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RajCOMP Info Services Limited (RISL)

Guidance Notes for Preparation of Bid/ Contract Documents for **System Integration** (SI) Projects

This document provides a broad framework and guidelines for RajCOMP Info Service Limited Staff in carrying out various procurement activities.

Overview	**Procurement Policy Manual for RajCOMP Info Services Limited**
Document Title	RajCOMP Info Services Limited (RISL) – Guidance Notes for Preparation of Bid/ Contract Documents for System Integration (SI) Projects
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Abstract	This document provides a broad framework and guidelines for RajCOMP Info Services Limited Staff in the preparation of various Bid/ Contract documents.

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List of Abbreviations and Acronyms

AMC	Annual Maintenance Contract
ATS	Annual Technical Support
BG/ PBG	Bank Guarantee/ Performance Bank Guarantee
BoD/ Board	Board of Directors of RajCOMP Info Services Limited
BOM	Bill of Materials
BPM	Bid Process Management
BPR	Business Process Re-engineering
CAPEX	Capital Expenditure
CMC	Contract Monitoring Committee
COTS	Commercial Off The Shelf Software
CSC	Common Service Center
CSPO	Central Stores Purchase Organisation
DGS&D	Director General of Supplies and Disposal
DoIT&C	Department of Information Technology & Communications
DPR	Detailed Project Report
ED	Executive Director
EMD	Earnest Money Deposit
EoI	Expression of Interest
ERP	Enterprise Resource Planning
FBS	Fixed Budget Selection
FMS	Facility Management Services
FP/ FB	Financial Proposal/ Bid
FRS	Functional Requirement Specifications
G2B	Government to Business
G2C	Government to Citizen
G2G	Government to Government
GCC	General Conditions of Contract
ICT	Information & Communications Technology
IFB	Invitation for Bids
IPR	Intellectual Property Rights
IS	Information System
IT	Information Technology
ITB	Instruction To Bidders
ITIL	Information Technology Infrastructure Library
KRA	Key Resource Area
LAN	Local Area Network
LCS/ LCBS	Least Cost Selection/ Lease Cost Based Selection
LD	Liquidated Damages
LoI	Letter of Intent

MAF	Manufacturer Authorisation Form
MD	Managing Director
MIS	Management Information System
MMP	Mission Mode Projects
MTBF	Mean Time Between Failure
NIT	Notice Inviting Tenders
OEM	Original Equipment Manufacturer
OPEX	Operating Expenditure
P2P RF	Point-to-Point Radio Frequency
PC	Procurement Committee
PeMT	Project eMission Team
PM	Preventive Maintenance
PO	Purchase Order/ Purchase Officers
POA	Power of Attorney
PoC	Proof of Concept
PPR	Preliminary Project Report
PQ	Pre-Qualification
PSU	Public Sector Undertaking
QBS	Quality Based Selection
QCBS	Quality cum Cost Based Selection
RajCOMP/ RISL	RajCOMP Info Services Limited
RC	Rate Contract
RFP	Request For Proposal
RFQ	Request For Quotation/ Quote
SAN	Storage Area Network
SD/ PSD	Security Deposit/ Performance Security Deposit
SDC/ RSDC	State Data Center/ Rajasthan State Data Center
SeMT	State eMission Team
SIP/ SI	System Integration Partner/ System Integrator
SLA	Service Level Agreement
SME	Subject Matter Experts
SoW	Scope of Work
SPOC	Single Point of Contact
SSS	Single Source Selection
SWAN	State Wide Area Network
T&C	Terms & Conditions
ToR	Terms of Reference
TP/ TB	Technical Proposal/ Bid
VAT	Valued Added Tax
VPNoBB	Virtual Private Network Over Broad Band
VSAT	Very Small Aperture Terminal

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1. Guidelines for Preparation of RFP for selecting Implementing Agencies (other than consulting agencies)

1) INTRODUCTION

a) Preparation of bid documents for any procurement should be done after obtaining the approval of the SeMT/ MD and issuance of the administrative and financial sanction. In case of complex IT projects, a Detailed Project Report (DPR) must be prepared and got approved by the competent authority of RISL (SeMT/ MD) before the administrative and financial sanction is issued. For projects executed on behalf of client organisations and departments, acceptance of the Department/organisation concerned should be taken on the DPR and the biding process should be initiated only after receipt of a letter for commencement, preferably accompanied with some advance payment.

b) As far as possible, IT project should be conceived as a turnkey project and all its components like software development, infrastructure creation, maintenance, training, FMS, etc should be outsourced to one vendor. Procurement of hardware should generally have maintenance services bundled with it. Similarly, software development must include third party audit, training and its FMS. How to deal with change requests should also be clearly mentioned.

c) A Request for Proposal (RFP) is issued at a stage in a procurement process, where an invitation is presented to the potential bidders, to submit a proposal on a specific service. The RFP process brings structure to the procurement decision and is meant to allow the risks and benefits to be identified clearly upfront, which the bidders can factor in while responding to the invitation.

d) The RFP is aimed towards selecting the most competent bidder with the economically advantageous price. The RFP directly addresses Government's need and intent to procure.

e) An RFP should be ISSUED under the following typical circumstances: -

- Scope of work and deliverables are standard, reasonably well known and/or can be clearly specified
- Typically involves time bound delivery
- Budget is known, approved OR availability of budget is assured
- Need to procure the most economical tender, through open competitive bidding - generate adequate buying advantage by ensuring competition amongst at least 3 to 5 bidders.

f) An RFP should be AVOIDED when: -

- Scope of work and deliverables are not well known (standard) and clearly defined

- There's lack of a known budget

- There is only one vendor which has the requisite skills to deliver the project

- When a rate contract has been done.

g) Before inviting bids/ proposals, the procurement authority should do the following:

- Assess the capability and maturity of the market by capturing details on the likely number of interested bidders/ suppliers and solutions.

- Try to identify at least 4-6 potential interested bidders/ suppliers in the similar domain.

This would ensure that the RFP being developed would generate an open, wide and fair competition & the Government would get best economical deal from the best value bidder/ supplier.

h) The RFP document would generally contain the following sections/ chapters, although they may vary as per the nature and type of the project.

S.No.	RFP Chapter/ Section	Desirability
1	Abbreviations/ Acronyms and Definitions	Mandatory
2	Invitation of Bids (IFB) and Notice Inviting Tender (NIT)	Mandatory
3	Eligibility Criteria	Mandatory
4	Background Information	Optional
5	Scope of Work (including technical architecture, if required)	Mandatory
6	Bidding Process	Mandatory
7	Terms & Conditions (T&C) of the Bid and/ or Contract a) General T&C (including Legal entities) b) Special T&C (including Service Level Standards and Terms of Payment, Change Request mechanism, Project extension etc.)	Mandatory
8	Various required formats in the form of Annexure like: - • Pre-Bid Queries Format • Bidder's Authorisation Certificate • Bidder's Self Declaration • Certificate of Conformity (No Deviation Statement)	Mandatory

- Bank Guarantee Format

- Manufacturer's Authorisation Form (MAF)

- Bill of Material Format

- Technical Specifications Format

- Draft Agreement Format, etc.

2) ABBREVIATIONS, ACRONYMS & DEFINITIONS

This should include all the abbreviations and acronyms along with their meanings as mentioned in different sections/ chapters of the RFP document. Definitions of important terms would also be mentioned in this section/ chapter. They should be sorted in alphabetical order.

3) INVITATION FOR BIDS (IFB) & NOTICE INVITING TENDER (NIT)

a) The purpose of the IFB is to give the bidders a brief overview and a quick look of the entire RFP which would help him to decide whether or not to participate in the bidding process.

b) Hence, the IFB should be very comprehensive and in simple and unambiguous language using common terminology of the IT industry so that these may be easily understood by the prospective bidders.

c) Following this should be the Notice Inviting Tender (NIT), giving details like the Cost of the Tender/ Bidding document, Estimated Project Cost, EMD, Period of Sale of Bidding document, Date/ Time/ Place of Pre-Bid Meeting, Submission of Bids, Opening of Pre-qualification/ Technical/ Financial Bids and websites for downloading the bidding document.

d) The RFP document should also include a copy of the advertisement (as published in the newspapers) whereby bidders/ suppliers are invited to submit their bid.

e) In case of eTender/ eBid, the IFB should clearly mention the same and accordingly the NIT may be updated as per the details available on eProcurement portal.

4) BACKGROUND INFORMATION

a) The RFP should give project details around the need for the subject matter of procurement, the Government programme/initiative for which the procurement is to be made, the objective of the government programme/ project/ initiative in terms of business challenges and issues faced, how the subject matter of procurement is a necessary component of the whole program/ project/ initiative, etc.

b) If the procurement is for a project, a brief profile of the project should be given. A project profile is a simplified description (brief summary of 2-3 pages only) of an eventual project i.e. snapshot of the project. In addition to defining the purpose and ownership of the project, it should present various aspects like: -

- Brief introduction of the thematic focus/ project objectives
- Need and benefits
- Funds approval and its availability for project
- Brief technical solution requirements and scope of work
- Project dependencies (if any and that could affect the deliverables & timelines of the project)
- Implementing and participating agencies (Stakeholders and their involvement details)
- Target group (Audience/ Beneficiaries)
- Expected accomplishment from the project (Project Outcome)

c) Project Profile may not be required for small procurements related to office equipment or other small components of a project.

d) It is also advisable to give a brief description of the organisation for which the procurement is being carried so as to enable the bidder to understand the requirements and resources of the organisation and better conceptualise and design the solution.

5) ELIGIBILITY CRITERIA (PRE-QUALIFICATION CRITERIA)

5.1. General Principles

a) The Eligibility/ Pre-Qualification (PQ) criteria set out in any RFP document aims to invite proposals from the genuine contenders and solution providers. A market survey/ research should normally be done prior to establishing the eligibility criteria to ascertain the entities competent to provide the subject matter of procurement.

b) The guidelines to keep in mind when establishing a set of eligibility criteria are: -

- They are fair and non-discriminatory
- PQs are focused towards quality of solution and bidder competence, while ensuring sufficient competition
- Ensure that the PQ criteria or conditions to participate in the bidding process are flexible and practical.
- PQs have direct and perceptible linkage with scope of work, project's financial worth and risk

c) After significant research and deliberations on eligibility criteria, the following advisory has been prepared. It is suggested that these should be followed under normal circumstances to prevent the eligibility criteria from becoming restrictive in nature.

5.2. Financial Stability: Sales Turnover (IT/ ITeS) and Net worth

a) Financial stability of a bidder is vital for large CapEx and OpEx projects. Sales Turnover from IT/ ITeS and Net worth requirements should be included for turnkey projects that require significant initial investments from the bidder and reasonably high levels of operating expenditure. In such projects, the Sales Turnover from IT/ ITeS multiplier used for bidder should be around 10 times of the total estimated cost of the project and the Net Worth requirements for bidder and consortium partner (if allowed) should be set as "Positive".

b) Since Sales Revenue is a criterion to assure the Government about the financial strength of the bidder, the Government entity/department may, instead of using Sales turnover and Net worth as criteria to assess the financial strength of a bidder, choose an increased amount of Performance Bank Guarantee (PBG) as a replacement to provide assurance.

