement as mentioned from A2 to A7
		MIS Reports: List of sign-off requests and other details (all metadata) for specified time period. This list should allow sorting to generate further MIS with refined search parameters.
OT6.7	Cancellation	System shall have all common functional requirement as mentioned from A2, A3, A5, A6, A7 and A9
		System will deactivate CDC Number on the database after approval of request.
		MIS Reports: List of CDC discontinuation 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.
OT7	Navigational Safety of Ports Committee	
OT7.1	Initial application for NSP certificate	System shall have all common functional requirement as mentioned in A2, A3, A4, A5, A6, A7 and A10
OT7.2	Application for Full time certificate	System shall have provision for application form (NSPC- Form 1) to be generated with all required fields
		System shall route the user to payment gateway on a successful completion of application form
		System shall have provision for assigned DGS staff to forward the application details in specific format to external E-Mail IDs
		System shall have provision for assigned DGS staff to assign a time slot for presentation in each case
		System shall have provision for assigned DGS staff to upload the inspection report/ fill in inspection report field
		MIS Report: List of application port wise with status, dates (application, approvals, inspection, presentation etc.)

1.1 SampleFormIndividualProfile					
S.No	Process Type	Field Category	Fields #1	Fields #2	M/O
SF1	Individual's Profile				
SF1.1	Creation of Individual Profile (Indian)	Personal Details	Aadhar Number		M
			<i>Photo from Aadhar database</i>		M
			<i>First Name</i>		M
	Autopopulate		<i>Middle Name</i>		O
	Document		<i>Last Name</i>		O
	Fee		<i>Gender</i>		M
			<i>DOB</i>		M
			<i>Nationality</i>		M
			Latest Photo		
			Scanned Signature		M
				House No.	M
				Street	M
				Village/ Post office	M
				District	M
				State	M
				Pincode	M
		Address Details	Present Address	House No.	M
			Permanent Address	Street	M
				Village/ Post office	M
				District	M
				State	M
				Pincode	M
			Telephone Number		O
			Mobile Number		O
			Email ID		M
		Physical Details	Colour of Eyes		M
			Colour of Hair		M
			Height (in Cms)		M
			Next of Kin details	Name of Next of Kin	M
				Relationship with Seafarer	M
				Address of Kin	M
				Mobile No.	M
			Identification Mark		M
			Blood Group		M
	Creation of Individual Profile (Foreigner)	Personal Details	Photo		M
			First Name		M

			Middle Name		O
			Last Name		O
			Gender		M
			DOB		M
			Nationality		M
			Scanned Signature		
				House No.	M
				Street	M
				Village/ Post office	M
				District	M
				State	M
			Present Address	Pincode	M
			Permanent Address	House No.	M
				Street	M
				Village/ Post office	M
				District	M
				State	M
				Pincode	M
			Telephone Number		O
			Mobile Number		O
			Email ID		M
			Colour of Eyes		M
			Colour of Hair		M
			Height (in Cms)		M
			Next of Kin details	Name of Next of Kin	M
				Relationship with Seafarer	M
				Address of Kin	M
				Mobile No.	M
			Identification Mark		M
			Blood Group		M
			Passport Number		M
			Passport Date of Issue		M
			Passport Issued at		M
			Passport Issuing Country		M
			Passport Expiry Date		M
			Passport Scan		M
			Visa Type		M
			Visa Number		M
			Date of Issue		M
			Date of Expiry		M
			Visa Scan		M

1.2 Sample Form-INDOS no					
S.No	Process Type	Field Category	Fields #1	Fields #2	M/O
SF2	Apply for INDOS				
	Form for New Indian Seafarer	Personal Details	Aadhar Number		M
			Photo from Aadhar database		M
			First Name		M
			Middle Name		O
	Autopopulate		Last Name		O
	Document		Gender		M
	Fee		DOB		M
			Nationality		M
			Latest Photo		M
			Scanned Signature		M
			Place of Birth		M
			Birth State		M
			Country of Birth		M
		Address Details	Present Address	House No.	M
				Street	M
				Village/ Post office	M
				District	M
				State	M
				Pincode	M
			Permanent Address	House No.	M
				Street	M
				Village/ Post office	M
				District	M
				State	M
				Pincode	M
			Telephone Number		O
			Mobile Number		O
			Email ID		M
		Physical Details	Colour of Eyes		M
			Colour of Hair		M
			Height (in Cms)		M
			Next of Kin details	Name of Next of Kin	M
				Relationship with Seafarer	M
				Address of Kin	M
				Mobile No.	M
			Identification Mark		M
			Blood Group		M
		Passport Details	Passport Number		M
			Passport Date of Issue		M
			Passport Issued at		M

			Passport Issuing Country		M	
			Passport Expiry Date		M	
			Passport Scan		M	
		Fee	1200 INR		M	
	Form for New Foreign Seafarer					
		Personal Details	Photo		M	
			First Name		M	
			Middle Name		O	
			Last Name		O	
			Gender		M	
			DOB		M	
			Nationality		M	
			Scanned Signature		M	
			Place of Birth		M	
			Birth State		M	
			Country of Birth		M	
		Address Details		House No.	M	
				Street		M
				Village/ Post office		M
				District		M
				State		M
			Present Address	Pincode		M
			Permanent Address	House No.		M
				Street		M
				Village/ Post office		M
				District		M
				State		M
				Pincode		M
			Telephone Number			O
			Mobile Number			O
			Email ID			M
		Physical Details	Colour of Eyes		M	
			Colour of Hair		M	
			Height (in Cms)		M	
			Next of Kin details	Name of Next of Kin		M
				Relationship with Seafarer		M
				Address of Kin		M
				Mobile No.		M
			Identification Mark			M
			Blood Group			M
		Passport Details	Passport Number		M	
			Passport Date of Issue		M	
			Passport Issued at		M	

			Passport Issuing Country		M
			Passport Expiry Date		M
			Passport Scan		M
			Visa Type		M
			Visa Number		M
			Date of Issue		M
			Date of Expiry		M
			Visa Scan		M
		Fee	3000 INR		M
	Form for existing Seafarer				
			Aadhar Number		M
			Photo from Aadhar database		M
			First Name		M
			Middle Name		O
			Last Name		O
			Gender		M
			DOB		M
			Nationality		M
			Latest Photo		M
			Scanned Signature		M
			Place of Birth		M
			Birth State		M
			Country of Birth		M
				House No.	M
				Street	M
				Village/ Post office	M
				District	M
				State	M
			Present Address	Pincode	M
			Permanent Address	House No.	M
				Street	M
				Village/ Post office	M
				District	M
				State	M
				Pincode	M
			Telephone Number		O
			Mobile Number		O
			Email ID		M
			Colour of Eyes		M
			Colour of Hair		M
			Height (in Cms)		M
			Next of Kin details	Name of Next of Kin	M

				<i>Relationship with Seafarer</i>	M
				<i>Address of Kin</i>	M
				<i>Mobile No.</i>	M
			<i>Identification Mark</i>		M
			<i>Blood Group</i>		M
			Passport Number		M
			Passport Date of Issue		M
			Passport Issued at		M
			Passport Issuing Country		M
			Passport Expiry Date		M
			Passport Scan		M
			CDC Number		M
			CDC Issued at		M
			CDC Issuance Date		M
			CDC Issuing Country		M
			CDC Expiry Date		M
			CDC Scan		M
		Fee	100 INR		M

1.3 Exam Logic						
S.No	Grade of Exam	Basic Experience	Training required	Courses	Requirement to Pass any other exam	Sea-Service
1	MEO Class IV Exam Part B	Sea going Engine driver	-9 months training in approved marine workshop -completion of 4 basic safety training (personal survival techniques, fire prevention and firefighting, elementary first aid, personal safety and social responsibility) -completion of 3 advanced safety training course (advanced firefighting, proficiency in survival craft and rescue boat, Medical first aid)	-STCW course A-III/1-6 months -3 months course including simulator course	MEO Class IV Part A examination	6 months as assistant engineer Officer
2	MEO Class IV Exam Part B	Naval dockyard apprentice or approved Indian naval/ coast guard service as MECH:3	-completion of 4 basic safety training (personal survival techniques, fire prevention and firefighting, elementary first aid, personal safety and social responsibility) -completion of 3 advanced safety training course (advanced firefighting, proficiency in survival craft and rescue boat, Medical first aid)	-STCW course A-III/1-6 months -3 months course including simulator course	MEO Class IV Part A examination	6 months as assistant engineer Officer

3	MEO Class IV Exam Part B	Diploma in Mechanical Engineering or Ship building engineering	-2 years training in approved marine workshops -completion of 4 basic safety training (personal survival techniques, fire prevention and firefighting, elementary first aid, personal safety and social responsibility) -completion of 3 advanced safety training course (advanced firefighting, proficiency in survival craft and rescue boat, Medical first aid)	-3 months course including simulator course	MEO Class IV Part A examination	6 months as assistant engineer Officer
4	MEO Class IV Exam Part B	Graduate in Electrical or elect. & electronic engineering	-18 months training in approved marine -completion of 4 basic safety training (personal survival techniques, fire prevention and fire fighting, elementary first aid, personal safety and social responsibility) -completion of 3 advanced safety training course (advanced fire fighting, proficiency in survival craft and rescue boat, Medical first aid)	-3 months course including simulator course	MEO Class IV Part A examination	6 months as assistant engineer Officer
5	MEO Class IV Exam Part B	Graduate in mechanical engineering or	-12 months training in approved marine workshop	-3 months course including	NA	6 months as assistant

		in naval architecture	-completion of 3 advanced safety training course (advanced firefighting, proficiency in survival craft and rescue boat, Medical first aid)	simulator course		engineer Officer
6	MEO Class IV Exam Part B	Graduate in mechanical engineering or in naval architecture	-completion of 4 basic safety training (personal survival techniques, fire prevention and firefighting, elementary first aid, personal safety and social responsibility) -completion of 3 advanced safety training course (advanced fire fighting, proficiency in survival craft and rescue boat, Medical first aid)	-6 months course at Cochin Ship Yard Ltd., Cochin -3 months course including simulator course	NA	-Onboard training at sea for 6 months -6 months as assistant engineer Officer
7	MEO Class IV Exam Part B	Graduate in mechanical engineering or in naval architecture	-completion of 4 basic safety training (personal survival techniques, fire prevention and fire fighting, elementary first aid, personal safety and social responsibility) -completion of 3 advanced safety training course (advanced fire fighting, proficiency in survival craft and rescue boat, Medical first aid)	-6 months course at MERI Mumbai including Simulator course -3 months course including simulator course	NA	-Onboard training at sea for 6 months -6 months as assistant engineer Officer

8	MEO Class IV Exam Part B	Senior School Secondary certificate examination (10+2) Apprentices	-completion of 4 basic safety training (personal survival techniques, fire prevention and fire fighting, elementary first aid, personal safety and social responsibility) -completion of 3 advanced safety training course (advanced fire fighting, proficiency in survival craft and rescue boat, Medical first aid)	-4 years course at MERI Calcutta including simulator course -3 months course including simulator course	NA	-6 months as assistant engineer Officer
9	MEO Class IV Exam Part B	-Senior School Secondary certificate examination (10+2) Apprentices -obtain pass in 60% subjects of section "A" exam of institution of engineers (India)	-4 years apprenticeship at approved workshop -completion of 4 basic safety training (personal survival techniques, fire prevention and fire fighting, elementary first aid, personal safety and social responsibility) -completion of 3 advanced safety training course (advanced fire fighting, proficiency in survival craft and rescue boat, Medical first aid)	-3 months course including simulator course	MEO Class IV Part A examination	-6 months as assistant engineer Officer

10	MEO Class IV Exam Part B	-Senior School Secondary certificate examination (10+2) Apprentices -obtain approved certificate/ diploma in marine engineering	-4 years apprenticeship at approved marine institute -completion of 4 basic safety training (personal survival techniques, fire prevention and fire fighting, elementary first aid, personal safety and social responsibility) -completion of 3 advanced safety training course (advanced fire fighting, proficiency in survival craft and rescue boat, Medical first aid)	-3 months course including simulator course	MEO Class IV Part A examination	-6 months as assistant engineer Officer
11	MEO Class IV Exam Part B	Senior School Secondary certificate examination (10+2) Apprentices	-completion of 4 basic safety training (personal survival techniques, fire prevention and fire fighting, elementary first aid, personal safety and social responsibility) -completion of 3 advanced safety training course (advanced fire fighting, proficiency in survival craft and rescue boat, Medical first aid)	-1 year pre- sea course at approved institute as per the IMO Model course 7.04 Phase I -3 months course including simulator course	MEO Class IV Part A examination	-9 months on-board training as engineer cadet -6 months as assistant engineer Officer