5.3. Project Experience: Number and Value of Projects

a) The PQ for project experience required from the bidder with reference to the context of the solution to be delivered, as defined in the tender document, should aim to achieve the following:

- **One project** of similar nature costing not less than the amount equal to 80% of the estimated total cost of project to be awarded or

- **Two projects** of similar nature, each costing not less than the amount equal to 50% of the estimated total cost of project to be awarded, in case, there are not sufficient potential bidders who have executed work costing at least 80% of the estimated project cost.

b) The following should also be ensured:

- Definition of "similar work" should be clearly defined with references to domain, sector or industry and functional area of scope of work.

- Also anything more specific than this requirement, may result in restricting competition and should be done when only for cases when there is significant justification for its requirement.

5.4. Certifications

Certification requirements (Quality, Capability maturity, etc) should be linked purely with the mature of work being delivered on the project. The following should be understood in this regard: -

Certification	Purpose and Advisory
ISO 9001:2008	ISO 9000/ 9001 certification is a certification required for quality systems. It provides a set of generic requirements relating to the processes of development and production, and how they will be managed, reviewed and improved in order achieve customer satisfaction. This is a basic hygiene check for a company bidding and should be a requirement in normal case. Hence, this certification is relevant for turn key projects needing industry accepted quality management standards for the processes and transactions involved in solution delivery.
(SEI) CMMI	This is relevant for projects where software implementation or application development is being done. Following shall be the basis of mentioning the appropriate CMMi Level certification in the RFP. • If estimated cost of application software development is >Rs. 100 Lacs then CMMi Level 5 • If estimated cost of application software development is > Rs. 25 Lacs & <= Rs. 100 Lacs then CMMi Level 3 • If estimated cost of application software development is upto Rs. 25 Lacs then ISO 9001:2008 Certification
ISO/IEC 20000	This is relevant where project is more oriented towards FMS/ service management.

The procurement agency should ensure that mandating any certification should add value to the RFP and should not lead to limiting the competition.

5.5. Legal Entity

a) Bidder registered under Indian Companies Act 1956/ Indian Partnership Act 1932 is one of the PQ criteria in the RFP. This may limit the competition to a few Indian firms for assignments of specific size or may not generate response from bidders which may have a niche in a specific area. Hence, proprietary firms may be allowed in certain cases.

b) In case of listed companies, it may be noted that Power of Attorney's (POA) of the listed companies are made with the approval of the Board of the Company. Board's approval is a time consuming process and hence it is not possible for having customized POA's for every tender. Hence, the POA of a listed company should be accepted in the format available with the bidding firm, as long as it authorizes the signatory to sign on the bid documents on behalf of the company.

5.6. Consortium

a) The pros and cons for allowing a consortium to bid should be kept in mind while deciding about the eligibility of the consortia.

b) It has been observed that in many cases, the detailed understanding of the roles and responsibilities between the consortium members gets finalized after the bid has been won. This leaves a lot of "grey" areas for the procurement authority as it may be completely oblivious to the details terms and conditions between the consortium members at the time of evaluation of the bids. Allowing a consortium thus runs the risk of disputes among the consortium partners derailing the project. It can also lead to an inexperienced or weak party winning the bid on the strength of a strong but silent or dummy partner.

c) On the other side, Consortiums also bring value to the end client as it allows the lead bidder to leverage the strengths of the other co-bidders (Consortium members) and also ensure their commitments. Consortiums, it should be noted, are mostly encouraged to allow multiple (different) Vendors to participate in Government projects for the capital, sharing the risks, skills, resources, maturity and the characteristics of the market, facilitating participation of smaller vendors, facilitate the company to protect its core interests and Intellectual Property rights or trade secrets or copyrights.

In such a situation, it is suggested that the RFP should be structured in such a manner which allows or disallows the consortium based on the "value" (in terms of specialised skill set or enhanced competition) brought in the procurement process.

d) In case the procurement authority feels that the PQ are generic, it may not allow for the participation of the consortium. However, in this case, it should be ensured that there would be at least 4-6 bidders which will meet the PQ & Technical evaluation's minimum requirements.

e) If consortium partners are allowed, possibility of allowing the consortium partners other than the lead partner only for specific tasks may also be explored so that complex and critical tasks are performed only by the strong/ lead bidder, whereas smaller and simple tasks can be done by the consortium partners.

f) It is suggested that Consortiums, for SI projects, should be allowed if it meets any of the following conditions: -

- The value of the project is Rs. 5 Crores (Rupees Five Crores) or more and in case, the bidder does not have a CMMi or ISO/ IEC 20000 certification.

- There are very few potential bidders which do not have all the desired competence as single entity required to execute the entire project

g) The RFP should lay down following essential conditions, if the consortium is proposed by the bidder: -

- Consortium should be allowed with ONE company only.

- Any member of the Consortium should not be allowed to bid in any other capacity.

- The sample Consortium Agreement should be annexed in the RFP document and should also be ensured that it is submitted along with the Bid. It should also clearly spell-out the roles and responsibilities of every member i.e. lead bidder and the consortium partner.

- The eligibility criteria, as mentioned in Clause(s) 5.2 to 5.5 above, should be clearly specified for Lead Bidder and Consortium Partner. In such a case, all the above criteria shall have to be fulfilled by the lead bidder except for CMMi and/ or ISO 20000 Certification which will be satisfied by the consortium partner. Additionally, the cosnortium partner should satisfy the eligibility requirements mentioned above at S.No. 5.2 (Networth only), 5.4 (ISO 9001:2008, CMMi, ISO 20000 Certification), and 5.5 including the Tax registration and clearance and No-Blacklisting certificate.

- The lead bidder should be required to do majority (>50%) of the work and the consortium partner remaining work like S/w development and/ or FMS.

- The lead bidder and consortium partner should be jointly and severly liable for the entire scope of work and risks involved thereof. However, the lead bidder should be responsible for overall project management.

- The non-lead bidder (consortium partner) should be liable for the scope of work for which they are responsible along with the lead bidder.

- Any change in the consortium at a later date should not be allowed with prior permission from the tendering authority/ purchaser.

- While evaluating the bids, it should be ensured that the S/w development activity is undertaken by the firm (Lead bidder or Consortium Partner) having requisite CMMi certification and in Consortium agreement as submitted, this activity should be assigned to the entity having requisite CMMi certificate.

- Similarly, FMS/ Service management activity is to be undertaken by the firm (Lead Bidder or Consortium Partner) having ISO 20000 certification and should also be included in the consortium agreement.

5.7. Manpower strength

a) Availability of minimum number of technical/ non-technical manpower with the bidder, whose educational qualification/ professional certification and/ or experience can also be specified.

b) In general, Manpower requirements (restrictive numbers) should NOT be applicable to Systems Implementation/ System Integration projects, as before or during delivery the resources can be hired by the bidder and deployed on such large projects. However, the same may be mandated, when the requirement of manpower is more than 20 resources on full time/ near full time.

6) SCOPE OF WORK (SoW)

6.1. One or Multiple RFPs

a) It is quite common in the Government to club the entire scope of work into one RFP document. The benefit being that there is only one vendor who would be responsible for ensuring the end-to-end solution. However on the other side is if all the scope of work is clubbed together without defining the specifications of the end deliverables, the output received is often a sub-optimal one. This happens because of the following reasons:

- The bidder tries to reduce the cost to the extent possible. Hence if the bid asks for a computer table and a chair without providing details on the quality certification and warrantee, the cheapest available products would be quoted for. So in case a generator of any capacity is required, he would always quote for petrol Gen-set, as it is cheaper, but which may not be the most economical solution in the long run.

- The bidder may not be an expert in procuring and/or delivering anything distant from its area of business/ competence (civil constructions, modular furniture, generator, data entry etc.).

- The prices which would be available to bidders for such products would be not based on bulk purchase; hence, there may be no real price advantage. Further the bidding organization will put in some margin of their own.

- There is lesser ownership of the concerned officer (may be at a junior level) for specific modules of the project. For e.g. if data entry has to be done by the successful bidder, he would generally faces issues in getting the quality check done and certified for the data entered by him. However if the data entry agency is selected through a separate RFP process by complete ownership of

the officer responsible for the data entry, it would have a better chance of "owning" the quality of data entry.

b) Before deciding on the scope of work for a particular RFP, there should also be an evaluation / analysis done on how the System Integrator vendor can provide cost effective deliverable for activities which are not core to their profile, for e.g. Site preparation, Data Digitization, Training etc. In the following situations, the RFPs should be segregated:

- There is a expertise available within the procuring organisation for the procurement OR conversely, the bidding agencies do not have expertise in the procurement of the item
- There is no confusion on the point of failure (for e.g. if a software fails to work, the problem could be lack of clarity on the point of failure - hardware, network, software etc. However if the data entry or a furniture has problems, there is no confusion on the point of failure).
- The quality of product being procured can be compromised with.

c) In other cases, it should be clubbed in one RFP. However if two or more work are clubbed then SOW should clearly specify end-deliverables (o/p) of each of the individual assignment, so that focus is not only on the end deliverables but on output at all stages.

d) In case the procurement authority has decided to club various areas of work in one RFP, it should consider the following :

- In cases where "Indicative specifications" are being provided, it should be ensured that the specifications are available with multiple OEMs. Moreover, indicative specification should be done after the capacity balancing to ensure optimal usage of the hardware.
- The Scope of Work should not include activities / hardware, cost of which cannot be quantified. For example, the effort estimation for making changes in the software on introduction of a new service/ module should not be within the scope of work. It should be taken up as "Change Request" subsequently. This would minimize the cost and risk for both the parties.

6.2. Template for Summary of Scope of Work

a) Scope of Work (SOW) is the most of important component of any tendering process. It is for this that the whole bidding process is entered – to execute the scope of work and deliver outcomes that the Government strives for. Hence, in developing the SoW, it is important to ensure that the statement of work is comprehensive and sufficiently detailed, but that the statements do not duplicate terms and conditions or other provisions elsewhere in the solicitation or contract. If requirements are not completely defined and described and if there is no effective change control in a project, scope or requirement creeps (i.e. incremental expansion of the scope of a project,

which may include and introduce more requirements that may not have been a part of the initial planning of the project) may ensue.

b) Scope of work directly affects: -

- Time to deliver the project
- Cost of delivering the project
- Intended business outcome for the Government
- Delivery of Citizen benefits/services

c) For System Integration projects, drafting Scope of Work involves the following tracks: -

- Software development (Custom Application), Implementation (COTS/ERP)
- Hardware Installations
- Networking Installations
- Data Digitisation
- Training and Change Management
- Site preparation
- Handholding support
- O&M Support (Inclusive of Manpower Provisioning)

d) An illustrative format for laying down the summary of the above scope of work is given below -

S.No.	Project Tract	Deliverables	Timelines (from date of work order)
0	**Project Initiation & Solution Design**	Suggesting Re-engineered processes (as per the industry's best practices) after studying & validating the existing documents Software Requirement Specifications & Design Documents In case there is decision or clear reason to choose a COTS product/software, performing mapping report of COTS product with the FRS / To-Be processes as defined in RFP Deployment plan including the testing & acceptance plan Hardware Requirement Report & procurement plan	
1.	**Development / customization and implementation of the Software Solution to meet**	Development / customization and implementation of the <Phase No.> modules Development / customization and implementation of the <Phase No.>	

	the requirements of the Client	modules…	
2.	**Procurement, deployment and commissioning of the necessary Hardware at various define locations**	Deployment of the hardware in appropriate quantity and as per the specified technical specifications at the appropriate locations to support functioning of <Phase No.>	
		Deployment of the hardware in appropriate quantity and as per the specified technical specifications at the appropriate locations to support functioning of <Phase No.>	
3.	**Procurement, deployment and commissioning of the necessary Networking equipments and Connectivity**	Deployment of the necessary networking equipments and connectivity as per the requirements to support functioning of <Phase No.>	
		Deployment of the necessary networking equipments and connectivity as per the requirements to support functioning of <Phase No.>	
4.	**Data Entry and digitization of the records available in the paper files and migration of the data available in the existing databases**	Digitized and verified data for <Phase No.> modules	
		Digitized and verified data for <Phase No.> modules	
5.	**Training to the staff members and stakeholders of the Corporation and necessary**	Satisfactory training sessions to the staff members of the <Name of the Nodal Agency> for the <Phase No.> modules	
		Satisfactory training sessions to the staff members of the <Name of the Nodal	

e) Details on each of the above mentioned tracks of scope of work should be provided in the following format:

Brief Background	<Brief Description of the Track>
Scope of Work and Activities to Perform	<Detailed Scope of Work for the Track>
Deliverables and Estimated Timelines	<List of Deliverables and associated timelines for each>
Service Levels (if applicable)	<Service level requirement for each solution/Track delivered>

f) The RFP should provide a information with requisite details which can help in the bidders estimating the right effort & solution. This template needs to be provided to ensure that:

- Appropriate (beyond intuitive) level of details provided
- Performance requirements are detailed rather than technical specifications
- Clarity in In-scope/ Out-scope definition
- Scalability requirement (beyond a statement of intent)
- Interoperable requirement (beyond a statement of intent)
- Open Standards

g) This needs to be provided with respect to each component of the RFP. Based on experiences from E-Governance projects, it is learnt that the following types of Scope of Work meet the requirements for most of the RFPs. The exact nature of work would be specific for each project; however, the effort here is to set standards for providing information in the RFP, so that the bidders are able to design the solution most apt for the situation. The Guidance Notes provide e-Governance RFP information provisioning standards for the following:

- Application Requirements (Functional and Non Functional)
- Hardware
- Networking
- Capacity Building & Training
- Site Preparation
- Data Digitization
- State Data Centre (if applicable)
- Operations & maintenance support for the above activities.

6.3. Template for Software application

a) The selected Systems Implementation Partner (SIP)/ System Integrator (SI) should be responsible for the following: -

i. Develop/ customize and Implement the Software Solution (keeping the bespoke development to the minimum) as per the requirements of RISL. The bidder will ensure that the Best Practices for Software Development are used during the software development/ customization and implementation phase.

ii. The SI will be solely responsible for arranging any software tools required during the development of the software application at his own cost and RISL, in no case, will be responsible for arranging any such software/ tools.

iii. Supplying and implementing the database and related software, integration tools and describing the process to be followed for installing the same. <The RDBMS proposed should be from one of the top 5 as per the latest IDC/ Gartner report>.

iv. The SI will ensure the validation of the Software solution deployed from the OEM of the solution to ensure that the best possible solution/ specifications/ methodology has been used for implementation of the given solution. This validation should cover (but not limited to) Hardware sizing, Certification of Installations, System Integration, Solution quality and Certification of System Performance (to maintain SLA) before go live.

v. Integration of all the application modules for seamless sharing of data across the systems.

vi. MIS Reports: The SI would be required to provide/ facilitate centralized MIS reports to meet the reporting requirements. The SI will also ensure anytime-anywhere availability of these MIS reports. Various MIS reports, but not limited to, required for the project have been detailed as a part of FRS in the RFP document. For MIS reporting system the SI will ensure that: -

   a. The MIS system should be able to export the report data to industry standard read- only formats, word processing, spreadsheet etc.,

   b. The MIS reports should be dynamic in nature and should provide the user the freedom to select the data fields as per his/ her requirements,

   c. The books of accounts and other statutory reports should be available for audit by the <CAG or RISL> or its agencies,

   d. Map the default reports of the selected Software Solution with the actual requirements of the project and will develop the additional reports which are not available as part of Software solution,

   e. Develop any other MIS reports required by RISL or its stakeholders from time-to-time.

vii. Develop and implement a suitable Payment Gateway to meet the requirement of online financial transactions. It will be the sole responsibility of the SI to tie-up with banks/ payment aggregator for arranging the payment gateway at his own cost.
   OR
   Integrate the developed application with an existing payment gateway at RSDC/ SDC.

viii. Develop and implement the enterprise portal for the RISL or its stakeholder, as per the best practices for portal development, meeting the requirements (as specified in the FRS).

ix. Carry out the intermediate and final testing of the configured solution and obtaining sign-offs from Stakeholders.

x. Coordinate and provide necessary support for acceptance testing and systems audit (functionality, process, performance & security controls) to be performed by a third party to be nominated by RISL.

xi. Implement necessary access security and data validation controls during the development of the software application.

xii. Preparation of necessary User and Trouble Shooting manuals for the Solution.

b) The Functional and Technical Architecture of the proposed solution has been detailed <reference to annexure>. While the proposed architecture has been provided in the RFP, the selected SI will have to validate/ re-design the architecture as per the needs to the solution. The list of software modules which SI will implement as a part of the project shall be as follows: -

• Modules to be developed in Phase X:

……..
……..
……..

• Modules to be developed in Phase Y:

……..
……..
……..

Please Note:

✓ The detailed FRS along with MIS requirements for all the above mentioned modules have been detailed out and are available at <Annexure-XX>

✓ The name of the modules should be read along with the Functional Requirements specified in the documents. The Functional Requirements defined in this RFP are as per the requirements of RISL or its stakeholder, which may or may not meet the exact functionalities of the proposed Software solution provided by the bidder. Hence, the bidders are suggested to study the requirements and do a due diligence while proposing their solution and accordingly map the requirements with the proposed Software products.

✓ SI should ensure that the system supports the <Languages> for data input and output.

c) The module wise users for the above mentioned list of modules is as follows:-

S. No.	Name of the module	Est. Users (for design purposes) (Nos.)
1.		

2.		
3.		

6.3.1. Standard Template for Functional Requirements

For a solution being proposed by the bidder, the following information should be sought and detailed as part of the Functional Requirements Specifications (FRS).

i. At an overall level, each Module, key sub-modules (or any process) need to be detailed out as follows: -

Purpose:
KRA of Process:
KRA of Sub-Process:

ii. The "Swim Lane" or the Cross-Functional Flow Chart diagram for each sub-process has to be provided with the following information superimposed on the diagram.

Database	Paper File
Activity using computer	Activity using system
Decision using computer	Manual operation
Flow among other divisions	Flow-in to concerned divisions
Flow-out from concerned divisions	Page reference
Reference document	

iii. The sub-process needs to be detailed out by providing information in the following format (provided purely as Illustration/ example): -

Detailed Process Flow				
Process Steps	**Responsibility**	**Timelines**	**Reference Docs**	**System Interfaced**
System generates automatic alerts and reminders against agreement renewal, 30 days before agreement expiry date				
Citizen submits renewal fees				
In case agreement is not renewed by the Tehsildar as per the norms, system automatically starts the process of Application Closure				
Cashier receives the payment and updates the system				

	Payment Receipt process is invoked				

iv. Based on the above, the Application may be defined as modules and sub-module. Each sub-module identified should be detailed to provide expected functionalities with expectations on its integration with other module or sub-module – internal or external to the system. For illustration, the table is provided below: -

No.	Functionality	Priority (Essential/ Desirable/ Nice to have)	Integration Requirements	Compliance
1	System should generate alerts / reminders based on the Payment terms with the customer	D		
2	System should generate codes for new jobs / projects received by <department>	E		
3	Project/ Job codes be generated in user defined formats	E		
4	Project/Job Codes to be changed in future by adding suffixes and Pre-fixes	N		
5	Job / project code be treated as a cost center	E		
6	System to allow more than one cost centers mapped to job / Project code	E		
7	System to maintain a list of job / project codes in <department>	E		
8	System to store all transactions related to a job against the Job code	E		
9	System to maintain work completion certificate for a project	E		
10	System to maintain time sheets / records for the project	E		
11	System to generate Invoices for a project based on automatic capture of data	E		

v. Wherever required in the above template, it should go into the field level. Simply for illustration purpose, a table is provided below:

No.	Functionality (ILLUSTRATIVE)	Priority (Essential/	Integration Requirements	Available in

		Desirable/ Nice to have)		proposed ERP/ COTS
NN	System to allow for the following fields in the transaction record:	E		
	- vendor code	E		
	- vendor reference invoice number	E		
	- transaction reference for internal use	E		
	- invoice type	E		
	- terms	E	Name of the module with which this has to integrate	
	- invoice date	E		
	- invoice receipt date	E		
	- posting date	E		
	- due date	E		
	- period	E		
	- gross amount	E		
	- discount	E		
	- penalty deducted for late delivery	E		
	- other deductions	E		
	- net amount	E		
	- quantity	E		
	- unit price	E		
	- transaction currency	E		
	- currency rates	E		
	- payment method e.g. cheque, Internet transfer	E		
	- bank details	E		
	- narrative	E		
	- GL code	E		
	- hold information	E		

vi. Thereafter the reports which are required should be detailed out. [An illustrative example of the Reporting requirements of the process has been provided below purely for reference purpose]

No	KRA	Details of Report	Usage Level	Frequency	Template
		Reports			
1	Monitor status of Certificate Renewal	**Objective** To know complete status on agreement renewal **Purpose of the Report** Expedite the matters where agreement is not renewed **Key Attributes of the**	* Tehsildar * District collector	Monthly	Reference number of the report format

		Report ☐ Name of the Centre ☐ Name of the CSC ☐ Location of Centre ☐ Type of Centre ☐ Certificate Renewal Date ☐ Reminder Letters with dates – Sent/ to be sent/ No action taken ☐ Agreement Renewal Status – Renewed/ In Process/ Pending ☐ Action items/ Remarks			

The above structure has been proposed to avoid duplication of effort between the Consultant and the SI bidder and to reduce the time for implementation of the project.

6.3.2. Standard Template for Other Details (Non-Functional Requirements)

Tools for Capturing and Documenting Non-Functional Requirements: Use cases have been widely used to specify functional requirements. By simply extending use cases with a field for all the non- functional requirements associated with the use case, run-time qualities associated with particular functionality can be capture conveniently. Please refer to the illustration table provided below.

Use Case	Use case identifier and reference number
Description	Goal to be achieved by use case and sources for requirement
Actors	List of actors involved in use case
Assumptions	Conditions that must be true for use case to terminate successfully
Steps	Interactions between actors and system that are necessary to achieve goal
Variations (optional)	Any variations in the steps of a use case
Non-Functional	List of non-functional requirements that the use case must meet The nonfunctional requirements are listed in the form: <keyword> : < requirement> Non-functional keywords include, but are not limited to **Performance**, **Reliability**, **Fault Tolerance**, **Frequency**, and **Priority**. Each requirement is expressed in natural language or an appropriate formalism.
Issues	List of issues that remain to be resolved

RFP should also mention the legacy system if there has to be integration made to existing legacy system & solution should Support it.