1.4 Revalidation Logic
At least one of the following requirements to be met for revalidation of COC in case of Nautical Department:
Record of sea service in the relevant capacity for a period of at least one year in the preceding five years; OR
Original experience certificate from the employer for equivalent services performed ashore (e.g. officers working in marine related jobs, such as: maritime surveyors, faculty, superintendents, cargo superintendents, port officers, port engineers, officers serving on offshore rigs and platforms, FPSO, FSO, Chartering, Brokering or Commercial operations, vetting inspectors, ISM auditors, Port State and Flag State inspectors, Shipboard Training Officers, pilots, etc.) for a period of at least two years in the preceding five years. OR
Record of approved seagoing service, performing functions appropriate to the certificate held, for a period of at least 3 (three) months in total during the preceding 6 (six) months immediately prior to expiry of the certificate OR
Successfully completing an approved training course or courses, such as: competency course for the grade of CoC concerned or one grade higher OR
Record of seagoing service, performing functions appropriate to the certificate held, for a period of not less than three months in a supernumerary capacity, or in a lower officer rank than that for which the certificate held is valid immediately prior to taking up the rank for which it is valid

2. Ships & allied		
S. No.	Process Type	System Requirement
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, Recognised Organizations, Port Authorities, Shipping Agents and Ship Managers
SH0.1	Portal Registration for Shipping Companies	System shall have all common functional requirements as mentioned in: A1, A2, A3, 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/ agents for selected ships only. All agent activities will essentially be approved by the shipping company
SH0.2	Portal Registration for Recognised Organizations (RO)	The system should have provision for 3 separate login ids for 1 recognised 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 Shipping Agents	The system shall provide Shipping Agents access of only those ships which the shipping company assigns
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: - Ship is older than 25 years - Foreign ship 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. 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 ship owned by a shipping company. These ship profiles will be housed within the shipping company's profile. - Each ship profile will be based on its 1. IMO number if tonnage > 100 GT, ship yard number if tonnage < 100 GT - all requests regarding a ship will be made through the profile of ship - the company will have to fill in ship profile details immediately after purchase/ charter, and before the first service request if submitted *IMO number is 7 digits long and is assigned to the ship by IMO

		*Ship-yard number is 5-7 digits long, and is assigned sequentially by the shipyard where ship was built
SH1.2	Name Allocation, MMSI, 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 ship is new or ship is 2nd hand, and younger than 25 years -If ship not registered -In case ship has been purchased from foreign entity and if such a ship is older than 25 years, then technical clearance is required prior to name allocation
		System should have provision to direct user to 'Amendments to Registry' in case ship has already been registered
		The system should have provision to check for availability of name by searching for the desired name against 1. List of ship names registered in Indian Ship 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 ship
		System should have provision for ship owner to input name in Hindi, post name availability check
		System should have provision to auto generate Official No, MMSI No., Call Sign *Official Number is allotted by DGS. It is sequential and is currently 4 digits long *Call Sign consists of 4 alpha-numeric characters. The MMSI number consists of 9 digits. Both are assigned by DGS
		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 DGS/ MMD authority
		System should have provision for ship owner to apply for Certificate of Survey from any pre-approved Indian port, apart from its Port of Registry
		System will finalise creation of ship profile based on all the data entered by the user. Certain fields (as per checklists) are NOT EDITABLE directly by the user in the ship 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 ship owner/ ship manager to apply for amendments to fields which cannot be directly editable by the user
		System will have provision for DGS officials to amend certain fields of Ship Profile

		These amendments will be reflected in the history of registry of ship
SH1.4	Declaration of Ownership	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 ship owner. The ship's profile shall be updated with this declaration ONLY after digital signature from MMD authority
		System shall not proceed with registry in case declaration of ownership has not been submitted
SH1.5	Issuance of Certificates	System shall have all common functional requirements as mentioned in: A2 to A11
		System shall have provision for all shipping companies/ ship managers/ ship agents to request ship related certificates from any RO only through DG Shipping. The payment will be directly made to the respective RO
		System shall have provision for Recognised Organisations (RO) to input metadata for a ship 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 DG Shipping 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 DG Shipping and allied offices online. Certificates 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 ship has already been registered on Indian Flag
		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 MMD authority to issue digitally signed certificate of registry or PCOR, thus marking the ship as an Indian flag vessel in the database
SH1.7	Closure 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 MMD 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
		System shall have provision for ship owner/ ship manager/ RO to share plans of ships
		System shall have provision for users (internal and external) to share files compatible with the specific ship design software (which has been discussed earlier)
		System shall have provision to view and comment the all plans as uploaded by ship owner/ ship manager/ RO.
		System will create a ship profile based on all the data entered by the user. Certain fields (as per checklists) are NOT EDITABLE directly by the user in the ship 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	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 shipping agent to select which port he wishes to voluntarily apply for FSI/ PSC inspection
		System shall have provision for port authority to inform PO about potential FSI/ PSC violations by a ship
		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 MMD/ DGS official, System shall have provision for surveyor to digitally fill forms while performing inspection while on-board the ship. 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.
		System shall have provision for surveyor to access the ship's details and certificates through his mobile/ tab/ laptop while conducting the inspection on board the ship
		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 ship especially in cases where a ship 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 ship
		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 ship surveys conducted by global ports
SH4	ISM Audits	System shall have all common functional requirements as mentioned in: A2, A3, A4, A5, A6, A7, A8, A10, A11
		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 is conducted by MMD/ DGS official, System shall have provision for surveyor to digitally fill forms while performing inspection while on-board the ship. These forms will be auto-saved at regular intervals to prevent loss of critical data, and uploaded as soon as internet connectivity is available.
		System shall have provision for surveyor to access the shipping company's details (and ship's details) and certificates through his mobile/ tab/ laptop while conducting the audit on-site
SH5	Annual Inspection - MSVs	System shall have all common functional requirements as mentioned in: A2 to A11
		System should have provision for MSV owner to apply for inspection at any pre-approved port
		System should have provision for DGS personnel to write comments on pdf versions of uploaded documents
		System should have provision for DGS personnel to print uploaded documents
		System should provide a list of surveyors employed by DGS along with their names, phone numbers, emails and geographical locations. The DGS authority should have provision to directly send a dashboard message to any of these surveyors
		The system should provide the current list of tasks assigned to the particular surveyor AND the current status of the surveyor (i.e., whether on leave or whether available, etc.)
SH6	Charter Permissions & Licenses	System shall have all common functional requirements as mentioned in: A2, A3, A4, A5, A6, A7, A8, A10, A11
		System should have provision to escalate matters right up to the top management of DG Shipping
		System should have provision for officers to forward applications/ files across departments
SH7	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	MTO	System shall have all common functional requirements as mentioned in: A1, A2, A3, A4, A5, A6, A7, A8, A10, A11
		The system will have a separate login account for Multimodal transport operators

		The system will have a separate landing page for Multimodal transport operators, which would enlist all services available to them			
OT2	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 DG Shipping services such as audits, approvals, etc.			
2.1 Sample Form-Technical Clear					
S.No.	Process Type	Field Category	Fields #1	Fields #2	Mandatory/ Optional (M/O)
SH1	Ship Registration				
SH1.1	Technical Clearance	General Details	Name		O
			Type (Liner, Bulk Carrier, Tanker, Chemical Tanker, MSV etc.)		M
			Call Letter		O
			IMO Number		M
			Present Flag		M
			Date of Registry		M
			Date and Issuing Authority of Tonnage Certificate		M
			GRT		M
			NRT		M
			DWT		M
			Name and address of the present Owners		M
			Name and address of previous owner (if any)		O
			Year of built		M
			Yard where built with address		M
			Present Classification Society		M
			Class Notation		M

			Built under which Class?		M
			History of Class Change (if any) (State names of Classification Societies and period of classification with them)		O
		Status of Certificates	International Load Line Certificate (ILLC)	Validity Dates (Dates of Issuance, Dates of Validity)	M
			International Oil Pollution Prevention Certificate (IOPP)		M
			Safety Construction Certificate (SAFCON) or Safety Certificate		M
			Safety Equipment (SEQ)		M
			Safety Radio Certificate (SRC)		M
			Safety Management Certificate (SMC)		M
			<i>Other statutory Certificates as applicable to the type of vessel:</i>		M
			1		M
			2		M
			<i>Class certificates</i>		M
			Certificate of Class – Hull		M
			Certificate of Class – Machinery		M
		Survey Status	Special Survey	Assigned Date, Due Date	M

			Annual Survey		M
			Drydocking Survey		M
			Tailshaft Survey		M
			Intermediate Survey (Assigned or due date)		M
			Major Conditions of Class on the vessel		M
		Machinery Particulars	Main Propulsion Machinery	Make & Type of Main Engine/ Engines	M
				Year & Place of manufacture	M
				Engine rating with Consumption	M
				Type of fuel	M
				Number of Main engines	M
			Auxiliary Machinery	Make & type of Aux. Engines	M
				Year & Place of manufacture	M
				Engine Rating	M
				Number of Aux. engines	M
			Aux. Engine Generators	Make & Type of Aux. Generator/Generators	M
				Year & Place of manufacture	M
				Rating	M
				Voltage & frequency	M
			Boilers	Make & Type of Boilers	M
				Year of manufacture of boilers	M
				Working Pressure	M
				Steam Generation Cap. Per Hour	M
			Other Aux. Machineries		M
			Main Air Compressor		M
			Bilge, Ballast and Fire pump/ pumps		M

			Evaporators & FW Generators		M
			Refrigeration Plant		M
			Air Conditioning Plant		M
		Navigational Equipment	Magnetic Compass	Make, Model	M
			Gyro Compass		M
			GPS		M
			Echo Sounder		M
			Speed Log		M
			Radar "X – Band"		M
			Radar "S – Band"		M
			ARPA		M
			Rate of Turn Indicator		M
			Voyage Data Recorder (VDR)		M
			Automatic Identification System (AIS)		M
			ECDIS		M
			AUTO PILOT		M
			INTEGRATED		M
			NAVIGATION SYSTEM		M
		Communication Equipment	VHF	Make, Model, ID No.	M
			VHF + DSC (MAIN)		M
			VHF + DSC (DUP.)		M
			2 Way VHF Radio		M
			EPIRB - 1		M
			EPIRB - 2		M
			SART - 1		M
			SART - 2		M
			Navtex Receiver		M
			MF/HF Transceiver + DSC + NBDP		M

			MF/HF DSC Scanning Receiver		M
			INMARSAT 'A'		M
			INMARSAT 'B'		M
			INMARSAT 'M'		M
			INMARSAT 'C'		M
			EGC Receiver		M

2.2 Sample Exemption Logic						
	Options visible to applicant					
	Drop Down Box 1	Drop Down Box Level 2	Drop Down Box Level 3	Drop Down Box Level 4	Query box (after Drop Down Box Level 4)	Internally Mapped to relevant HODs
1	Maritime Safety & Security	SOLAS	SOLAS. Part 1	SOLAS. Part 1. Part a	"XYZ ABC...	Chief Surveyor, Chief Nautical Advisor
2	Environmental Pollution Prevention	SOLAS	SOLAS. Part 2	SOLAS. Part 2. Part d	"XYZ EDF...	Nautical Advisor, Chief Surveyor
3	Licensing and Chartering	MARPOL	MARPOL. Part 1	MARPOL. Part 1. Part a	"XYX DDF...	Nautical Advisor, Chief Surveyor
4	Education & Training of Seafarers					

2.3 Sample- MIS Reports			
#	Ship info	Service requested	Range
1	Number of ships	Technical Clearance	Dates
2	Type of Ship - Bulk carriers, Oil tanker, refrigerated cargo carriers, livestock carriers, LNG ships, car carriers, container ships, dry cargo ships, heavy lift vessels, tugs, ro-ro vessels, passenger ships, MODUs, etc.	Name Allocation	Tonnage
3	Port of Registry	CM Note	Ship Age
4	Ownership type - Private or government owned	Declaration of Ownership	Port of Registry
5	Previous owner - Foreign government, foreign private, indian government, indian private	Issuance of documents & certificates at MMD	Anniversary Date
6	New ship or second hand ship	Issuance of documents & certificates by RO	Engine Power
7	Cargo or passenger ship	Provisional Certificate of Registry	Manning
8	Recognized Organization	Permanent Certificate of Registry	

9	Shipping Agent	Amendments to Registry	
1		Transfer of Port of Registry	
0	Ship Manager		
1		Registration/ Discharge of Mortgage	
1		Change of Command	
2			
1		NOC from SMO/SPFO for closure of registry	
3			
1		Closure of registry	
4			
1		FSI/PSC	
5			
1		Plan Approval	
6			
1		Exemptions	
7			

3. Internal Processes		
S. No	Process Type	System Requirement
IN 1	Personnel Branch	
IN 1.1	Recruitment & Posting	The process of 'Recruitment & Posting' is initiated to when new employees are to be hired DGS and its allied offices. The interview for officers is conducted by Union Public Service Commission (UPSC) while for the staff is conducted by Staff Selection Committee (SSC). Subsequently, selected candidates are posted to one of the DGS's location and all their information is maintained in a register called- service book.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
		System shall auto generate the list of Department promotion Committee (DPC) members as per Recruitment rule after every promotion, transfer and recruitment and notify all DPC team members and branch heads
		System shall auto generate list of upcoming vacancies in the start of every year by checking the seniority roster and using the logic from Recruitment Rule. Immediately, system to notify the list on the dashboard of all the members in hierarchy till DG
		System to auto-check the deputation eligibility criterion as per Recruitment Rule, once the details of interested candidates are entered into the system
		System shall create a unique profile called service book with a unique number-employee code for every new employee and allow upload of relevant documents and view of profile by officers of personnel branch, F& A , vigilance branch. System to allow access to more people upon approval from competent authority .
		System shall allow every employee to have viewing access to their service book
		System shall auto-notify the employee when any changes are made in the service book
		System shall annually generate list of available posting locations by checking the seniority roster and using the logic from Recruitment Rule
		System shall allow searching and date wise-field wise sorting in service book
		System shall generate a profile for each employee which will have provision to avail services- viewing service book, claiming advance, applying for leave, viewing APAR, declaration of property returns, file vigilance complaint, seek advice on MSL, apply for accommodation/CGHS.
		System shall perform pay fixation as per pay fixation logic
IN 1.2	Completion of prohibition period	To become a permanent employee of DGS, all new recruited employees have to complete a prohibition period of 2-3 years depending upon the department and designation of joining. After completion of the prohibition period, every employee is reviewed. In case of positive reviews, employee becomes the permanent employee of DGS.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6
		System shall auto generate list of employees completing prohibition period in next 3 months by checking the seniority roster every 3 months and notify on the dashboard to all the members in hierarchy of PB till DG
IN 1.3	APAR	APAR is annual reporting system followed by all central government offices. This is an annual assessment system which allows the employee to get constructive feedback its seniors in the hierarchy. An individual's score of APAR is communicated to the employee. APAR is one of the parameters used in deciding promotions.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6

		System shall auto send the APAR format to all the employees of DGS every 15th March
		System shall store all approved APARs in a particular folder-which will be restricted access
		System shall send reminders 2 days before deadline in case APAR is not submitted, as per timeliness fed into the system
IN 1.4	Training (Foreign trainings)	Various trainings are conducted at international platforms to update seafarers on emerging technologies & issues. An annual list of all the upcoming trainings is shared by International Maritime Organisation (IMO). Approvals for such trainings is taken from Director General, Ministry of Shipping and External Affairs. In case the expenses are borne by Government of India, approval from ministry of finance is also taken.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
		System shall allow feeding of dates and concerned department for training into the system.
		System shall auto notify on the dashboard to HOD of concerned department about the trainings, 1 month prior to training date.
		System shall auto update the service book
IN 1.5	Promotions	As employees at senior employees retire, the employees at junior posts are promoted to senior positions on the basis of their current designation and APARs. Seniority roaster provides information about upcoming vacancies and Recruitment rule (RR) provides information about required number of positions at a particular post. Department promotion committee (DPC) is set up as per RR. This committee is a part of UPSC and is the final decision taking authority.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
		System shall check seniority roaster and generate a list of vacancies created and notify on the dashboard to all the members in hierarchy of PB till DG every 6 months
		System shall auto update the service book
		System shall perform pay fixation as per pay fixation logic
IN 1.6	Transfer	As per Government of India rules, all central government employees are required to be transferred every 3 years. Likewise, all technical officers are transferred to a different location. However, the staff is transferred with in different sections of DGS. Using the seniority roaster, an yearly a list of employees is generated who are required to be transferred. Subsequently, the final transfer locations are decided and the employees are transferred to their transfer location/ section.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
		System shall allow sending links through emails where a report of data filled in the link shall will be viewable to concerned authority
		System shall check seniority roaster and generate a list of vacancies created and notify on the dashboard to all the members in hierarchy of PB till DG every 6 months
		System shall auto update the service book
IN 1.7	Leave Application	All central government employees are entitled to take a certain number of leaves. However, it is not their right to take leaves and the leave application can be denied in certain situations as per the leave rule. Leaves include 30 end leaves, 20 medical leaves etc. for which the employee can apply and use them upon approval. However, there are 8 cash leaves which do not require any approval.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6

		System will automatically send notification once application form is submitted successfully and subsequently, approved or rejected. Alternatively, in case of queries, notifications will be sent.
		System to check employee's service book and leave rule to show the employee remaining leaves in each category at the time of applying for leave.
		System shall auto update the service book
		System shall auto assign substitute in case of leave as per pre-decided substitute list.
IN 1.8	Claim Advances	Central government employees are entitled for facilities such as Medical, LTC etc. Employee can seek the advance to spend money in these facilities. Advances can also be claimed for PFs, loans etc. Approval for each advance is guided by Advance rule book which has specific details for every designation.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6
		System shall auto update the service book
		System shall auto consolidate list of approvals and monthly send to DG
IN 1.9	MACP	MACP is a provision provided to central government employees which can be used when they do not receive any promotion in 10 years. This facility can be availed thrice in the life time. Under this provision, though the designation of the employee does not change, he receives salary as applicable for designation one higher to his.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
		System shall perform pay fixation as per pay fixation logic
		System shall auto generate list of employees eligible for MACP from seniority roster using logic provided, fetch relevant information from service book and notify on the dashboard to all the members in hierarchy of PB till DDG every 1st Jan And 1st Jul
IN 1.10	Retirement	All central government employees have to end their service at the age of 60 years. 5 years before the retirement, all particulars, mainly pay fixation, is checked for smooth retirement procedure. The major process starts 6 months before the retirement date of an employee. At this stage, all previous records are checked and submitted to the F & A department who submits the report to pay & accounts officer who in turn sends it to the pension division.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6
		System shall auto generate list of employees retiring in next 6 months and next 5 years by checking the seniority roster and notify on the dashboard to all the members in hierarchy of PB till DG every 6 months
		System shall have a provision to check if pay fixation has been performed correctly and generate a report of pay fixation marking errors, of any
IN 1.11	Court Case- by employee	Personnel branch deals with all court cases filled by the employees of DGS and its allied offices. DGS receives the information about the case from Ministry of Law, which also allocates an advocate to the case.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
		MIS Reports: List of court cases in a particular duration
IN 1.12	Auto Service verification	Every year, all employees' leave records are matched with their biometric attendance to ensure no unrecorded leaves have been taken by any employee. Service is said to be verified for an employee, if the leave record matches with the biometric attendance.
		System shall have functional requirements as mentioned in A4
		System will have provision for all notifications to be sent through the portal & registered email.

		System to have provision to change logic and format for service verification with access to competent authority
		System shall automatically send notification once service book has been edited
		System shall checks if biometric attendance matches with leave applied for past 1 year and update the service book with service verification certificate every 31st March
		MIS Reports: List of employees which did not receive service verification.
IN 2	Administration	
IN 2.1	New purchase < 1 lakh	Procurement below 1 lakh does not involve the process of tendering. For procurement within 15 thousand to 1 lakh, local purchase committee performs market surveys, calls for quotation and takes approval from administration department. For procurement of goods and services below 15 thousand, only approval from the administration department is taken.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
		System shall generate unique sanction number which will link all the documents related to the purchase
		System shall allow update information on DGS-website
IN 2.2	New purchase >1 lakh	All procurement of goods and services such as such as lease, appointment of contract workers & cleaners, regular maintenance & repair, AMC etc. involving a budget of more than 1 lakh needs to be executed via the tendering process.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
		System shall generate unique sanction number which will link all the documents related to the purchase
		System shall allow update information on DGS-website
IN 2.3	Payment of bills	All bills submitted by the contractors, vendors, canteen etc. are submitted to the administration department. Once the bill is approved by the competent authority, it is sent to the Finance and accounts department.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
		System shall link the tender documents with the bill as soon as the corresponding sanction number is added into the system
		System shall auto generate approval report of the bill when approved by competent authority
		System shall auto deduct the approved amount from the budget allocated once the bill is approved by competent authority
IN 2.4	Inward	Inward section receives all the letter and parcels that arrive at DGS. Inward section maintains record of all posts received at DGS according to the inward number. Inward section responsible for delivering to the branch to which the letter is addressed to.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
IN 2.5	Outward	Outward section receives letters and posts from branches which are to be posted. It maintains a record for all the posts that go out from DGS. Normal post letters are posted twice a week and speed post is posted daily (after 5.30 PM daily). All the letters addressed to MMDs are posted weekly except for the urgent letters like examination papers. Examination papers of Engineering Branch are sent through outward section while those of Nautical are sent by the branch directly to MMDs.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
IN 2.6	New Construction	All decisions to start major new construction are taken by the Ministry of Shipping. Once decided, Ministry issues a letter to DGS mentioning all the specifications and phase wise financials about the constructions and DGS

		starts the construction process. All construction work is under taken by CPWD (Central Public Works Department).
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
IN 2.7	Residential Accommodation/CGHS	DGS employees are eligible for using the CGHS facilities and avail accommodation as per their designation, both of which are provided to all central government employees. Approval of the application for Accommodation/ CGHS is approved at DGS.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
		System shall auto update the service book
IN 3	Crew	
IN 3.1	Mishap- Foreign waters- Indian National	In case of any mishap of Indian national on foreign waters, such as death, permanent injury, accident or missing of Seafarer, RPS Cell/Shipping company informs DGS about the mishap. An investigation report is taken from the flag state, fact checking report from Indian embassy and insurance report from the P & I club to process the compensation and pending wages of the seafarer.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6
IN 3.2	Mishap- Indian waters-Indian National	In case of any mishap of Indian national on Indian waters, such as death, permanent injury, accident or missing of Seafarer, RPS Cell/Shipping company informs DGS about the mishap. An investigation is carried out by the nearest MMD and its report is used to process the compensation and pending wages of the seafarer.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6
IN 3.3	Dissertation	After signing off from the ship, seafarer is provided air tickets and dropped till the airport. At the arrival airport, agents of shipping company receive the Seafarers. In case a Seafarer is not received at the arrival airport, the Shipping Company or RPS Cell informs DGS about the Dissertation. Shipping master conducts the enquiry and the report is maintained at DGS.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6
IN 3.4	NWB	NWB (National welfare board) was set up to ensure Seafarer's welfare. It has 14 members including representatives from unions, SWFC, public sector etc. Regular meetings of NWB are conducted by SWFS. In case someone is interested in join NWB or replace a retiring member, Ministry or unions write an application to DGS on his behalf and approval process is completed at DGS.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
IN 3.5	Court Case- by Seafarer	In case of grievances such as injury, improper wages, harassment etc., the seafarer may choose to go to the court. In this case, the advocate of the Seafarer will write to DGS or respective MMD or both. DGS coordinates with the MMD involved throughout the court procedures.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
IN 3.6	Ministry Complaints	In case seafarer has complaints regarding wages, sexual harassment, RPS Cell not updating sea service etc. seafarer may write to the ministry which in turns writes to DGS.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
IN 3.7	RTI	Since DGS is a government body, it is bound to share information under the RTI act. When any stakeholder files an RTI, DGS coordinates with the shipping master and provides relevant information.