6.3.3. Application Software Service Support and Maintenance

a) Support: There are generally two types of Application service support requests: -

   i. Administrative support requests: These are generally changes which has to be made in the software due to change in the administrative policy/ rules.

   ii. Technical Support requests. Examples of Technical Support requests include: -

   - System faults
   - Record errors, and
   - System exceptions and overrides (on a case by case basis).

b) System Monitoring: Bidders are required to demonstrate: -

   i. Processes to monitor the availability of online application services

   ii. Processes to alert when application services are unavailable, including the impact, contingencies and service restoration timeframe.

c) Support requirements

i. It is anticipated that support requests will be mitigated by the usability of the system, the provision of comprehensive online help tools and the initial and ongoing training assistance that will be provided.

ii. Hence, the RFP may detail mechanisms for the provision of the support requirements outlined above and are encouraged to detail any additional support they can provide, such as online ticketing systems, which will allow Domain Providers to track the resolution of support requests.

d) Support management: RFPs are required to detail how they propose to isolate, assess and respond to:

   i. reports of faults and incidents

   ii. requests for service improvements, and

   iii. requests from other users that may not be authorized to request changes

e) Procedures manual: The RFP may like to have a procedures manual for use, prior to the completion of go-live. The procedures manual will be subject to change control and acceptance. The procedures manual should include, but not be limited to:

   i. support request and complaint procedures

   ii. incident management and escalation procedures

   iii. change management and release management procedures having regard to the requirements set out in the Contract), and

   iv. a disaster recovery and business continuity plan. The procedures manual will also include Performa for:

      ✓ quarterly reports

      ✓ incident reports, and

      ✓ application change requests.

f) Service Maintenance: The Information which the RISL or the department may require may be specified upfront. This could include the following:

   i. the number of calls made to the help desk or for support

   ii. performance against the Service Levels

   iii. the number, impact, timeframe and resolution procedure of planned and unplanned outages that occurred during the reporting period

   iv. the number, nature and source of service/ support calls received in the reporting period

   v. the number and nature of unresolved technical and operational issues and recommended resolutions, in the reporting period

g) Training: Training is an integral part of the service support expected. The RFP should indicate to facilitate a practical training sessions to the new users and the clarity on the numbers, locations, facility required in these training sessions.

The RFP should be clear with respect to:-

i. If fixed or estimated pricing is required for maintenance support;

ii. The period of time the department intends to contract with the successful vendor for maintenance support or reserves the option to contract with the vendor for this support;

iii. How maintenance support will be provided (i.e. % of license fee, time and materials or fixed price basis);

iv. Will maintenance support be contracted under a separate agreement (along with OEM) or as part of the Contract resulting from this RFP;

- the scope of the maintenance support activities to be provided by the Vendor/ OEM (e.g. database support, version up-grades, help desk, and the tasks included in each area);

- the service levels to be met by the vendor, for example:
  - System must be available a minimum of 95% of the time during Business Hours;
  - Helpdesk support must be provided in such a manner that users will have immediate response to a call (users would wait no longer than 3 minutes on hold) and identification of a resolution of 75% of the calls must be provided to the user within four Business Hours.
  - If enhancements to the Software/ Solution are to be included in maintenance support.

6.3.4. Licenses – Period and Numbers

The clarity should be provided in the RFP for the requirement of license period and a license fee. Quite often, this information is not sought resulting in issues at a subsequent stage. RISL, in case of deploying COTS solution, should clearly mention Licenses requirement for: -

- No. of users for each module
- No. of users with Admin Rights
- No. of users having right to access all modules (For Higher Officials)

6.4. Template for Hardware Requirements

6.4.1. Guidelines to define the Hardware requirements

For Scope of Work for Hardware related procurement, it should be ensured that: -

a) Business or technical requirements for hardware are clearly specified

b) Specific and clear details on intended use of the hardware is provided – how, where

c) Bill of Material (BOM) is specified with the right set of configurations to meet the performance requirements of the solution to be delivered. Right set of configurations mean:

- ✓ Technically up to date with the market or from latest generation of the relevant systems in context

- ✓ Compatible with other hardware to be installed

- ✓ Meets or exceeds performance standards expected from such hardware

d) BOM should also detail the items and their quantities that need to be procured. It MUST not specify any brand name or indicate reference to any proprietary feature

e) It should include only those hardware the quantity and specification can be indicated

f) Hardware does not depend on any specific type of product to function (no technology or product lock-in should be associated with that hardware)

g) Product is replaceable and upgradable without impacting any other installation or the solution at large.

h) Estimate of the load/ number of users of the hardware is provided Hardware already in place at the locations.

i) List of hardware already installed or procured, if at all, is provided to avoid duplication of hardware, cost and efforts. For example: the infrastructure & services available for use by the bidder at the RSDC/ SDC needs to be mentioned/ committed to the bidder, so as to avoid duplication of costs.

j) Hardware has vendor support in India or nearby location, post its installation

k) There should be clear mention of Technology Refresh as a requirement to protect aging of hardware and sanctify support to these systems in the form of upgrade, new installations or replacements.

6.4.2. Update/ Upgrade of System Software

a) The RFP should always consider mentioning "update" and/ or "upgrade" of the system software. This is critical from the hardware refresh perspective. To explain further, as the system software licences are closely linked to the type of hardware, change in hardware during the project life cycle will result into re-procuring of system software thus making the earlier system software

useless. This can be avoided by opting for "upgrade" option upfront. It ensures that the RISL or its stakeholder can take advantage of software upgrade and all security patches and update in a timely manner.

b) But, if no hardware refresh is expected within the project lifecycle, then, mentioning upgrades should be avoided as the new version (upgraded) of the existing software might not work on the existing hardware and may not be compatible with the application software being developed on the old hardware/ software platform.

6.5. Template for Network Requirements

a) For defining the Scope of Work of Network related procurement, a Government entity/ Department should practice the following: -

- Provide business requirements for networking
- Networking capacity required is clearly detailed
- Bandwidth and network specifications should be laid out
- Coverage and locations are clearly detailed
- Information on nearest network service provider hub
- Location and type of infrastructure available at that location should be detailed – if it's a standalone building, or certain floors of an already occupied building or empty building
- Mention the existence, or not, of a telephone line in (or around) the location where network needs to be set up and its distance from that location
- Information on any form of networking already in place at any of the locations
- Each site should be ascertained for the following networking technologies:

  SWAN – Vertical connectivity (wherever applicable)

  SWAN – Horizontal connectivity (wherever applicable)

  VPNoBB

  P2P RF

  WiMax

  VSAT
- Information on electrical facility at the location
- Any dependencies to or from Networking related activities should be mentioned upfront
- Details on clearances required, if any, before setting up the network

b) Networking related background details required

- Name and Addresses of the site offices
- Number & Type of user at each location

- Sites with existing connectivity, provide:
  - o Existing service provider & Service level / baseline
  - o Additional LAN requirements (including Earthing, Cabling etc.)
  - o Networking requirement
  - o Feasibility of scalability of the networking
  - o Equipments (Modems etc.) required
- In case of no connectivity, each site should be provided with the following details:
  - o Network feasibility of various Technologies at each location
  - o SWAN Connectivity Planned:
    - Bandwidth required
    - Feasibility of SWAN connectivity
    - Feasibility of scalability of the networking
    - Equipments (Modems etc.) required
  - o SWAN Connectivity NOT planned
  - o Bandwidth required
  - o Type of Technology to be used based on feasibility & cost considerations
  - o (VPNoBB, P2P RF, WiMax, VSAT)
    - Equipments & its specifications (Modems etc.) required at each site
- Technical Specifications for Firewall & IPs
- Specify the services to be provided including day-to-day operations of the network setup. For e.g. the services required may be: -
  - o Round the Clock Network Monitoring
  - o Network Performance Management
  - o Router Configuration Management
  - o Network Fault Management
  - o Carrier/ Link Management
  - o Traffic Management

6.6. Template for Data Digitisation

a) The Scope of Work for data entry should specify the following: -

- Language of data entry
- Use of transliteration – clarity on software to be provided
- Single or double screen to be used
- Software to monitor the quality check
- Data base in which data is to be kept

- Place/ Location of data entry

- Manner in which the records would be handed over and taken back

- Hardware services required

- Data quality processes

- Data safety and security process

- Quality Check

b) The data entry Scope of work should provide for the type of records to be computerized, the number of such records and typical time taken (based on time and motion study) to carry out data entry for a particular record.

DATA ENTRY RELEVANT INFORMATION REQUIRED	
Name of the Record / File:	\<please specify info/ value here\>
Number of records:	\<please specify info/ value here\>
Number of records at each location:	\<please specify info/ value here\>
Fields to be entered:	\<please specify info/ value here\>
Average time taken one record to be entered(based on time & motion study):	\<please specify info/ value here\>
Data entry software availability:	\<please specify info/ value here\>
Responsibility of quality check of the data:	\<please specify info/ value here\>
Process for data quality validation:	\<please specify info/ value here\>
Commitment from Government for completion of Quality Checks:	\<please specify info/ value here\>
	\<please specify info/ value here\>

6.7. Template for Training Requirements

Training is considered a "Soft Deliverable" and measuring the quality of Training is a challenging task. It may be noted that quite often the trainees are not "willing staff" to undergo training and take on tasks subsequent to the training. Hence one needs to be careful while defining the training requirements. Some of the key tasks defined in the training are as follows: -

6.7.1. Preparation of Training Plan

a) Prepare the detailed Training plan which will cover at least the below mentioned Training programs

b) Prepare the list of topics to be covered under various Training programs

c) Get approval of the Government entity/department on the Final Training topics and plan

6.7.2. Preparation of Training Materials

a) Preparation of a User Manual for each function/ module of the Software Application to be deployed. Soft copy of the same to be made available to all relevant participants

b) Preparation of a self learning Computer based Toolkit for use of applications like Web-Portal, Helpdesk Application, Application getting developed as a part of the project

c) Preparation of Training material for participants of every type of Training which is to be delivered

d) Obtain approval of the Government entity/ department on the Training content at least 1 week before delivery of the Training program.

e) Hard copy of Training material to be provided to the participants during the Training session while soft copy is to be uploaded in the Government entity's/ department's portal.

6.7.3. Delivery of Training

The class and the facility required in the training needs to be planned.

6.7.4. Administer Tests and Collect Feedback from Trained Participants

a) Design suitable paper-based or practical tests for assessment of the trained participants especially on the use of Application, IT infrastructure, basic troubleshooting etc. The vendor will have to get the same approved from the Government entity/ department.

b) Use various predefined Forms for gathering feedback regarding the satisfaction of trained participants. The feedback should focus on relevance of course content/ coverage, quality of presentation, quality of training material provided, relevant examples/ practice sessions, quality of faculty, administrative arrangements done for the training etc.

c) Use the feedback to improve the training materials and mode of training.

6.7.5. Reporting

a) Detailed report regarding each training session (for e.g. participants, attendance levels, date of training, location of training etc.) is to be maintained in the system. The same to be made accessible to the authorized officers within the Department.

b) Exact Reporting formats will be decided and agreed upon by the Government entity/ department with the selected Bidder.

6.7.6.   Training Site Preparation

The SI is to provision for the training space at each location. It may hire an appropriate set up for the same.

6.7.7.   Deployment of Infrastructure

a) All Training Equipments and accessories needed for the delivery of Training (e.g. projector, white board, stationery etc.) and other IT infrastructure and networks etc as deemed necessary by the vendor for delivery of training and achievement of the specified SLAs will be have to be provisioned by the vendor.

b) The training for the Application, Basic Computer Skills should be hands-on, with each participant to have access to the following: -

- One Computer per participant
- One Training tool kit/ handout/ training material kit per person

6.7.8.   Other Arrangements

SI will also be required to provision for any Travel/ Boarding/ Lodging arrangements for the Trainers and its own supporting staff at no additional cost.

6.7.9.   Details of Training Programs to be delivered

The SI shall be responsible for providing all the above mentioned services for each type of training as mentioned below. The participants of the Training program can vary from Record Keepers to the top officials depending on the need and the suitability of the course for them.