		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
IN 4	Vigilance	
IN 4.1	Complaint processing	Complaints made by various stakeholders are received by the Vigilance Department either through post or via e-mail. They are processed by officials of DGS and CVO.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6
		System shall quarterly auto consolidate list of complaint cases and status to DDG and CVO
		System shall quarterly auto consolidate list of complaint cases to send to ministry
IN 4.2	Annual property returns	Annual Property Return is managed for all group A and B officers by the Vigilance Department.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6
		System shall suggest suspected defaulters using the logic
IN 4.3	Issuance of VCC	Vigilance Clearance Certificate (VCC) is provided by the vigilance department to the personnel branch when an employee goes for foreign training or gets a promotion or retires.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6
		System shall notify every one in the PB-hierarchy till DDG when VCC is issued by Vigilance branch to PB branch
IN 5	Coastal	
IN 5.1	Seam I Card for MSV	Coastal branch is responsible for issuing and keeping a track of I cards of seamen on sailing vessels.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6
IN 6	Coordination	
IN 6.1	Quarterly Report of RTI work	Coordination branch makes a consolidated report of the work done by all the departments related to RTI and submits it to the Ministry of Shipping.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6
		System shall allow to send link with format of quarterly report which when filled and approved by competent authority, gets auto updated in system
		System shall have provision to consolidate all the reports and provide the final report which will be editable
IN 6.2	Response to questions	Various questions are asked to DGS by the ministry, parliament or other offices, some of which need to be responded on an urgent basis. Coordination branch coordinates with different departments to get responses to all the questions.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6
		System shall allow to send link to all branches, in which questions shall be entered by the coordination branch. Concerned branches should have the provision to respond in the link. Once the response in the link is entered and approved, it gets auto updated in system
		System shall have provision to consolidate all the reports and provide the final report which will be editable
IN 7	Hindi Vibhag	
IN 7.1	Quarterly Report of work done in Hindi	As per Section 3 (3) of official language Act, a certain percentage of circulars, tenders, office memorandums, office orders, general orders should be in both English and Hindi. Also, letters received in Hindi should be replied in Hindi. Hindi Vibhag is responsible to prepare a quarterly report

		informing about the work done in bilingual languages by all the departments in DGS and its allied offices.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
		System shall allow to send link with format of quarterly report which when filled and approved by competent authority, gets auto updated in system
		System shall have provision to consolidate all the reports and provide the final report which will be editable
IN 8	MSL	
IN 8.1	Rule change and ratification	There is an ever emerging need for developing new rules and changing the existing rule with time. MSL consults various stakeholders before sending the final proposal to the ministry for approval of changed or new of rules. While amendments in MS ACT may involve in-depth consultation with all stakeholders, issuing new small circulars may involve consultation with limited stakeholders.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6
		System shall have a provision to update DGS website
IN 8.2	Advice on MSL	MSL provides advice to all departments in DGS to queries regarding MS Act, MS rules, circular, policies etc. The concerned officer of the department may send the complete file with marked paragraphs where clarifications are required or may simply send the specific query to the MSL team.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6
IN 9	Concurrent feedback Mechanism	
IN 9.1	Grievances redressal	DGS has an online portal through which external stakeholder convey their grievances and feedback and DGS addresses their grievances in a time bound manner
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6
		System shall auto generate pop ups to assigned authorities if query not resolved within 2 days
IN. 10	Finance & Account	
IN 10.1	Budget Preparation	Finance & Account department sends the format of budget to all the branches of DGS to fill their budget break up of plan and non plan budget. The budget of all individual branches is consolidated to prepared the complete budget.
		System shall have functional requirements as mentioned in A3.1-A3.11, A4 and A6
		System shall have provision to send link with format of non-plan budget. When the format is filled and approved by competent authority, data gets auto updated in system
		System shall have a provision to consolidate all the reports which should be editable
		System shall have provision to edit the budget allocation report with access to competent authority
		System shall have provision to check the branch wise available budget real time.
IN 11	Nautical Branch	
IN 11.1	Mishap-Indian water- Foreign national	In case of any mishap of foreign national on Indian waters, such as death, permanent injury, accident or missing of Seafarer, foreign company will contact the Nautical department to conduct an inspection and send them

		the report on the basis of which the process of compensation would be initiated by the company.
		System shall have functional requirements as mentioned in A3.1-A3.10, A4 and A6

4.Stakeholder Involvement	
PROCESS WISE STAKEHOLDERS MAPPING	* Internal refers to internal DGS departments **External refers to stakeholders availing services with DGS

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4.1 SI-Internal Processes												
S.No.	Visios	Personnel Branch	Administration	Crew	Vigilance	Coastal	Coordination	Hindi Vibhag	MSL	Finance & Account	Nautical Branch	Concurrent
IN1.1	Recruitment & Posting											
IN1.2	Completion of prohibition period											
IN1.3	APAR											
IN1.4	Training (Foreign trainings)											
IN1.5	Promotions											
IN1.6	Transfer											
IN1.7	Leave Application											
IN1.8	Claim Advances											
IN1.9	MACP											
IN1.10	Retirement											
IN1.11	Court Case-by employees											
IN1.12	Auto Service verification											
IN2.1	New purchase < 1 lakh											
IN2.2	New purchase >1 lakh											
IN2.3	Payment of bills											
IN2.4	Inward											
IN2.5	Outward											
IN2.6	New Construction											
IN2.7	Residential Accommodation/CGHS											
IN3.1	Mishap- Foreign waters-Indian National											
IN3.2	Mishap- Indian waters-Indian National											
IN3.3	Dissertation											
IN3.4	NWB											
IN3.5	Court Case-by Seafarer											
IN3.6	Ministry Complaints											
IN3.7	RTI											
IN4.1	Complaint processing											
IN4.2	Annual property returns											
IN4.3	Issuance of VCC											
IN5.1	Seam I Card for MSV											
IN6.1	Quarterly Report of RTI work											
IN6.2	Response to questions											
IN7.1	Quarterly Report of work done in Hindi											
IN8.1	Rule change and ratification											
IN8.2	Advice on MSL											
IN9.1	Grievances redressal											
IN10.1	Budget Preparation											

IN11. 1	Mishap-Indian water- Foreign national											

5.0 Portal				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Reasons of deviation (If any)	Details
1	The portal should not allow concurrent sessions for same user. The system should automatically log out a customer in case of session breakdowns (e.g., communication failure, high inactivity period - these should be parameterized)			
2	The system should provide a web-based interface accessible through HTTPS protocol on Secure Socket Layer (SSL) using a web browser.			
3	The system should support various popular browsers like Internet Explorer, Mozilla, Chrome, etc.			
4	The system should allow users to verify the authenticity of the site hosting the application.			
5	The system should ensure that only authorized users or entities are allowed to log in, upload/download files, or initiate transmission of files			
6	The system should follow a 2-factor authentication process (like OTP) using a username/password and a registered digital certificate/token/Aadhaar e-sign to log into Portal for certain reporting entities.			
7	The system should be able to authenticate users against existing user repositories such as LDAP and Active Directory.			
8	The system should provide audit logging of users. The system should record and maintain up to a pre-defined time, the access history of every successful and unsuccessful login by the user. The system should display the access history to the user on request when the user is logged into the application.			

5.0 Portal				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Reasons of deviation (If any)	Details
9	The system should provide an online help with instructions, tips, visual learning aids on the application.			
10	The portal should support workflows			
11	The portal should implement security features, such as password complexity, automatic blocking (temporary/permanent) of user logins after given number of unsuccessful login attempts (should be parameterized), controlled access to content stored on the portal and logging of security incidents. It should be by its own or through an integrated Identity Management solution and should be capable of managing security rights and privileges by individual, group and role.			
12	Portal should be compatible to popular mobile devices Operating systems			
13	Portal should be interoperable with industry standard databases			
14	Should have multilingual capabilities with regional, localization and Unicode support.			
15	Should be able to integrate with common office application			
16	Should support web services APIs, SOAP, REST, WSRP			
17	Should support virtualization			
18	Should support customization of look and feel of the portal			
19	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).			

5.0 Portal				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Reasons of deviation (If any)	Details
20	Should integrate with standard email and instant messaging services			
21	Should integrate with any other portal products through open standards such as HTML, XML, RSS, web services, and WSRP.			
22	The system should be capable of displaying the previous interaction histories on email / SMS, and the same should be available to voice based users.			
23	Should support multiple roles with associated access controls.			
24	Should support upload, store, organize and share documents			
25	Should provide multi-channel output capabilities			
26	Users should be able to upload documents in multiple formats			
27	Users should be able to upload multiple files at the same time			
28	Should support version control, change tracking, indexing, and comments			
29	Should support offline support and caching of forms			
30	Should support creation of ad hoc query by users			

6.0 Document Management System				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Reasons of Deviation (If any)	Details
1	The bidder shall propose a 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 modules in the suite: Document Management, Record Management, Archival, Imaging & Information Rights Management			
2	Interface for managing the entire lifecycle of content management, starting from its creation to its disposition			
3	Provide out-of-the-box integration with leading application servers. Please list the App Servers supported			
4	The 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 and any other proposed browser etc			
5	Web interface shall enable users to select from a range of themes/skins that define the look-and-feel of the interface			
6	The proposed system should allow document/image capturing and should be able to send to a centralized repository			
7	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 folder, subfolder levels.			
8	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			
9	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.			

6.0 Document Management System				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Reasons of Deviation (If any)	Details
10	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			
11	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			
12	The proposed system should allow the users to add attributes/metadata to the images			
13	The proposed system should allow users to classify the images based on their type			
14	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.			
15	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, 2.1.0.1) control. A "reason for change" comment entry and version label entry must also be provided			
16	The proposed system should have simple search & advanced search facility			
17	The proposed system should 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			
18	The proposed system should automate content archival according to storage policies based on business value and information. System should be able to automatically move the content from			

6.0 Document Management System				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Reasons of Deviation (If any)	Details
	production to archive storage based on the Business rules			
19	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).			
20	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			
21	Provide support for chronological and event based retention types and provision to apply retention and disposition rules at any hierarchical level			
22	The system should be capable of displaying the previous interaction histories on email / SMS, and the same should be available to voice based users.			
23	The proposed solution should not require any additional license to be procured.			
24	System should support application of metadata taxonomy based on key words within the document.			
25	System should enable cross-reference of documents			
26	System should enable linking of different content items in a manner that the latest one supersedes the earlier ones.			
27	System shall have search capabilities that supports powerful and comprehensive full-text searching, metadata searching or a combination of the two.			
28	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			

6.0 Document Management System				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Reasons of Deviation (If any)	Details
29	System should provide capability to search within so that users can narrow down the search			
30	Interface for managing the entire lifecycle of content management, starting from its creation to its disposition			
31	Support for interoperability with cross platforms specifically (Windows, Linux and Unix, Sun Solaris), Databases and Web Servers			
32	The system should have capability to inform by SMS/Email/Voice calls that the grievance has been redressed.			
33	Support Alert Mechanisms (Reminders), Escalation Mechanisms (Flexible routing of files, Calling back the files by the superior)			
34	support Drop Down List for most of the fields, Single window for interacting with the application			
35	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 MarketScape in the last one year as on day of submission of bid			
36	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.			
37	The solution should support single metadata store for modules such as Document Management, Web Content Management, Records Management and Digital Asset Management.			
38	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.			

6.0 Document Management System				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Reasons of Deviation (If any)	Details
39	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.			
40	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.			
41	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			
42	Data migration from existing set up to the newly developed system should be supported.			

7.0 Mobile Application				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Reasons of Deviation(If any)	Details
1	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.			
2	It should enable ease of configuration and changes to existing GUIs, and support the introduction of new screens.			
3	It should provide on screen tips and online help to aid users while interacting with it.			
4	Should make use of data available in the existing database and reduce duplicate data entry			
5	Incorporate analytics into mobile app, to track and identify users experience and actions.			
6	Should support real time information subject to internet availability			
7	Application should ensure Compatibility with all platforms such as Windows, Google Android, & Apple iOS etc.			
8	Solution should develop resolution independent design structure i.e. Mobile Application should adjust itself automatically as per the screen resolution of the Mobile			
9	Mobile Apps should work flawlessly across different platforms			
10	There should be limited or zero use of flash contents so that home page should be loaded quickly			
11	It should not occupy excess client's Mobile RAM.			
12	Should be able to capture and track all events at device and console.			
13	Should support authentication using digital signatures / OTP / native biometric or user authentication feature of mobile			
14	Should have facility to download and upload files, including eForms			
15	Mobile applications should be designed and developed in a way that it ensures security of the application and data on the device.			

7.0 Mobile Application				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Reasons of Deviation(If any)	Details
16	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).			
17	The system should be capable of displaying the previous interaction histories on email / SMS, and the same should be available to voice based users.			

8.0 SMS 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			
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			

ANNEXURE 2

TECHNICAL SPECIFICATIONS

MAF			
#	Components	Submitted	Document Reference
1	Desktop		
2	Laptop		
3	Managed Access Switch		
4	Cloud Data Center hosting specifications (Servers, Storage etc)		
5	Cloud DC & DR Server security Services		
6	Cloud DC & DR NW security Services		
7	Cloud application and Platform services		
8	Enterprise Management System (EMS)		
9	Multi-function Printer & Scanner		
10	UPS		
11	Intranet Firewall		
12	Intrusion Prevention System		
13	Optical Fibre Cable (OFC)		
14	Intranet Router		
15	Internet Router		
16	Core Switch		
17	DDOS Services		
18	Antivirus Solution		

1.DESKTOP					
#	Nature of Requirement	Minimum Requirement Description for Desktop	Compliance (Y/N)	Reasons for Deviation (if any)	Details
1	CPU	Intel or AMD			
2	Processor	Intel Core i7 or Higher and for AMD A10 CPU or better			
3	CPU Speed	Minimum 3 GHz or higher			
4	Chipset	Intel H81 or Higher for A75 Chipset or higher			
5	Cache Memory	Minimum 3 MB or higher			
6	Memory	8 GB DDR3 RAM Min. 667MHz Upgradable up to 16GB			
7	HDD	1TB @ HDD 7200 RPM			
8	HDD Controller	Integrated dual port SATA-II controller			
9	Operating System	Preloaded with latest windows 8.1 or higher professional 64 bit OS which can be down gradable to Win 7 Professional 64 bit on requirement.			
10	Monitor	Minimum 18.5" or higher wide monitor with TCO5 certification: 1366 X 768			

11	Keyboard (Bilingual , Hindi and English)	Min. 104 Keys OEM Mechanical Key Board or Equivalent			
12	Mouse	Two Button Optical Scroll Mouse			
13	Optical Drive	22X DVD writer or higher and the corresponding software			
14	Cabinet	Micro-ATX/ Desktop			
15	Ports	Min. 4 USB (2 In front), 1 Serial, 1 Parallel, PS/2 (For Keyboard & Mouse)			
16	Certification	TCO 05 certified Monitor; Energy star 5.0 or above/ BEEstar certified; 80plus certified power supply; The Restriction on Hazardous Substance Directives (RoHS) for environment safety.			
17	Anti-Virus	Preloaded antivirus along with patches and updates for 5 years.			
18	Warranty	Comprehensive 5 years onsite warranty			

2.LAPTOP					
#	Nature of Requirement	Minimum Requirement Description for Laptop	Compliance (Y/N)	Reasons for Deviation (if any)	Details
1	Processor	Intel Core i5 or Equivalent			
2	Speed	Minimum 3 GHz or higher			
3	Memory	4 GB DDR3 RAM Min. 667MHz Upgradable up to 8GB			
4	HDD	1 TB@ HDD 7200 RPM			
5	HDD Controller	Integrated dual port SATA-II controller			
6	Operating System	Preloaded with latest windows 8.1 or higher professional 64 bit OS which can be down gradable to Win 7 Professional 64 bit on requirement.			
7	Display	Minimum 12" or higher wide display with TCO5 certification: 1366 X 768 HD LED Anti-Glare Display			
8	Keyboard (Bilingual , Hindi and English)	Min. 104 Keys OEM Mechanical Key Board			

		or TVSE Gold or Equivalent			
9	Mouse	Two Button Optical Scroll Wireless Mouse			
10	Ports	Min. 3 USB 3.0			
11	Anti-Virus	Preloaded antivirus along with patches and updates for 5 years.			
12	Warranty	Comprehensive 5 years onsite warranty			
13	Networking	Ethernet Port: 1, Ethernet Type: 10/100/1000, WiFi Type: 802.11b/g/n, LAN connectivity			
14	Standard Battery	Upto 9 hours back-up, 6 cell including Charger			
15	Additional features	Built-in HD Camera, Microphone, Digital Media Reader slot, Light weight, Bluetooth, Speakers, Touchpad with Track Point			

3.MANAGED ACCESS SWITCH					
#	Nature of Requirement	Minimum Requirement Description for Managed Access Switch	Compliance (Y/N)	Reasons for Deviation (if any)	Details
1	Switch Architecture and Performance	Switch should have 24 Nos. 10/100/1000Base-TX auto-sensing plus 4x1G SFP uplinks.			
2	Switch Architecture and Performance	Should support stacking using dedicated stacking ports with up to 80Gbps throughput			
3	Switch Architecture and Performance	Switch should support link aggregation across multiple switches in a stack.			
4	Switch Architecture and Performance	Should support stacking of minimum of eight switches			
5	Switch Architecture and Performance	Switch should have non-blocking wire-speed architecture.			
6	Switch Architecture and Performance	Switch should support IPv4 and IPv6 from day One			
7	Switch Architecture and Performance	Switch should have non-blocking switching fabric of minimum 56 Gbps or more			
8	Switch Architecture and Performance	Switch should have Forwarding rate of minimum 41 Mpps.			

9	Layer 2 Features	IEEE 802.1Q VLAN tagging.			
10	Layer 2 Features	802. 1Q VLAN on all ports with support for minimum 255 active VLANs and 4k VLAN ids			
11	Layer 2 Features	Support for minimum 8k MAC addresses			
12	Layer 2 Features	Spanning Tree Protocol as per IEEE 802.1d			
13	Layer 2 Features	Multiple Spanning-Tree Protocol as per IEEE 802.1s			
14	Layer 2 Features	Rapid Spanning-Tree Protocol as per IEEE 802.1w			
15	Layer 2 Features	Self-learning of unicast & multicast MAC addresses and associated VLANs			
16	Layer 2 Features	Jumbo frames up to 9000 bytes			
17	Layer 2 Features	Link Aggregation Control Protocol (LACP) as per IEEE 802.3ad.			
18	Layer 2 Features	Port mirroring functionality for measurements using a network analyzer.			
19	Layer 2 Features	Switch should support IGMP v1/v2/v3 as well as IGMP v1/v2/v3 snooping.			
20	Quality of Service (QoS) Features	Switch should support IGMP v1/v2/v3 as well as IGMP v1/v2/v3 snooping.			
21	Quality of Service (QoS) Features	Switch should support DiffServ as per RFC 2474/RFC 2475.			
22	Quality of Service (QoS) Features	Switch should support four queues per port.			
23	Quality of Service (QoS) Features	Switch should support QoS configuration on per switch port basis.			
24	Quality of Service (QoS) Features	Switch should support classification and marking based on IP Type of Service (TOS) and DSCP.			
25	Quality of Service (QoS) Features	Switch should provide traffic shaping and rate limiting features (for egress as well as ingress traffic) for specified Host, network, Applications etc.			
26	Quality of Service (QoS) Features	Strict priority queuing guarantees that the			

		highest-priority packets are serviced ahead of all other traffic.			
27	Security Features	Switch should support MAC address based filters / access control lists (ACLs) on all switch ports.			
28	Security Features	Switch should support Port as well as VLAN based Filters / ACLs.			
29	Security Features	Switch should support RADIUS and for access restriction and authentication.			
30	Security Features	Secure Shell (SSH) Protocol, HTTP and DoS protection			
31	Security Features	IP Route Filtering, ARP spoofing, DHCP snooping etc.			
32	Security Features	Should support DHCP snooping, DHCP Option 82, Dynamic ARP Inspection (DAI)			
33	Security Features	Should support a mechanism to shut down Spanning Tree Protocol Port Fast- enabled interfaces when BPDUs are received to avoid accidental topology loops.			
34	Security Features	Should support a mechanism to prevent edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes.			
35	Security Features	Switch should support static ARP, Proxy ARP, UDP forwarding and IP source guard.			
36	Security Features	Switch should Support Ipv6 First hop Security with the following functions: IPv6 snooping, IPv6 FHS binding, neighbor discovery protocol (NDP) address gleaning, IPv6 data address gleaning, IPv6 dynamic host configuration protocol (DHCP) address gleaning, IPv6 device tracking, neighbor discovery (ND) Inspection, IPv6 DHCP			

		guard, IPv6 router advertisement (RA) guard			
37	Management, Easy-to-Use Deployment and Control Features	Switch should have a console port with RS-232 Interface for configuration and diagnostic purposes.			
38	Management, Easy-to-Use Deployment and Control Features	Switch should be SNMP manageable with support for SNMP Version 1, 2 and 3.			
39	Management, Easy-to-Use Deployment and Control Features	Switch should support all the standard MIBs (MIB-I & II).			
40	Management, Easy-to-Use Deployment and Control Features	Switch should support TELNET and SSH Version-2 for Command Line Management.			
41	Management, Easy-to-Use Deployment and Control Features	Switch should support 4 groups of embedded RMON (history, statistics, alarm and events).			
42	Management, Easy-to-Use Deployment and Control Features	Switch should support system and event logging functions as well as forwarding of these logs to multiple syslog servers.			
43	Management, Easy-to-Use Deployment and Control Features	Switch should support on-line software reconfiguration to implement changes without rebooting. Any changes in the configuration of switches related to Layer-2 & 3 functions, VLAN, STP, Security, QoS should not require rebooting of the switch.			
44	Management, Easy-to-Use Deployment and Control Features	Support for Automatic Quality of Service for easy configuration of QoS features for critical applications.			
45	Management, Easy-to-Use Deployment and Control Features	Support to detect unidirectional links caused by incorrect fiber-optic wiring or port faults and disable on fiber-optic interfaces			
46	Management, Easy-to-Use Deployment and Control Features	Switch should have comprehensive debugging features			

		required for software & hardware fault diagnosis.			
47	Management, Easy-to-Use Deployment and Control Features	Layer 2/Layer 3 trace route eases troubleshooting or equivalent feature supporting IEEE 802.1 AG, IEEE 802.3 AH identifying the physical path that a packet takes from source to destination.			
48	Management, Easy-to-Use Deployment and Control Features	Should support DHCP Server feature to enable a convenient deployment option for the assignment of IP addresses in networks that do			
49	Management, Easy-to-Use Deployment and Control Features	not have without a dedicated DHCP server.			
50	Management, Easy-to-Use Deployment and Control Features	Switch should support Multiple privilege levels to provide different levels of access.			
51	Management, Easy-to-Use Deployment and Control Features	Switch should support NTP (Network Time Protocol)			
52	Management, Easy-to-Use Deployment and Control Features	Switch should support FTP/ TFTP			
53	Standards	RoHS Compliant.			
54	Standards	IEEE 802.1x support.			
55	Standards	IEEE 802.3x full duplex on 10BASE-T and 100BASE-TX ports.			
56	Standards	IEEE 802.1D Spanning-Tree Protocol.			
57	Standards	IEEE 802.1p class-of-service (CoS) prioritization.			
58	Standards	IEEE 802.1Q VLAN.			
59	Standards	IEEE 802.3u 10 BaseT / 100 Base Tx /1000 Base Tx.			
60	Compliance	The switch should be IPV6 complaint			

5. Cloud DC & Server Security Services				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Details of Reference Document for verifying compliance	Reference Page No
1	Designing all the key supply components (power, air-conditioning in the computer centre, internet connection, wiring, etc.) to be redundant			
2	Monitor access: access control system, video monitoring systems, movement sensors, security personnel, alarm systems, etc.			
3	Two-factor authentication for access to the data centre			
4	Fire protection: fire alarm system, fire early detection system, suitable fire extinguishers, regular fire drills			
5	Robust infrastructure that provides adequate resistance to damage by the elements and unauthorised entry			
6	Redundant data centres that are, at least, far enough away from one another that a controllable damage event does not simultaneously affect the data centre originally used and the one containing the backup capacities.			
Server Security				
7	Technical measures to protect the host (host firewalls, regular integrity checks, host-based intrusion detection/prevention systems)			
8	A secure basic configuration for the host (e.g. deploying hardened operating systems, disabling unnecessary services, etc.)			
9	Secure default configuration for the guest operating system using hardened operating systems, disabling unnecessary services, etc.			