6.7.10. Training to New Joiners

The training of new joiners should also be within the scope of work of the vendor.

6.7.11. Staffing and Training

The effectiveness of training delivered would depend substantially on the quality of trainers deployed by the selected Bidder. The selected Bidder must ensure that:

- Trainers deployed are sufficiently skilled and experienced in the relevant domains and fully aware of the deployed systems, preferably with experience of training in the Government sector
- Trainers should be fluent in speaking in English and local language, at minimum

6.8. Template for Site Preparation Requirements

a) For the implementation of the e-Governance projects, a key component (which is often overlooked) is to setup IT infrastructure at various sites. This setup is driven by the magnitude of IT infrastructure in various sites and the needs of the various stakeholders. In this section, we are providing a set of detailed guidelines (both for highlighting in the RFP in case the sites are to be provided by the vendor and for knowledge purposes in case it has to be done by RISL or its stakeholder, which can be followed for preparing the sites for the various server and computer rooms. These detailed guidelines provide a generic framework for various aspects of site preparation, specifically for setting up server rooms in a local area network enabled environment.

b) The site preparation may be required to be taken at an existing site OR a new site may be created for housing IT assets.

c) The aim is to provide a generic framework, which can be suitably tailored by the respective sites based on the specific hardware and network components that are installed. It may be noted that it is imperative to follow the hardware and network installation manuals, which are provided along with the equipment.

d) A template for scope of work for new site design must include the following aspects: -
- Site selection
- Fitting out requirements
- Equipment layout planning
- Electrical requirements
- Air-conditioning system
- Fire prevention, detection, and suppression
- Prevention of water leakage
- Physical security

e) The SI may be scoped to provide a site survey report detailing the current status of each site and the enhancements to be made at each site(s) based on the requirement and the guidelines mentioned herein. SI may be made responsible to prepare the client sites for setting up the necessary client site infrastructure OR it may be tasked out to a different agency.

6.9. Template for Handholding Support

a) It is advisable that for the initial period, specifically at operational levels, a handholding support is taken for at least 12 months. The SI should be scoped to provide qualified and trained persons, for a period of 12 months to handhold the staff.

b) The Eligibility/ Qualification criteria for this should be detailed out in the RFP.

6.10. Template for Operations & Maintenance Support

a) The SI shall be responsible for the overall management of the system including the Application, IT infrastructure and enabling infrastructure maintenance services/ facility management services at all client locations for ensuring adherence of SLAs. SI shall integrate with the existing EMS tool at the RSDC/ SDC that monitors/ manages the entire enterprise wide application, infrastructure and network related components.

b) SI shall provide the Operations and Maintenance Services for a period of <N> years following the award of the contract.

c) Scope of Services during Operate and Maintain Phase

As part of the Operate and Maintain services, the SI shall provide support for the software, hardware, and other infrastructure provided as part of this RFP. SI shall also provide <N> years of comprehensive AMC and extendable upto <N> additional years, comprising of but not limiting to the following: -

   i. Warranty support

   ii. Annual Technical Support (ATS)

   iii. Handholding Services

      a. Operations and maintenance services for the server and related infrastructure supplied or commissioned by the SI for the application at the Data Center and Disaster Recovery Center for <N> years from Go-Live of complete solution.

      b. Central Helpdesk from the designated premises–for <N> years from Go-Live of complete solution.

      c. Support for the end users at each of the locations including deployment of one competent person per location for a period of one year to handhold the staff after the Core application and the necessary infrastructure are successfully commissioned in the offices

      d. Software maintenance and support services – for <N> years from Go-Live of complete solution

      e. Application functional support services – for <N> years from Go-Live of complete solution

      f. Other IT infrastructure related support services – for <N> years from Go-Live of complete solution.

d) The services shall be rendered onsite from the designated premises. To provide the support at the locations where the software, hardware, and other infrastructure will be rolled out, SI is expected to provide experienced and skilled personnel at each location.

e) As part of the warranty services SI shall provide: -

i. SI shall provide a comprehensive warranty and on-site free service warranty for a period of <N> years from the date of Go Live for all equipments.

ii. SI shall obtain the <N> years product warranty and <N> years onsite free service warranty from OEM on all licensed software, computer hardware and peripherals, networking equipments and other equipment for providing warranty support.

iii. SI shall provide the comprehensive manufacturer's warranty and support in respect of proper design, quality and workmanship of all hardware, equipment, accessories etc. covered by the RFP. SI must warrant all hardware, equipment, accessories, spare parts, software etc. procured and implemented as per this RFP against any manufacturing defects during the warranty period.

iv. SI shall provide the performance warranty in respect of performance of the installed hardware and software to meet the performance requirements and service levels in the RFP.

v. SI is responsible for sizing and procuring the necessary hardware and software licenses as per the performance requirements provided in the RFP. During the warranty period SI shall replace or augment or procure higher-level new equipment or additional licenses at no additional cost in case the procured hardware or software is not adequate to meet the service levels.

vi. Mean Time between Failures (MTBF): If during contract period, any equipment has a hardware failure on four or more occasions in a period of less than three months, it shall be replaced by equivalent or higher-level new equipment by the SI at no cost. However, if the new equipment supplied is priced lower than the price at which the original item was supplied, the differential cost should be refunded. For any delay in making available the replacement and repaired equipments for inspection, delivery of equipments or for commissioning of the systems or for acceptance tests/ checks on per site basis, RISL reserves the right to charge a penalty.

vii. During the warranty period SI shall maintain the systems and repair/ replace at the installed site, at no charge, all defective components that are brought to the SI's notice.

viii. The SI shall as far as possible repair/ replace the equipment at site.

ix. In case any hard disk drive of any server, SAN, or client machine is replaced during warranty/ AMC the unserviceable HDD will be property of RISL or its stakeholder and will not be returned to SI.

x. Warranty should not become void, if RISL buys, any other supplemental hardware from a third party and installs it within these machines under intimation to the SI. However, the warranty will not apply to such supplemental hardware items installed.

xi. The SI shall carry out Preventive Maintenance (PM), including cleaning of interior and exterior, of all hardware and testing for virus, if any, and should maintain proper records at each site for such PM. Failure to carry out such PM will be a breach of warranty and the warranty period will be extended by the period of delay in PM.

xii. SI shall monitor warranties to check adherence to preventive and repair maintenance terms and conditions.

xiii. The SI shall ensure that the warranty complies with the agreed Technical Standards, Security Requirements, Operating Procedures, and Recovery Procedures.

xiv. SI shall have to stock and provide adequate onsite and offsite spare parts and spare component to ensure that the uptime commitment as per SLA is met.

xv. Any component that is reported to be down on a given date should be either fully repaired or replaced by temporary substitute (of equivalent configuration) within the time frame indicated in the Service Level Agreement (SLA).

xvi. The SI shall develop and maintain an inventory database to include the registered hardware warranties.

xvii. The SI may also be responsible for the comprehensive AMC of existing IT Infrastructure procured by RISL under this phase. Details of the existing hardware which may be required to covered under AMC by the selected bidder through this RFP are attached <provide reference details>. Currently this hardware is under AMC cover, however SI will be required to provide AMC post expiry of existing AMC cover, for which the SI is required to provide costing per component as per the commercial format.

f) As part of the ATS services SI shall provide: -

i. SI shall maintain data regarding entitlement for software upgrades, enhancements, refreshes, replacements and maintenance.

ii. If the Operating System or additional copies of Operating System are required to be installed/ reinstalled/ de-installed, the same should be done as part of ATS.

iii. SI should carry out any requisite adjustments/ changes in the configuration for implementing different versions of Application Software.

iv. Updates/ Upgrades/ New releases/ New versions/ Patches/ Bug fixes: The SI shall provide from time to time the Updates/ Upgrades/ New releases/ New versions/ Patches/ Bug fixes of the software, operating systems, etc. as required. The SI should provide free Updates/ Upgrades/ New releases/ New versions/ Patches/ Bug fixes of the software and tools as and when released by OEM.

v. Software License Management. The SI shall provide software license management and control. SI shall maintain data regarding entitlement for software upgrades, enhancements, refreshes, replacements, and maintenance.

vi. SI shall have complete manufacturer's technical support for all the licensed software problems and/ or questions, technical guidance, defect and non-defect related issues. SI shall provide a single-point-of-contact for software support and provide licensed software support including but not limited to problem tracking, problem source identification, problem impact (severity) determination, bypass and recovery support, problem resolution, and management reporting.

vii. The SI would be responsible for arrangements with Manufacturer for all the technical support which shall at a minimum include but not limiting to online technical support and telephone support during the business hours (will be from <time> hours to <time> hours from (Days of week) with access for SI to the manufacturer's technical support staff to provide a maximum of 4 hour response turnaround time. There should not be any limits on the number of incidents reported to the manufacturer by SI as part of provisioning of support services. SI shall have access to the online support and tools provided by the manufacturer as well as should have 24x7 access to a variety of technical resources including the manufacturer's knowledge base with complete collections of technical article.

g) As part of Operations and maintenance support for the server and related infrastructure supplied or commissioned by the SI for the application at the Data Center <and Disaster Recovery Center> SI shall provide: -

i. The scope of the services for overall IT infrastructure management as per ITIL framework shall include 365x24x7 on site Monitoring, Maintenance and Management of the server and related infrastructure supplied and commissioned by the SI for the application at the Data Center <and Disaster Recovery Center>. The business hours will be from <time> hours to <time> hours from (days of week). SI will plan these services accordingly. The SI shall provide the MIS reports for all the devices installed in the Data Center <and Disaster Recovery Center> in format and media as mutually agreed with the RISL on a monthly

basis. Whenever required, SI should be able to provide additional reports in a pre-specified format. The indicative services as part of this support are as below:

a. System Administration, Maintenance & Management Services

b. Application Monitoring Services

c. Network Management Services

d. Backend Services (Mail, messaging, etc)

e. Storage Administration and Management Services

f. IT Security Administration Services and Services for <ISO 27001 and ISO 20000 compliance>

g. Backup and Restore Services

h) As part of the Centralized Helpdesk and Support for end users at each location SI shall provide: -

i. The service will be provided in the local language.

ii. The help desk service that will serve as a single point of contact for all ICT related incidents and service requests. The service will provide a Single Point of Contact (SPOC) and also resolution of incidents. RISL requires the SI to provide Help Desk services to track and route requests for service and to assist end users in answering questions and resolving problems related to the software application, network, Data Center, Disaster Recovery Center, Client side infrastructure, and operating systems at all locations. It becomes the central collection point for contact and control of the problem, change, and service management processes. This includes both incident management and service request management. SI shall provide sufficient numbers of lines to contact the Help Desk ensuring all the call are attended without any wait.

iii. SI shall provide such type of IT training to the staff that SI remains responsible for providing a second level of support for application and technical support at locations where the software, hardware, and other infrastructure will be rolled out. However, this does not absolve SI from providing first level of support for the aforementioned activities.

iv. For all the services of within the scope of this RFP, SI shall provide the following integrated customer support and help.

v. Establish <12X6> Help Desk facilities for reporting issues/ problems with the software, hardware and other infrastructure.

vi. SI shall maintain and support to all client side infrastructure including hardware, networking components, and other peripherals.

vii. SI shall provide maintenance of Hardware, including preventive, scheduled and predictive Hardware support, as well as repair and/ or replacement activity after a problem has occurred.

viii. SI shall track and report observed Mean Time Between Failures (MTBF) for Hardware.

ix. SI shall provide functional support on the application components to the end users.

x. SI shall also provide system administration, maintenance and management services, LAN management services, and IT security administration services.

i) As part of software maintenance and support services SI shall provide:

i. The Software Maintenance and Support Services shall be provided for all software procured and implemented by the SI. The SI shall render both on-site and off-site maintenance and support services to all the designated locations. The Maintenance and Support Services will cover, all product upgrades, modifications, and enhancements.

ii. Updates/ Upgrades/ New releases/ New versions/ Patches/ Bug fixes. The SI will implement from time to time the Updates/ Upgrades/ New releases/ New versions/ Patches/ Bug fixes of the software and operating systems as required after necessary approvals about the same.

iii. Tuning of application, databases, third party software's and any other components provided as part of the solution to optimize the performance.

iv. Amendments in the applications implemented as part of the project to meet the requirements

v. The SI shall apply regular patches/ updates/ upgrades to the licensed software including the operating system and databases as released by the OEMs.

vi. Software Distribution. SI shall formulate a distribution plan prior to rollout and distribute/ install the configured and tested software as per the plan.

vii. Software License Management. The SI shall provide for software license management and control. SI shall maintain data regarding entitlement for software upgrades, enhancements, refreshes, replacements, and maintenance. SI should perform periodic audits to measure license compliance against the number of valid End User software licenses consistent with the terms and conditions of site license agreements, volume purchase agreements, and other mutually agreed upon licensed software terms and conditions and report to RISL on any exceptions to SI terms and conditions, to the extent such exceptions are discovered.

viii. The SI shall undertake regular preventive maintenance of the licensed software.

j) As part of the application functional support services SI shall provide:

i.   The Application Functional Support Services shall be provided for all software procured and implemented by the SI. The SI shall render both on-site maintenance and support services.

ii. Enhancements and defect fixes. SI shall incorporate changes, and provide enhancements as per the requests. SI shall perform changes, bug fixes, error resolutions and enhancements that are required for proper and complete working of the application.

iii. Routine functional changes that include user and access management, creating new report formats, and configuration of reports.

iv. SI shall provide user support in case of technical difficulties in use of the software, answering procedural questions, providing recovery and backup information, and any other requirement that may be incidental/ancillary to the complete usage of the application.

v.   The SI shall migrate all current functionality to the new/ enhanced version at no additional cost and any future upgrades, modifications or enhancements. The SI shall perform user ID and group management services.

vi. The SI shall maintain access controls to protect and limit access to the authorized End Users.

vii. The services shall include administrative support for user registration, creating and maintaining user profiles, granting user access and authorization, providing ongoing user password support, announcing and providing networking services for users and providing administrative support for print, file, directory and e-mail servers.

7) Roles and Responsibilities (Stakeholder-wise)

a) All projects, especially IT projects, have many agencies implementing the project. A project will be successful only if all the agencies carry out the roles and responsibilities assigned to them properly. For clarity in contract management with the vendor, it is essential that the roles and responsibilities of all the agencies are properly defined so that the vendor is not unduly penalised or put to a loss because of the commission and omission of others.

b) For example, in a project to establish and maintain a Wide Area Network Project, apart from the vendor setting up and maintaining the network, there is the bandwidth provider, other than the buyer and the government offices which will be connected. The role of the bandwidth provider will have to be clearly defined. Similarly, the role of the government offices in providing access to the premises for setting up and maintaining the network, etc. should be clearly defined. Similarly, in a project involving setting up of CSC type kiosks, the role of the government in providing G2C services should be described and in manpower related procurement; it should be clearly

mentioned if mobility, communication, computing facilities will be provided by the buyer or by some other agency/ vendor.

8) Project Deliverables, Milestones and Time Schedules

a) This may be clearly mentioned in a separate section in the chapter relating to the scope of work in the RFP.

b) The specification of requirements will lead to the identification of a deliverable or set of deliverables. A deliverable is something that must be provided under the contract. It is a tangible/ real output. One, or several, deliverables may result in an outcome. Some of the indicative deliverables for various components of IT projects are given below –

- Project Management Plan/ Report: A project activity plan that summarizes the schedule of activities to be performed by him within the time frame for the completion of the project as mentioned by the buyer.

- AS-IS, To-Be Process definition, BPR, DPR: For consultancy projects requiring preparation of DPR, etc.

- SRS Report, Software Design Document, Testing Plan and test cases document (including Unit Test Plan, System/Integration Test Plan, User Acceptance Test Plan, Load Test Plan, Security Test Plan), Security policy: For IT projects involving software application development

- Project staffing, Schedule and Responsibilities Report: A report that describes the project core team and the team of Subject Matter Experts (SMEs) who are proposed to work in a defined reporting structure along with the project staffing schedule and responsibilities of the resources proposed by the vendor at various instances of the project.

- Site-Survey Report: A detailed site-wise survey report so as to have a clear picture of feasible/ non-feasible project sites, required especially in case of networking projects.

- Policies: IP, Firewall, Switching, Routing, Security, Authentication, etc. policies required especially for networking projects.

- Training Manual: A document which could be used as a quick reference guide by the end-users of the proposed system/ project.

- Review/ Status Reports, SLA Attainment Reports, MIS Reports, Reports on Preventive Maintenance, Reports on complaints/ queries received and attended to.

- For IT projects involving O&M: -
  - Delivery and installation of various hardware and software items
  - Licenses for software

- Complete source code
- Supply of manpower
- Web monitoring tool for monitoring project status and SLA attainment, etc.

c) Contract deliverables can be tied to milestones. A milestone is a measurement of progress toward an outcome. For a typical review project, milestones might be the completion of review and delivery of a draft report, then revision of draft report and delivery of the final report.

d) Where a contract adopts a milestone approach payment to the supplier can be tied to the successful completion of each milestone. This allows for implementation to be tracked and monitored against budget.

e) Deliverables form the most critical outcome of a project. When specifying the deliverables, the following should be borne in mind: -

- Procurement authority must be clear on what it is expecting from the vendor and from the project, and differentiate between the two.
- The deliverables of two or more vendors involved in different phases of a project must also be clearly laid out and differentiated.
- The deliverables must clearly specify whether they would be time & material based or outcome/ performance measure based.
- Time & material based services are those where scope of work is not clear at the beginning to both the Government client and the System Integrator/Implementation Agency. In this situation, to move things forward, working on a time and material basis the System Integrator/Implementation Agency can start to scope and plan the assignment and be paid on a 'pay as you go' basis.
- If two deliverables are dependent on each other or have dependent activities, then their delivery timelines should accommodate for that and be set accordingly.
- Procurement authority must plan for deliverable signoffs and build those dates into their working calendar.
- Details (Name, designation, contact) of key person(s) in the Government organization of officers who are required to approve deliverables must be laid out in advance and should be abided by.
- Deliverable signoffs should be concluded in scheduled time periods to avoid affecting other deliverables or project outcomes – Deemed Acceptance clause.

f) It should also be mentioned that the formats of all the kinds of reports/ deliverables should be submitted to RISL for approval.

g) Besides the deliverables mentioned above, the RFP should mention certain milestones along with the time schedules within which they are to be achieved so as to monitor the status of the project and help in timely completion of the project without time overrun. The RFP may also ask for a detailed implementation schedule, preferably in the form of a GANTT or Bar Chart, from a vendor. Also, the project time schedule should commence from T, where T is the date of work order.

h) Timelines are dependent on the scope of work. The timelines should be decided on the practicality in achieving them.

9) BIDDING PROCESS MANAGEMENT (BPM)

9.1 Introduction

a) This section should include the bid process management procedure mentioning all the procedures that regulate the overall bidding process (manual/ eTender). It should contain standard provisions on how to design, prepare, advertise/ publish, submit, open, evaluate, compare the Technical and/ or Financial Bids and Award of Contract.

b) Pre-bid meeting/conference should generally be organised but may not be done for simple and small procurements. The main sections to be covered under BPM are as under: -

- Sale of tender/bid document
- Clarifications and Amendment of Bidding Document
- Submission and Opening of Bids
- Evaluation and Comparison of Bids
- Award of Contract

9.2 Selection/ Evaluation Method

a) The evaluation methods to be used are one of the following -

- Least Cost Based
- Quality and Cost Based
- Combined Quality and Cost Based

b) For simple projects like hardware procurement, small software development or system integration projects, data digitisation, etc, Least Cost Based method can be used.

c) For projects where there is a high level of clarity on the technology and the solutions, Quality and Cost Based Selection method may be used. These would be typical implementation of COTS/ ERP projects or any State MMPs. In e-Governance space, these projects would be applications which have a simple citizen application workflow. In such projects, the risk of technology feasibility

is less. In such cases, technical evaluation should provide clarity on solution till the Bill of Material stage in the RFP document. It may be noted that in this case, the responsibility of technical feasibility of the proposed solutions rests with procurement authority.

d) If the RFP is for projects where there is inadequate clarity on the solution, for example, these may be any large scale implementation of any MMP. These are risky projects and should be on Combined Quality and Cost Based evaluation 70:30 (Quality: Cost). It may be noted that in this case, the responsibility of technical feasibility of the proposed solutions rests with the Bidder. However, the Proposal Evaluation Committee in this case should have expertise or should have access to expertise to objectively evaluate & compare the various solutions components proposed by the bidders. In such projects the procurement authority should do a due diligence of the critical parameters of the project covering system functionality, technology, current performance on key technologies proposed in isolation & together as a stack, details on implementation experience of the bidder, training methodology, performance in Proof of concept (in case PoC is planned), certifications, past experience of the vendor in executing similar assignments, size of those assignments, profile of team members and project methodology.

e) Combined Cost and Quality Selection Method is also to be preferred in consultancy assignments.

9.3 Technical Evaluation Criteria

a) Technical Evaluation Criteria are the bid response parameters that are scored to arrive at a final (technical) score for each technically qualified bidder in the case of Quality cum Cost Based and Combined Quality cum Cost Based selection methods. The technical evaluation criteria should: -

- Be as objective as possible, breaking the scoring down to individual identifiable components

- Have direct and perceptible linkage to nature and scope of work

- Use the most relevant scoring/ weighting scheme to evaluate; weighting should be basis their importance to the Government or project's outcomes. The weightings must be disclosed in the RFP document.

- Have its scoring guidelines established prior to contacting vendors/ creating the RFP. Then, when the proposals are received, score them based on the criteria established in the RFP.

- Have scoring for each component of the solution rather than an overall score for the solution.

- In case of a software solution, evaluate the coverage of or degree of match to functional and technical requirements by the solution.

b) It may be a good practice that the evaluations, wherever based on scores/ marks, should be done with the maximum score of 1000 marks, so that appropriate resolution could be provided to the criterions having less marks/ sub-criterions.

10) TERMS & CONDITIONS OF THE BID

a) This should include all the relevant terms and conditions, as applicable, as per the details mentioned in the Chapter-6 "General Terms and Conditions" of the Procurement Manual (Part-1).

b) Chapter-6 of the RFP Template provides indicative terms & conditions of the bid. Kindly update as per the project type/ scope as not all the conditions would be relevant for every project type.

c) For example, a tender for consultancy services would not have clauses pertaining to goods like "Warranty/ Samples/ Testing/ Inspection etc." Hence, proper attention should be given by the procurement authority while mentioning "Terms and Conditions of the Bid" in the RFP document.