6. 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			
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			

7. 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

8. 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.			
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.			
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 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 group of 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 the servers 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 look and feel across various platforms in the enterprise. These agents could then dynamically reconfigure them to use these threshold profiles they receive.			
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 memory statistics			
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			

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 Load Averages			
55	System Monitoring	System virtual memory (includes swapping 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 server statistics			
61	Infrastructure Services	HTTP service			
62	Infrastructure Services	HTTPS services & CRIMINAL TRACKING 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 network layer.			
70	Application Performance Management	Automatic discovery and monitoring of the web application environment			
71	Application Performance Management	Ability to monitor applications with a dashboard.			
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 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 pre-defined user with pre-defined interval.			
84	Reporting	Should have capability to exclude the planned-downtimes or downtime outside SLA.			
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 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			

		capacity planning, reporting, and analysis.			
111	Network Management	The Network Management function 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.			
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.			
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 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 knowledge base 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 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.			
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					
158	Client Management System	The proposed desktop management system should provide single integrated agent for asset management, remote software deployment and remote desktop control.			
159		:			
160	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.			

161	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.			
162	Asset Management System	The proposed Asset Management solution must have the capability to export the reports to CSV, HTML and XML format.			
163	Asset Management System	The proposed Asset Management solution must provide the facility for user defined templates to collect custom information from desktops.			
164	Asset Management System	The proposed Asset Management solution must provide facility to recognize custom applications on desktops.			
165	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.			
166	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.			
167	Asset Management System	The proposed Asset Management solution must be able to collect WBEM information.			
168	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.			
169	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.			

170	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.			
171	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.			
172	Remote Software Deployment System	It should support deployment of MSI based packages using drag and drop method.			
173	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.			
174	Remote Software Deployment System	It should include a Software packager for creating software packages to be delivered to end-user desktops which uses a snapshot technology.			
175	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.			
176	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.			
177	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.			
178	Remote Desktop Control Management System	It should provide the capability of taking Remote control of Linux systems also using Views sitting on Windows platform.			
179	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.			

180	Remote Desktop Control Management System	It should allow host enabled recording which allows the end user to initiate a recording session.			
181	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.			
182	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.			
183	Remote Desktop Control Management System	It should support Seamless integration with management applications such as helpdesk, asset management and Software delivery.			
184	Remote Desktop Control Management System	It should support remote Reboot & Chat functions between nodes.			
185	Remote Desktop Control Management System	It should provide facility for encrypting the authentication traffic and support AES 256.			

9. MULTI-FUNCTION PRINTER					
#	Nature of Requirement	Minimum Requirement Description for Multi-function Printer	Compliance (Y/N)	Reasons for Deviation (if any)	Details
1	Printer Specifications				
	Print speed, black	32 PPM or above			
	Print resolution, black	1200x1200 dpi or above			
	Print technology	Laser (Black & White)			
	Duty cycle	50,000 Pages or above			
	Memory, standard	256 MB or above			
	Print languages, standard	PCL 5, PCL 6, PS 3 emulation, or equivalent			
	Duplex printing (printing on both sides of paper)	Automatic Duplex (Standard)			
	Media sizes, standard	A4, Letter			
	Paper Input Capacity	250-sheet Input Tray and 50 Sheet Multipurpose Tray			
	Paper Output Capacity	150-sheet			
	Network Connectivity	Gigabit 10/100 Ethernet, Optional Wireless connectivity for future upgrade			
	USB Connectivity	Hi Speed USB 2.0			
2	Scanner Specifications				
	Scanner type	Flatbed, ADF			
	Scan resolution, optical	600 dpi or above			
	Supported file formats	Scan to E-mail, Scan to USB, Scan to Network Folder			
3	Copier Specifications				
	Copy resolution	600 x 600 dpi or above			
	Network ready	Standard (built-in Ethernet)			
	ENERGY STAR® Qualified	Yes			
	Warranty Coverage	Comprehensive warranty for 5 years.			

10.UPS					
Sr. No.	Nature of Requirement	Minimum Requirement Description for UPS	Compliance (Y/N)	Reasons for Deviation (if any)	Details
1	Manufacturer	Should be ISO 9001:2000 & ISO 14001 Certified			
2	Technology	1. IGBT based PWM Technology			
		2. Microprocessor controlled Digital Design			
		3. Double Conversion True On-line UPS			
3	Input Frequency Range :	47 to 53 Hz			
4	Output Voltage:	220VAC-230VAC			
5	Voltage Regulation:	+/-2% (or better)			
6	Frequency:	50 Hz +/- 0.1% (free Run Mode)			
7	Harmonic Distortion(THD):	< 3% (linear load)			
8	Output Waveform:	Pure Sine wave			
9	Output Power Factor:	0.8 or more			
10	Battery Backup:	60 min upgradable to 2 hours			
11	Battery Type:	Sealed, lead acid, maintenance free (SMF)			
12	Transfer Time:	0 ms			
13	Enclosure:	NEMA or CE certified			
14	General Operating Temperature:	0 to 40 Degree C			
15	Noise level:	<55 dB @ 1 Meter			
16	Alarms & Indications:	All necessary alarms & indications essential for performance monitoring of UPS like mains fail, low battery & fault detection			
17	Bypass:	Automatic, Manual Bypass Switch			
18	Compatibility:	UPS to be compatible with DG Set supply and mains supply			
19	Certifications:	For Safety & EMC as per international			

11. 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 / ICSA / 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			
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 cobined 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 independntly for each context in multi-context mode			
13	In transparent mode firewall should support arp-inspection to prevent spoofing at Layer-2			

11. Firewall Services				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Details of Reference Document for verifying compliance	Reference Page No
14	Should support Non Stop Forwarding in HA during failover and Graceful Restart			
15	Firewall should support static nat, pat, dynamic nat, pat & destination based nat			
16	Firewall should support Nat66 (IPv6-to-IPv6), Nat 64 (IPv6-to-IPv4) & Nat46 (IPv4-to-IPv6) functionality			
17	Should support Remotely Triggered Black Hole for Border Gateway protocol security			
18	Firewall should support Restful API for 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 & data interfaces for provide 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 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 VPN security.			

11. Firewall Services				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Details of Reference Document for verifying compliance	Reference Page No
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 VPN security.			
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 & IPv6 static routing, RIP, OSPF v2 & v3, PBR, VLAN, VXLAN for PBR, PBR for IPv6 BGP and BGPv6			
36	Firewall should support PIM multicast routing			
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			

12. IPS 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 IPS services.			
2	The monitoring interface of the IPS should operate at layer 2, thus requiring no IP address or network reconfiguration.			
3	The appliance/Solution should have separate dedicated interface for management console.			
4	The IPS should have deployable capability in the Passive or IDS mode, Inline Protection or Inline Simulation mode.			
5	The IPS should be able to detect and block all known, high risk exploits along with their underlying vulnerability (not just one exploit of that vulnerability).			
6	The IPS should be capable of detecting and blocking zero-day attacks without requiring an update.			
7	The IPS should employ full seven-layer protocol analysis of over maximum internet protocols and data file format.			
8	The IPS should detect and block malicious web traffic on any port.			
9	The IPS should detect attacks inside IPv6 encapsulated packets			
10	The IPS should be capable of active blocking of traffic based on pre-defined rules to thwart attacks before any damage is done.			
11	The IPS should detect intrusion attempts like unauthorized access attempts, pre-attack probes, suspicious activity, DoS, DDoS, vulnerability exploitation, brute force, hybrids, and zero-day attacks.			
12	The IPS should be able to filter traffic based on IP address or network range, protocol, and service in support of organizational security policy to allow/disallow specific types of activity between hosts.			
13	The IPS should support Active/Passive and Active/Active for the appliance for High Availability to ensure no session drops.			
14	The IPS should allow policy to be assigned to device, port, VLAN tag, IP address/range.			
15	The IPS should offer built-in responses including console alerts, database logging, email notifications, SNMP traps, offending packet captures, and packet captures			

13.OPTICAL FIBER CABLE					
#	Nature of Requirement	Minimum Requirement Description for Optical Fibre Cable	Compliance (Y/N)	Reasons for Deviation (if any)	Details
1	Cable Type	Optical Fiber Single Mode 24 Core			
2	Core	24			
3	Mode	Single Mode			
4	Cladding diameter	125.0 $\mu\text{m} \pm 1.0$			
5	Coated fibre diameter	245 $\mu\text{m} \pm 10$			
6	Core/cladding concentricity error	$\leq 0.8\mu\text{m}$			
7	Coating/cladding concentricity error	$\leq 12\mu\text{m}$			
8	Cladding non-circularity	$\leq 1.0 \%$			
9	Mode Field Diameter	9.3 $\mu\text{m} \pm 0.5$ at 1310nm			
10	Attenuation (cable)	0.36dB/Km at 1310nm, 0.25dB/Km at 1550nm,			
11	Zero-Dispersion Wavelength	1300 to 1322 nm			
12	Zero-Dispersion Slope	$\leq 0.092 \text{ ps/Sq. Nm .km}$			
13	Zero-Dispersion Slope	$\leq 0.092 \text{ ps/Sq. Nm .km}$			
14	Cut-off Wavelength	$\leq 1260 \text{ nm}$			
15	Polarization Mode Dispersion Coefficient	≤ 0.2 at 1310nm			
16	Fibre macro bend loss	$\leq 0.05\text{dB}$ at 1550 nm with 75 mm dia, 100 turns			
17	Fibre macro bend loss	$\leq 0.5\text{dB}$ at 1550 nm with 32 mm dia, 1 turn			

14.INTRANET ROUTER					
#	Nature of Requirement	Minimum Requirement Description for Intranet Router	Compliance (Y/N)	Reasons for Deviation (if any)	Details
1	Functional Requirements	The router shall support 1:1 route processor/control processor redundancy, 1:1/1:N switch fabric and PSU redundancy and 1:1 service module redundancy in case any services asked for in the RFP is delivered through a service module			
2	Functional Requirements	The Core router must be based on architecture which does hardware based forwarding and switching. The processing engine architecture must			

		be multi processor based for enhanced performance.			
3	Functional Requirements	The Core router must have onboard support for intelligent traffic measurement and analysis. The router must support flow based traffic analysis feature.			
4	Functional Requirements	The router must have hardware assisted Network Address Translation (NAT) capability as per RFC 1631.			
5	Hardware Architecture	Backplane Architecture: The back plane architecture of the router must be modular and redundant. The back plane bandwidth must be 20Gbps from day 1 and scalable to 40 Gbps			
6	Hardware Architecture	Number of Slots: The router must be chassis based with minimum 4 numbers of slots.			
7	Hardware Architecture	The router must have redundant power supply module. The router must support 220V AC or -48V DC power supply module. There should not be any impact on the router performance in case of one power supply fails.			
8	Hardware Architecture	The router processor architecture must be multi processor/ multi core based and should support hardware accelerated, parallelized and programmable IP forwarding and switching.			
9	Hardware Architecture	The router in the event of failure of any one processor should switchover to the redundant processor without dropping any traffic flow. There should not be any impact on the performance in the event of active routing engine.			
10	Hardware Architecture	The router must support on line hot insertion and removal of cards. Any insertion line card should not call for router rebooting nor should disrupt the remaining unicast and multicast traffic flowing in any way.			
11	Hardware Architecture	The router must have support for flash memory for configuration and OS backup.			
12	Router Performance	Should support up to 18 Mpps of Forwarding performance			
13	Router Performance	The Router solution must be a carrier-grade Equipment supporting the following: Hitless interface protection, In-band and out-band management, Software rollback feature, Graceful Restart for OSPF, BGP, LDP, MP-BGP etc.			
14	Router Performance	The router should support uninterrupted forwarding operation			