11) PAYMENT TERMS AND SCHEDULE

a) **Payments should be linked to all deliverables** - Payment may be made in one instalment or more. For simple procurements like supply of hardware or system software, full payment may be made in one instalment on delivery and installation. For long period projects having many milestones/ deliverables, the payments may be made in multiple instalments. In such a case, the payments should be mapped with the respective and appropriate milestones/ deliverables of the project. It should be ensured that the payments are linked to all deliverables and no deliverable is left out while mapping payments to deliverable. Otherwise it may be difficult for the tendering authority to get the unlinked deliverable from the vendor.

b) **Payments be linked to one form of delivery**

- Payments must be linked to only one form of delivery - service/input (hardware/ software/ manpower availability) or solution/ outcome, not both. For example, in a procurement for consultancy services, the payment may be made on time and material basis for the consultants and other inputs or against deliverables like a Project Report. Similarly, in system integration projects, it should be decided whether payments are to be made for services delivered on transaction basis or for the software and hardware delivered. There can, of course, be minimum requirements of inputs, with outcome based payments. For example, in a system integration project for e-procurement, the payments may be made on per tender basis, while mandating minimum hardware requirements. Similarly, for preparation of a DPR for an

e-governance project, the payment may be linked to the delivery of DPR whereas there may be minimum manpower/ consultant deployment requirement as well.

- It should be decided upfront as to whether the payment is for delivery of goods and software or the payment is to be linked to actual delivery of services associated with the IT project. Linking the payment to delivery of services reduces the risk of failure of the project due to implementation issues and should be preferred, wherever possible. This is easily possible when an application with only one service is being procured, for example an e-procurement solution. Even if an application catering to more than one service is being procured, service/transaction based payment is possible if the type of services is same or similar involving similar resources at the end of the bidder.

c) Advance Payments

- Normally, advance payments will not be made. Advances for purchase of stores shall be given only in the following cases where it is absolutely necessary and in exceptional circumstances as per delegation of financial powers after taking necessary precautions and securing the RISL against any loss and for preventing the system from becoming general.

- The firms are established one having reputation for their dealings. Such advances at the percentages prescribed under delegation of financial powers shall be made as per conditions of contract, on submission of proof of despatch through bank and the balance shall be paid on receipt of the goods subject to the usual inspection and verification.

- The advance in respect of goods/ articles of higher value should preferably be made on proof of dispatch and prior inspection of stores regarding quality before despatch.

- It shall also be made clear to the supplier/ selected bidder that they are in no way absolved from the responsibility in respect of quality and quantity of stores despatched by them and recoveries are liable to be made if the stores received are found in any way to be defective or short in quantity.

- Advances to the extent of 100% may be permitted by the Managing Director, RISL to all State Governments/ Central Government Corporations/ Undertakings.

- Where advance payments are made against proof of despatch or otherwise but goods are not received within a reasonable period, the purchase officer shall take immediate steps to inform the supplier/ selected bidder and shall also take immediate steps to recover the money already paid according to the conditions of the contract. Where recovery is not possible easily, the purchase officer shall take recourse to law in force.

12) SERVICE LEVEL STANDARDS

a) SLAs define the quality and timeliness of service delivery during the Operations and Maintenance (O&M) phase of a project. They help the Government sustain the planned business outcomes from the solution deployed on a continued basis over a sustained period of time.

b) Some of SLA based guidelines to be followed are: -

- SLAs should be realistic, solution specific and evolving in nature

- SLAs should be consistent with and match the functional and technical specifications of application software, hardware, network and other installations'– it should not be developed in isolation

- SLA penalty must not be applied cumulatively by counting each equipment that has/had failed due to a single problem.

- SLA penalties must be applied on services only, and not on CapEx items already supplied and (most likely) owned by the customer.

12.1 Severity Weights

Each Service Level should be assigned a Severity, which is used in the calculation of the Service Credits. Severity Weights are expressed as percentages, totalling one hundred percent (100%) for all Service Levels within a Service Category, and approximate the relative severity of the impact on Government entity/ department's operations of failures to meet the respective Service Levels. Upon ninety (90) days' advance notice to Service Provider, Government entity/ department may adjust the Severity Weights of the respective Service Levels, as Government entity/ department deems appropriate, so long as the total of such percentages does not exceed one hundred percent (100%).

12.2 Service Level Changes

From time to time, Government entity/department may add or delete Service Levels or assign or adjust Severity Weights, but the aggregate of all Severity Weights may not exceed 100% within a Service Category. New Service Levels are Changes authorized through the Change Control Procedures. Changes that add Service Levels shall be effective within ninety (90) days after Government entity/department proposes the Change, or as otherwise agreed.

12.3 Service Level Classifications

Each Service Level may specify up to three different performance standards:

a) Target Service Levels, which are goals. Service Credits are not payable for failures to meet Target Service Levels.

b) Minimum Service Levels, which are expected to be achieved. Service Credits are payable for unexcused failures to meet Minimum Service Levels, as provided below.

c) Increased Impact Service Levels, which are lower, inferior standards involving more serious impact upon Government entity/ department's business. Service Credits for unexcused failures to meet Increased Impact Service Levels are determined as provided below.

12.4 Service Level Failures

Failures to achieve Minimum Service Levels or Increased Impact Service Levels may be excused in accordance with Agreement, and not otherwise. For convenience, unexcused failures are sometimes referred to as "Service Level Failures" (for failures to meet either Minimum Service Levels or Minimum and Increased Impact Service Levels) or "Increased Impact Failures" (for failures to meet Increased Impact Service Levels only).

12.5 Service Levels – Establishment and Validation

12.5.1 SLA Identification/ Definition

a) Objective performance metrics are the basis for creating successful service level agreements. This section describes key principles for selecting metrics that truly work as well as a overview of practical metrics that can be incorporated in IT outsourcing agreements.

b) A Service Level Agreement (SLA) is an essential part of any outsourcing project. It defines the boundaries of the project in terms of the functions and services that the service provider will give to its client, the volume of work that will be accepted and delivered, and acceptance criteria for responsiveness and the quality of deliverables. A well-defined and crafted SLA correctly sets expectations for both sides of the relationship and provides targets for accurately measuring performance to those objectives.

c) At the heart of an effective SLA is its performance metrics. During the course of the outsourcing engagement, these metrics will be used to measure the service provider's performance and determine whether the service provider is meeting its commitments. When properly chosen and implemented, the SLA metrics:

- measure the right performance characteristics to ensure that the Department is receiving its required level of service and the service provider is achieving an acceptable level of profitability

- can be easily collected with an appropriate level of detail but without costly overhead, and

- tie all commitments to reasonable, attainable performance levels so that "good" service can be easily differentiated from "bad" service, and giving the service provider a fair opportunity to satisfy its client.

d) This section focuses on the issues surrounding the selection and implementation of SLA metrics. This section does not attempt to define an exhaustive list of metrics that should be included in a SLA; the topic is too large and project variations are too great. Rather, it concentrates on the principles for selecting metrics, the categories of metrics, and how those metrics should be represented in a SLA. These topics are necessarily presented in an introductory manner. Organizations without extensive metrics experience are urged to consider professional assistance to guide them through the process of creating their first few SLAs.

e) Selecting the appropriate metrics to gauge project performance is a critical preparatory step for any outsourcing engagement. A variety of metrics is required to manage the numerous aspects of an outsourcing project. While some metrics will be unique to a given project, many are common to all outsourcing projects. Often, a metric that works well on one project may be ineffective, inaccurate or too costly to collect on another project. A poor choice of metrics will result in SLAs that are difficult to enforce and may motivate the wrong behaviour or even cause a dispute that ends up in court.

f) The selection process is complicated by the enormous number of potential metrics and must be tempered by considerations such as organizational experience with metrics, the type of behaviours to be motivated and cost and effort of collection. Common sense must prevail when selecting metrics. Remember that the goal is to ensure a successful and positive working relationship between the Vendor and the department. To meet these goals, organizations should consider the following key principles.

g) Avoid choosing an excessive number of metrics, or metrics that produce a voluminous amount of data. At the outset of drafting the SLA, and Department may be tempted to include too many metrics, reasoning that the more measurement points it has, the more control it will have over service provider performance. In practice, this rarely works. Instead choose a select group of metrics that will produce information that can be simply analyzed, digested and used to manage the project. If the metrics generate an inordinate amount of data, the temptation will be to ignore the metrics, or subjectively interpret the results, negating their value in the SLA.

12.5.2 Choose Measurements that Motivate Right Behaviour (Service Level Title)

a) The first goal of any metric is to motivate the appropriate behaviour on behalf of the Department and the Vendor. Each side of the relationship will attempt to optimize their actions to meet the

performance objectives defined by the metrics. If the wrong metrics are selected, the relationship can go astray quickly. For example, paying programmers by the number of lines of code they produce will certainly lead to an increase in production, but may play havoc with quality and the true quantity of real work accomplished.

b) To motivate the right behaviour, each side must understand the other side, its expectations and its goals, and the factors that are within its control. Realism must prevail. Departments have to anticipate that Vendors will want to make a profit; Vendors have to expect that Department will want to control costs.

c) When choosing metrics, one should first focus on the behaviour that one wants to motivate. What factors are most important to your organization? Reducing costs and/or defects? Increasing turnaround time? Which factors are you willing to trade for improvements in another area? Pick an initial set of metrics that measure performance to these behaviours.

d) Put yourself in the place of the other side and test the selected metrics. How would you optimize your performance? Be creative. Does that optimization lead to the desired results? Often, secondary metrics are needed to provide checks and balances to avoid missteps. Also, consider whether the metrics are truly objective or are subjective enough to leave room for interpretation. Metrics that are based upon a subjective evaluation are open to different interpretations, and will likely lead to disagreement over whether a service provider has met its commitments. For example, state that "the server should be up and running during the requirements". Instead it should be "the server should be up and running between 10 AM to 6 PM from Monday to Saturday".

12.5.3 Ensure Metrics Reflect Factors within Service Provider's Control (Service Level Dependency)

a) Ensure that the metrics measure items within the other party's control. Continuing the example from above, the service provider has control over the server uptime, but has no control over the State Data Centre uptime. Thus, a requirement that "server uptime of 99.5%" is unfair and likely to be de-motivating to the service provider.

b) Service providers should ensure that the SLA is two-sided. If the service provider's ability to meet objectives is dependent on an action from the Department or any other agency of the Department (for e.g SWAN, SDC etc.) the performance of these agencies / infrastructure must also be measured. Conversely, refrain from choosing SLA metrics that attempt to dictate how the service provider is to do its job. Presumably, an outsourcing provider's core competence is in performing IT tasks, and embodies years of collected best practices and experience. Attempting to regulate

these tasks will only introduce inefficiencies. Instead, concentrate on ensuring that the delivered work products meet quality, time and cost expectations.

12.5.4 Choose Measurements Easy to Collect (Data Capture & Measurements)

If the metrics in the SLA cannot be easily gathered, then they will quickly lose favour, and eventually be ignored completely. No one is going to spend an excessive amount of time to collect metrics manually. Ideally, all metrics will be captured automatically, in the background, with minimal overhead; however, few organizations will have the tools and processes in place to do so. A metric should not require a heavy investment of time and money; instead use metrics that are readily available, compromising where possible. In some cases, it will be necessary to devise alternative metrics if the required data is not easily obtainable. For example, measuring whether a newly written program meets published IT standards require an arduous manual review. Conversely, a commercially available metric analysis tool can quickly and automatically calculate the program's technical quality. While the end result is not identical, the underlying goal -- motivating enhanced quality -- is met at a fraction of the manual cost.