		for OSPF, IS-IS routing protocol to ensure high-availability during primary controller card failure.			
15	Physical Interface Support	The router line card must support following interface as defined in the IEEE, ITU-T: Fast Ethernet - 10BaseT/100BaseT Ethernet as defined in IEEE 802.3 , Gigabit Ethernet - 1000BaseSX, 1000BaseLX, 1000BaseZX as defined in IEEE 802.3			
16	Physical Interface Support	The router should support Channelized STM1 interfaces to aggregate multiple E1 / sub-rate E1 circuits coming in from remote locations.			
17	Physical Interface Support	Support for 10 Gigabit Ethernet interface.			
18	Layer 3 Routing Protocols	The router must support the IPv4 and IPv6 stack in hardware and software. It must support both IPv4 and IPv6 routing domains separately and concurrently. It must also support the ability to bridge between IPv4 and IPv6 routing domains.			
19	Layer 3 Routing Protocols	The router must support RIPv1 & RIPv2, OSPF, BGPv4 and IS-IS routing protocol.			
20	IPv6 Support	Should support IP version 6 in hardware.			
21	IPv6 Support	Should support IPv6 static route, OSPFv3, IS-IS support for IPv6, Multiprotocol BGP extensions for IPv6, IPv6 route redistribution.			
22	IPv6 Support	The router shall support dual stack IPv6 on all interfaces and IPv6 over IPv4 tunneling, IPv6 Multicast protocols – Ipv6 MLD, PIM-Sparse Mode, and PIM – SSM, P6 Security Functions – ACL, IPv6 Firewall, SSH over IPv6, MPLS Support for IPv6 - IPv6 VPN over MPLS, Inter-AS options, IPv6 VPN over MPLS, IPv6 transport over MPLS			
23	IPv6 Support	The router should support for IPv6 Multicast.			
24	IPv6 Support	Should support IPv6 Quality of Service			
25	IPv6 Support	Should perform IPv6 transport over IPv4 network (6 to4 tunneling).			
26	IPv6 Support	Should support SNMP over IPv6 for management.			
27	Quality of Service	The router must be capable of doing Layer 3 classification and setting ToS/Diffserve bits on incoming traffic using configured guaranteed rates and traffic characteristics. The marking of the ToS/Diffserve bits			

		should be non-performance impacting.			
28	Quality of Service	The scheduling mechanism must allow for expedited or strict priority routing for all high priority traffic.			
29	Quality of Service	The scheduling mechanism must allow for alternate priority routing traffic necessary to keep from starving other priority queues.			
30	Quality of Service	The router must provide facility to prioritize the SNMP traffic.			
31	Multicast Support	The multicast implementation must support source specific multicast.			
32	Multicast Support	The router must support IGMPv2 and IGMPv3.			
33	MPLS Feature	Should support all standard protocols			
34	Security Feature	Should support Access Control Lists at layer 2-4 in hardware. The access list parameters may be any combination of source and destination IP or subnet, protocol type (TCP/UDP/IP etc), source and destination port. There should not be any impact on the router performance upon enabling Access Lists.			
35	Security Feature	The router should support multiple levels of access or role based access mechanisms.			
36	Security Feature	Should support CPU Rate limiting and control plane policing feature to make sure the router is always available for management.			
37	Security Feature	The proposed router should support for NAT from day one, Version of software for supplied router should be latest release to support all required features			
38	Security Feature	The proposed router should have embedded support for 4000 IPsec tunnels from day one, Version of software for supplied router should be latest release to support all required features			
39	Router Management Feature	Console Port: It should be possible to manage a particular system locally through console port or through a telnet session over LAN/WAN.			
40	Router Management Feature	The router must support management through SNMPv1, v2 and v3			
41	Router Management Feature	The router must support RADIUS. The router must role based access to the system for configuration and monitoring.			
42	Router Management Feature	The router must support Network Time Protocol (NTP) as per RFC 1305.			

43	Router Management Feature	The router must have DHCP server functionality so that it can be used to lease IP addresses to the end points of local area network whenever required.			
44	Port requirement from Day 1	Each Core router should be provided with 8 x 1G ports and 2 x 10G ports from Day 1			
45	Industry Standards & Certifications	The Router should be minimum EAL3 / Applicable Protection Profile certified under the Common Criteria Evaluation Program			
46	Support	The system should not be an end of life / end of service product.			

15. INTERNET ROUTER					
#	Nature of Requirement	Minimum Requirement Description for Internet Router	Compliance (Y/N)	Reasons for Deviation (if any)	Details
1	Hardware features	Router should support hardware encryption acceleration for Ipsec & SSL VPNs internally or externally if an external VPN appliance is proposed the same should be an ASIC based appliance with the support of 500 minimum SSL VPNs tunnel			
2	Hardware features	Router should support hardware encryption acceleration for Ipsec & SSL VPNs internally or externally if an external VPN appliance is proposed the same should be an ASIC based appliance			
3	Hardware features	Router should support atleast Four 10/100/1000 Routed ports on-board out of which two should be available to be used as SFP ports.			
4	Hardware features	Router should support default memory of 1GB Ram & scalable up to 2Gb Ram			
5	Hardware features	Router should have atleast 4 slots for additional modules and one module should be loaded with 8 port 10/100/1000 Mbps LAN ports			
6	Hardware features	Router should have support for WAN Interfaces			
7	Hardware features	Router should support minimum performance of 1.8Mpps			
8	Hardware features	Router should support internal redundant power supply.			

9	Routing Protocols	Router should support following routing protocols & features:RIP, OSPF, BGP,ISIS, Policy based routing			
10	IPv6 Routing Features	Router should support following IPv6 Features:OSPFv3, IPv6 support for ISIS, IPv6 support for BGP, IPv6 policy based routing, IPv6 Dual Stack			
11	Multicast Features	Should support multicast BGP, Multicast NAT, PIM, IGMPv3			
12	VPNS & Tunneling Features	Should support standard VPN Protocols & Features Ipsec Vpn, should support ipv6 for Ipsec			
13	Qos Features	Should support the functionality of recognizing network based applications passing through router & provide statistics of traffic usage			
14	Network Management Features	Router should support the ability to monitor events and take informational, corrective action when the monitored events occur or when a threshold is reached.			
15	Network Management Features	Should support Netflowv9 or equivalent to provide data to enable network and security monitoring, network planning, traffic analysis, and IP accounting.			
16	Network Management Features	Should support SNMPv3, SNMP over IPV6.			
17	Network Management Features	Should support the functionality of measuring service level indicators including delay, jitter & availability			
18	Network Management Features	Should support functionality to monitor network performance for VOIP, Video & VPN Network monitoring			
19	Industry Standards & Certifications	The Router should be minimum EAL3 / Applicable Protection Profile certified under the Common Criteria Evaluation Program			

16.CORE SWITCH					
#	Nature of Requirement	Minimum Requirement Description for Core Switch	Compliance (Y/N)	Reasons for Deviation (if any)	Details
1	Hardware features	Proposed network device must be 19" rack mountable			
2	Hardware features	Network Infrastructure equipment must use 240V AC power.			
3	Hardware features	Must have Redundancy Power Supply Units (PSUs).			

4	Hardware features	Must have redundant of other components such as fans within network equipment.			
5	Hardware features	Must have redundant CPU/processor cards.			
6	Hardware features	Support Redundancy for CPU cards in switching over, to allow the standby CPU to immediately take over in sub-second time scales in the event of a failure.			
7	Hardware features	All components (including elements such as I/O cards, CPUs, power supplies and fans) must be hot swappable with zero disruption to traffic forwarding (Unicast or multicast).			
8	Hardware features	Must have minimum 4 modular slots and 2 should be dedicated for I/O modules.			
9	Hardware features	For high availability & performance must have two supervisory engine			
10	Hardware features	Chassis Switching Fabric Must be capable of delivering greater than 600Gbps per I/O slot. This switching speed in one direction, i.e. total of minimum 300 Gbps			
11	Scalability	Chassis Must support minimum following port configuration on asked I/O modules, any of the following port configuration should be available on demand just replacing the I/O Modules: > Minimum 48 x10 Gigabit Ethernet ports > Minimum 4 x 40 Gigabit Ethernet ports			
12	Scalability	Must support port channeling or equivalent across multiple chassis.			
13	Scalability	Physical standards for Network Device Should support Ethernet (IEEE 802.3, 10BASE-T), Fast Ethernet (IEEE 802.3u, 100BASE-TX), Gigabit Ethernet (IEEE 802.3z, 802.3ab), Ten Gigabit Ethernet (IEEE 802.3ae)			
14	Scalability	Software based standards for Network Device Must support IEEE 802.1d - Spanning-Tree Protocol, IEEE 802.1w - Rapid Spanning Tree, IEEE 802.1s - Multiple Spanning Tree Protocol, IEEE 802.1q - VLAN encapsulation, IEEE 802.3ad - Link Aggregation Control Protocol (LACP), IEEE 802.1ab - Link Layer Discovery Protocol (LLDP), IEEE 802.3x Flow Control			

15	Scalability	Must support auto-sensing and auto-negotiation (Link Speed/Duplex)			
16	Scalability	Routing protocol support; Static IP routing, OSPF, BGPv4, MP-BGP, BGP Route			
17	Scalability	Should support Bidirectional Forwarding Detection (BFD) for OSPF, IS-IS and BGP			
18	Scalability	The network infrastructure must allow for multiple equal metric/cost routes to be utilized at the same time			
19	Scalability	Hardware must support FCOE ports with all FCOE standards support like FCF & DCB			
20	Scalability	Must have the ability to complete hitless software upgrades with zero interruption to services or data forwarding			
21	Scalability	Should support 802.1 Q-in-Q			
22	Scalability	IEEE 802.3ad Link Aggregation or equivalent capabilities			
23	Scalability	IPv6 functionality			
24	Scalability	Must be IPv6 capable. If IPv6 compliance/support is not available, please identify if compliance is defined in device roadmap along with a timeframe			
25	Scalability	IP Version 6 (IPv6) must be supported in hardware			
26	Scalability	Must support Static IPv6 routing, OSPFv3			
27	Scalability	Should support both IPv4 and IPv6 routing concurrently. There should be the ability to tunnel IPv6 within IPv4.			
28	Scalability	Supported IPv6 features should include: DHCPv6, ICMPv6, IPv6 QoS, IPv6 Multicast support, IPv6 PIMv2 Sparse Mode, IPv6 PIMv2 Source-Specific Multicast, Multicast VPN			
29	Scalability	Device must support multicast in hardware			
30	Scalability	The switch must support IEEE 802.1 QBR/ 802.1 BR standard to support scalability and extension of switching fabric to additional ports if required outside chassis.			
31	Scalability	The system must allow extending Layer 2 applications across distributed data centers			
32	Security features	Must support multiple privilege levels for remote access (e.g. console or telnet access)			
33	Security features	Must support Remote Authentication Dial-In User Service (RADIUS)			
34	QoS features	Must support IEEE 802.1p class-of-service (CoS) prioritization			

35	QoS features	Must support rate limiting (to configurable levels) based on source/destination IP/MAC, L4 TCP/UDP			
36	QoS features	Must have the ability to complete traffic shaping to configurable levels based on source/destination IP/MAC and Layer 4 (TCP/UDP) protocols			
37	QoS features	There should not be any impact to performance or data forwarding when QoS features			
38	QoS features	Must support a "Priority" queuing mechanism to guarantee delivery of highest-priority (broadcast critical/delay-sensitive traffic) packets ahead of all other traffic			
39	QoS features	Must support ability to trust the QoS markings received on an ingress port			
40	Virtulisation	The switch must support data center virtualization, giving department the ability to virtualize a physical switch into multiple logical devices. With each logical switch having its own processes, configuration, and administration			
41	Management features	Must support SNMP V1,V2, V3 and be MIB-II compliant			
42	Management features	Must support SNMP traps (alarms/alerts) for a minimum of four destinations			
43	Management features	Network switch should support Remote Monitoring on every port covering the following four groups (Statistics, Alarm, Event, History).			
44	Management features	Must be able to integrate with all standard Network Management Systems, including HP Open View Suite, Netcool and Infovista			
45	Management features	Should support flow based traffic analysis features and the ability to export of network IP flow information.			
46	Management features	Must support Network Timing Protocol (NTPv3) and should support the following: • Configuration of more than one NTP server • Speciation of a local time zone • NTP authentication			
47	Port requirment from Day 1	Each Core Switch should be provided with 16 x 10G Ports since Day 1			
48	Support	The system should not be an end of life / end of service product.			

17. DDOS Services Cloud DC & DR				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Details of Reference Document for verifying compliance	Reference Page No
Scale and Architecture				
1	The solution should be a cloud based DDoS mitigation services			
2	DDOS detection Appliance/ system / solution should be a statistical anomaly detection engine working in an offline, pervasive monitoring mode.			
3	The system must be able to accept flow export formats like Netflow data, Jflow, Cflow, Sflow IPFIX etc.			
4	The system must be able to poll monitored routers using SNMP v1, v2c or v3.			
5	The system must provide IPv4 and IPv6 dual-stack support allowing for ping, traceroute, ssh, HTTPS, syslog, DNS, NTP, SNMP, and AAA (RADIUS only).			
6	The system must be able to reflect/replicate received Netflow data and export it to other Netflow receivers in the network.			
System Security/hardening				
7	The Appliance or system or solution should be manageable through a packet filtering device which could be an external firewall which does not impact the normal functioning and manageability.			
8	CLI access must be provided using SSH, Version of SSH used by the system must be configurable			
9	The system must supply the full CLI interface via RS-232 serial console port or KVM console for on-site use.			
10	GUI access to the system must be HTTPS.			
11	The system must allow for multiple levels of access including administrator and operator levels.			
12	The system must allow for the creation of multiple users with differing group memberships allowing differing permission sets and different User interface screens.			
13	The system must provide full AAA to users via a local user table, RADIUS, TACACS, or a configured combination of methods.			
14	The system must support a user configurable radius NAS identifier			
User Interface				

15	The GUI must provide dashboards that include real-time displays of commonly viewed report collections.			
16	The system must provide a report wizard which supports drag-and-drop report customization for traffic-based reports.			
17	The GUI must provide search functions to aid navigation when large numbers of alerts are present in the system.			
18	The system must provide on-line documentation in the GUI to help users understand the functions in each screen.			
19	The system must provide near-real-time graphs and tables for traffic reporting and detected anomalies / alerts.			
20	The system must generate real-time or past detected anomaly reports in pdf or XML format.			
21	The system must generate real-time or past traffic reports in pdf, XML or CSV format.			
22	The system must allow for customization of UI reports such that screens can be merged, content can be specified, and different user views can be defined.			
23	The system must allow for configuration rollback to previous versions of the configuration or for a return to the last saved configuration			
24	The system must show an audit trail for configuration changes that shows when changes were made and by whom.			
25	The system must provide an XML/SOAP API for extracting report data and integration with other software/systems.			
26	The XML/SOAP API must allow changes to the base system configuration, such as adding/removing/changing user accounts.			
Status Monitoring and Alerting				
27	The appliances must be SNMP pollable (v1, v2c or v3) for load information.			
28	The system must allow the comparison for Flow and SNMP derived statistics for each interface, to help ensure flow data accuracy.			
29	The system must be able to generate SNMP traps when netflow from a router is interrupted and restored.			
30	The system must be able to generate an alert due to a system error / over-load condition e.g. process error, CPU load, high memory consumption etc..			

31	The system must be able to generate SNMP traps and/or syslog messages to external monitoring systems for severe anomalies, system events, or other traffic/routing based issues.			
32	The system must support rule based notification where administrators can define notification criteria based on resource and anomaly severity.			
33	The system must provide access to a syslog file that can be used in troubleshooting issues.			
34	The system must allow for manual or scheduled incremental backup of database information			
Network Threat Detection and Classification: Anomalies, Detection				
35	The system must be able to detect bandwidth, packet and or protocol anomalies towards/from defined monitored entities and services in the system, including IPv6 monitored entities.			
36	The system must be able to baseline traffic to/from a configured monitored entities or service and dynamically learn long-term changes in expected traffic as changes occur, including IPv6 monitored entities.			
37	The system must determine the importance of anomalies based on impact to network. At least three importance levels must be supported: low, medium and high severity, including IPv6 monitored entities.			
38	The system must provide flexible ways of setting severity classification thresholds for monitored entities and services including: manual configuration by the user; automatic calculation by the system based on applying user specified criteria to normal traffic levels seen for that managed entity.			
39	The system must allow users to set detection sensitivity per managed entity or service for bandwidth, protocol and packet detection with settings ranging from very sensitive to very insensitive, including IPv6 monitored entities.			
40	The system must support misuse anomaly detection by tracking and alerting when certain traffic patterns towards individual hosts exceed what is considered normal Internet usage. These traffic patterns include TCP SYN, TCP RST, TCP Null, ICMP, IP Null, IP Fragmented, DNS, UDP and IP private address traffic, including traffic to/from IPv6 host			

41	The system clearly identifies the start time and duration of an anomaly, its type, importance, on-going traffic pattern, and the managed entity under threat if applicable.			
42	The system must display the overall impact of an anomaly, as well as on a per-interface basis by bit rate and packet rate.			
43	The system must show a basic characterization of the anomaly showing what components were predominant. These must include IPv4/IPv6 address blocks, IP protocols, IP protocol ports or types, and TCP flags, and must include both source and destination components.			
44	The system must identify all monitored routers affected by a network anomaly, and each affected ingress router interface			
45	The system must display anomaly details for the entire anomaly or for any minute of time during that anomaly.			
46	The system must provide IP address identification using WHOIS lookups and/or DNS resolution.			
47	The system must allow users to classify an anomaly, choosing from pre-defined options e.g. Possible Attack, False Positive etc.			
48	The system must allow for automatic download of fingerprints from a central server. These fingerprints will point out specific threats that are active within the monitored network.			
49	The system must give users the ability to create a Fingerprint entity based on a user defined Flow filter.			
50	The system must give users the ability to set high / low thresholds for alerting on traffic which matches a Fingerprint entity at the network border.			
51	The system must generate Fingerprint alerts, when a threshold is violated showing: a summary of traffic matching the Fingerprint, traffic per Peer, traffic per user and a list of top hosts responsible for the traffic matching the fingerprint.			
52	The system must be capable of providing alerts when an interface exceeds a configurable percentage of utilization.			
53	The system must be capable of providing alerts when an interface goes below a configurable percentage of utilization.			

54	The system must be capable of providing alerts when traffic matching a Managed entity exceeds a configurable utilization threshold.			
55	Solution/system should protect from multiple attack vectors on different layers at the same time with combination OS, Network, Application, and Server side attacks.			
56	The solution should have the capability to be configured in detect as well as protect mode.			
57	The solution should have the capability inspect, detect and mitigate IPv4 & IPv6 Attacks			
58	The solution should have the capability inspect, detect and mitigate IPv4 & IPv6 Attacks			
59	The system should be capable to mitigate and detect both inbound and outbound traffic.			
60	System should have capability to detect and prevent zero-day DoS/DDoS flood attacks.			
61	System should have the capability to detect and protect attacks like brute force, amplification, active botnets, active DDOS campaigns based on IP reputation etc.			
62	The system must be capable of providing alerts when traffic matching a Managed entity goes below a configurable utilization threshold.			
Portal/User interface Services				
63	The system must allow the configuration of Resource Groups which can be assigned to User Account Groups. Resource Groups define the Managed entity(s) which scope a user login.			
64	The system must allow the assignment of customized UI views to User Account Groups.			
65	Portal users must be limited to a scoped view of the traffic monitored by the system. Only traffic / alert information relevant to the assigned Managed entity(s) will be visible.			
66	Portal users must be able to change their own password.			
67	Portal administrator users must be able to create profiles within their scoped view.			
68	Portal users must be able to create detection groups with specific detection settings within their scoped view.			
69	Portal users must be able to view traffic reports for their scoped view and their			

	configured profiles including application, protocol and top talker reports.			
70	Service Portal users must be able to view all on-going and recent anomalies from within their scoped view.			
71	Service Portal users must be able to view all on-going and recent mitigations, relevant to associated Managed entity(s), from within their scoped view.			
72	Service Portal users must be able to view all system alerts, network and infrastructure traffic reports. Managed entity reports should be constrained to the specified Resource Group Monitored entities.			
73	The system must provide a Customer Alert Dashboard summarizing alert activity relevant to the portal user. The Dashboard must be viewable by the system administrator as well as the portal user.			
74	Portal users must be able to delete anomalies from within their scope.			
75	Portal administrator users must be able to create other portal user accounts.			
76	Portal users must be able to save configuration changes made to the system within their scoped view.			
Management				
77	The system must provide SYSLOG, SNMP or SMTP notifications for the starting and stopping of mitigations and during any fault or service degradation			
78	The system must be capable to divert selective traffic for mitigation			

18. ANTI-VIRUS Services for Cloud DC & DR				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Details of Reference Document for verifying compliance	Reference Page No
1	Anti-virus software engine should be installed on all servers/VM's			
2	The anti-virus software shall be kept current by obtaining the latest updates at regular intervals.			
3	All servers and desktops should automatically update the virus definitions from centralized server on daily basis.			
4	The antivirus solution should protect against all kinds of viruses, Trojan horses and worms including: boot sector, master boot sector, memory resident, file multipartite, macro, stealth and polymorphic			
5	The antivirus solution should provide scanning capabilities such as:			
6	On access scanning			
7	Real time scanning			
8	On-demand scanning			
9	Scheduled scanning			
10	Heuristic scanning			
11	Compressed file scanning			
12	Firewall			
13	The anti-virus should provide protection for critical system by blocking blacklisted applications.			

18. ANTI-VIRUS Services for Cloud DC & DR				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Details of Reference Document for verifying compliance	Reference Page No
14	Bidder to ensure that the anti-virus solution should prevent malicious applications from inserting code into trusted applications.			

ANNEXURE 3

INDICATIVE BILL OF MATERIAL

1 Indicative Bill of Material

The following section provides a minimum indicative list of bill of material for the project. Bidder shall make its own independent assessment to meet the desired service levels as stated in Volume III of the RFP. However, the final bill of material will not be lesser than what has been provided in this section.

1.1 Central System

Cloud DC DR Bill of material			
#	Item	Min. Indicative	Min. Indicative Quantity of VMs at Disaster recovery Site
		Quantity for VMs at Primary Data Center Site	
1	Edge Server	2	Functional DR with at least 50% compute capacity and 100% storage as that of Primary site.
2	Web Server	4	
3	Database Server	2	
4	Application Server	2	
5	Directory Server	1	
6	Reporting Server	1	
7	Log Server	1	
8	Integration Server	1	
9	Storage Manager Server	1	
10	EMS Server	1	
11	Helpdesk Server	1	
12	Backup and Archival Server	1	
13	Staging Server	1	
14	Database Storage	5 TB	
15	Server Storage	Per Server 200 GB	
16	SLA monitoring Server	1	
17	Firewall As a service	1	
18	Intrusion Prevention System (IPS) as a service	1	
19	Load Balancers	2	

1.2 DGS, Head Office, Mumbai

Central Office Bill of Material (1 Location)			
#	Equipment / Parts	Qty per Location	Total Qty
1	Workstations	110	110
2	Multifunctional Printers	10	10
4	LAN Unmanaged Switch L2 24 Ports	5	5

Central Office Bill of Material (1 Location)			
#	Equipment / Parts	Qty per Location	Total Qty
5	UPS with 60 minutes Battery Backup	1	1
6	Router	1	1
7	Laptops	10	10

1.3 DGS MMD offices

Regional Office Bill of Material (14 Locations)		
#	Equipment / Parts	Total Qty
1	Workstation	210
2	Router	14
3	LAN Unmanaged Switch 8 Ports	14
4	UPS with 60 minutes Battery Backup	14
5	Multifunctional Printers	25
6	Laptops	35

1.4 DGS Other offices

Other Office Bill of Material (13 locations)		
S No.	Equipment / Parts	Total Qty
1	Workstation	55 (approx.)
2	Router	13 (approx.)
3	LAN Unmanaged Switch 8 Ports	13 (approx.)
4	UPS with 60 minutes Battery Backup	13 (approx.)
5	Multifunctional Printers	15 (approx.)
6	Laptops	35 (approx.)