12.5.5 Proper Base-lining (Hours of Support, Target & Minimum Service Levels)

a) Defining the right metrics is only half of the battle. To be useful, the metrics must be set to reasonable, attainable performance levels. It may be difficult to select an initial, appropriate setting for a metric, especially when a Department does not have any readily available performance metrics or a historical record of meeting those metrics. The MMPs / e-Governance projects in a similar environment which are already live will have the data needed to set a proper baseline. Others will have to perform an initial assessment to establish that baseline. Unless strong historical measurement data is available, be prepared to re-visit and re-adjust the setting at a future date through a pre-defined process specified in the SLA. Further, include a built-in, realistic tolerance level.

b) Consider the example of a Department that selects a Vendor to run its IT O&M. An important Department objective is to keep application uptime 100%. To that end, a metric is selected requiring the service provider to achieve an "application uptime". It would be tempting to set the metric so that the Vendor had to meet the threshold 100% of the time. But why require the Vendor to keep the application up & running during the non-office hours, especially since it will cost the Department to do so? A better way would be to define a metric that accommodated different comfort levels at different times. In addition, since the Department (or an MMP, working in a similar environment) has historically been able to maintain provide application uptime 95% of the

time, it would be reasonable to grant the service provider the same tolerance level. By taking the time to weigh expectations and set reasonable, attainable performance goals, the Department is able to achieve its goal of comfort at a lesser cost while the Vendor is motivated to do its best to meet those needs.

12.5.6 Correct Approach for determining the SLAs.

a) Government entity/ department will provide six (6) months of Service Level history prior to the transition to Service Provider, where available. Government entity/department and Service Provider agree to establish (i) Minimum Service Levels based on the second lowest Service Level measurement within the six (6) month period and (ii) Increased Impact Service Levels for each Service based on the lowest Service Level measurement within the six (6) month period.

b) If Government entity/department does not have six (6) months of Service Level history, then:

- The Parties will agree on a Target Service Level.
- If, before the Service Provider begins providing the relevant Service after the pilot phase, six (6) months of history is achieved, then the methodology above will be used.
- If six (18) months of history is not achieved prior to Service Provider providing the Service after the pilot phase, then the Service Level will be established based on six (6) months of performance by Service Provider excluding the pilot phase. The second lowest Service Level during the six (6) month period will become the Minimum Service Level and the lowest Service Level will become the Increased Impact Service Level.

c) A Service Level measurement may be eliminated from the foregoing analyses if both Parties agree that the Service Level measurement in question resulted from abnormal circumstances.

d) Except as otherwise expressly provided below, Service Levels will be measured, reported and subject to payment of Service Credits for Service Level Failures at the conclusion of the Pilot Phase for the relevant Service Category.

12.5.7 Service Level Agreements (SLAs)

SLAs are important component of any IT tendering process. Template of SLAs is provided below. The same may be used as templates and customized. However it may be noted that the SLAs can be of 2 types – either input based or output based. The below mentioned templates are for input based SLAs which focuses on the availability and quality of inputs. The other way of designing is on measuring the outputs. In this way of measuring the outputs, the end customer service quality parameters are measured. For e.g. what is the end-to-end time taken for processing of an application, time taken to stand in the queue, errors in the certificates and so on. Typically these are used in PPP type of tenders.

12.5.8 Data Digitization Activities

We have provided here usable/customizable illustrative templates, to fill in relevant values for developing the SLAs relevant to Data Digitization Activities

S. No.	SLA Terms	Description
1.	**% Accuracy**	<RISL> officials will physically verify the digitized records submitted by the SI vendor against the original records and will identify the erroneous fields in each record. The % accuracy for each batch will be calculated as follows: Total no. of erroneous fields in the batch- X Total no. of records in the batch - Y Field per record - N Accuracy per batch (%) = $(X*100)/(Y*N)$
2.	**Digitization Cost**	Digitization cost = A*Y, where "A" is the rate per record digitized and Y is the total no. of records in the batch.

Service Category	Service Level Title / Objective	Definition	Data Capture	Measurement Interval	Reporting Period	Hours of Support	Target Service Level	Minimum Service Level	Service Level Dependency	Increased Impact	Severity Weight
Data Accuracy	Accuracy of the data digitized by the SI vendor when compared against the original records	The ratio between the total no. error free of records in a batch of data that were successfully digitized to the total no. of records in that batch of data	<RISL>'s appointed shall take physical count of data that was migrated successfully into the new system as compared to that which existed in the old legacy source	Weekly	Fortnightly	56x2	> 90%	> 80%	Completeness and integrity of source data	To be base lined for first 2 weeks using time and motion study on the effort made	50% of Data Digitization Cost
Data Digitization Completion Time	Timelines for completion of the data entry, digitization & migration										

Please note:

- Accuracy of less than 90% will be considered as the Breach of the Agreement and <RISL> reserves the Right to terminate e the agreement.

- In all such cases, where the accuracy is below 100%, the SI will be responsible to carry out corrections with no additional cost to <RISL>.

12.5.9 Network Installations

We have provided here customizable templates, to fill in relevant values for developing the SLAs relevant to Networking Installations.

S. No.	SLA Terms	Description
1.	**Uptime**	'Uptime' refers to availability of network across various segments. "% Uptime" means ratio of 'Up Time' (in minutes) in a month to Total time in the month (in minutes) multiplied by 100.
2.	**Prime Business Hours (PBH)**	PBH refers to the prime network utilization period, which shall be typically starting from *<09:00 hrs till 18:00 hrs on all working days>*
3.	**Extended SLA Hours (ESH)**	ESH refers to the lean network utilization period, which shall be typically starting from *<18:00 hrs till 09:00 hrs on Monday to Saturday and 00:00 hrs to 23:59 hrs on Sunday>* or any other period to be defined by the *<RISL>.*
4.	**Planned Network Outage**	'Planned Network Outage' refers to unavailability of network services due to infrastructure maintenance activities such as configuration changes, up gradation or changes to any supporting infrastructure. Details related to such planned outage shall be agreed with <Nodal Agency> and shall be notified to all the stakeholders in advance (*at least forty eight hours).*

Service Category	Service Level Title / Objective	Definition	Data Capture	Measurement Interval	Reporting Period	Hours of Support	Target Service Level	Minimum Service Level	Service Level Dependency	Increased Impact	Severity Weight
Prime Business Hours (PBH) Network Availability	Average Network Availability between various defined business locations during PBH	The total number of hours the network was available during the Prime business hours (PBH).	Recording the no. of hours of network outage during the PBH.	Monthly	Monthly	24x7	> 99%	> 95%	• Telephone Exchange Line • SWAN	To be base lined for first 6 months	INR 100,000 [The deductions here are on per month basis]

Extended SLA Hours (ESH) Network Availability	Network Availability between various defined business locations during ESH	<To be filled as per requirement of the project>								

Please note:

- Availability of network for less than 98% during PBH and less than 88% during ESH continuously for a quarter will be consider ed as the Breach of the Agreement and <RISL> reserves the Right to terminate the agreement

12.5.10 Operation and Maintenance (O&M) Support

We have provided here customizable templates, to fill in relevant values for developing the SLAs relevant to Operations and Maintenance Support.

S. No.	SLA Terms	Description
1.	**System Uptime**	- Time for which user is able to access the applications, website and other components of the IT solution during the working hours. The system can be down due to any of the reasons including failure of hardware, network, system software, application etc. - Scheduled downtime for example, backup time, batch processing time, routine maintenance time will not be considered while evaluating the system uptime. However, the selected SI will be required to schedule such downtime with prior approval of <RISL>. The selected SI will plan scheduled downtime outside working time. In exceptional circumstances, <RISL> may allow the SI to plan scheduled downtime in the working hours.
2.	**Bugs/ Issues in the Application Software/ Hardware device/ Network Equipment**	• Critical bugs / issues – Bugs / issues affecting more than one division or more than one user in a division, • Non-critical bugs / issues – Bugs / issues affecting at most one user in a division.

Service Category	Service Level Title/ Objective	Definition	Data Capture	Measurement Interval	Reporting Period	Hours of Support	Target Service Level	Minimum Service Level	Service Level Dependency	Increased Impact	Severity Weight
System Uptime and Performance	System uptime and performance of the system	• Time for which user is able to access the applications, website and other components of the IT solution during the working hours. The system can be down due to any of the reasons including failure of hardware, network, system software, application etc. • Scheduled downtime for example, backup time, batch processing time, routine maintenance	No. of recorded hours on server logs of uninterrupted usage of the system by users during working hours	Weekly	Weekly	24x7	99.9%	99%	• Power Backup • Upgrades • System Restores	To be base lined for first 6 months [Please refer Section 2.8 of Guidance Notes for filling this part of Guidance Notes for more on filling this part]	INR 300,000 per month for every drop in percentage point of uptime below 99.5 % [The non availability for application service, website measured on monthly basis and excluding the scheduled maintenance shutdown. Performance of system refers to the proper and timely functioning of the system's functionalities . The applications

		time will not be considered while evaluating the system uptime. However, the selected SI will be required to schedule such downtime with prior approval of <RISL>. The selected SI vendor will plan scheduled downtime outside working time. In exceptional circumstances, <RISL> may allow the SI vendor to plan scheduled downtime in the working hours.									should be available and performing as per functionalities]
Issue Resolution Efficiency	Resolution time for bugs / issues in the applications										

Please note:
- Following conditions will be considered as the Breach of the Agreement in case of O&M Phase and in any of the following conditions <RISL> reserves the Right to terminate the agreement
  - o   System uptime of less than 97% continuously for a quarter;

- o More than 3 incidents of not resolving the bugs / issues within the defined time limits in a quarter;
- o Average page loading time for application & reports to be more than 20 seconds evaluated for a quarter;

12.5.11 Training and Change Management

We have provided here customizable templates, to fill in relevant values for developing the SLAs relevant to Training and Change Management.

Service Category	Service Level Title / Objective	Definition	Data Capture	Measurement Interval	Reporting Period	Hours of Support	Target Service Level	Minimum Service Level	Service Level Dependency	Increased Impact	Severity Weight
Training Satisfaction	Satisfaction level of the training sessions conducted by vendor for staff members & stakeholders	The feedback shall be received by the officials of <RISL> after each training session. <RISL> may decide to use the SLA in case insufficient training sessions are conducted by the SI vendor.	Feedback ratings received from Training participants, no. of participants and no. of Trainings delivered	Monthly	Monthly	No. of Training hours delivered	Feedback ratings > 8	Feedback ratings > 7	• Participant attendance /turnout • Availability of <Nodal Agency> committed Training facility	> 10 trained participants being able to trained other members of staff in a period of 1 month	20% of the per person cost for that type of training
<Please fill in your relevant Service category>	<Please fill in Service category definition>										

Please Note:

- Feedback rating of less than 6 by 25% of the trainees of a batch will be considered as the Breach of the Agreement and <RISL> reserves the Right to terminate the agreement
- The bidder will be solely responsible for conducting additional training sessions for the staff members providing the rating less than 6.

13) CHANGE CONTROL MECHANISM

a) Change requests are inevitable in software development or customisation projects and it will be foolhardy not to provide for a mechanism to handle them.

b) Change Control mechanisms help address issues pertaining to:

- what is considered a change
- Need for a change – business case/justification
- what is the nature/ type of change
- what is the possible change impact
- what is the effort estimation to execute the change
- what financial impact does the change carry

c) To be able to estimate the financial implication of a change request that is accepted, it is desirable to seek in the financial bid from all the bidders, man-month costs of manpower envisaged to execute the change. Amount of effort or the number of man months of various categories of IT personnel that may be required to execute change requests may be estimated and factored into the bid evaluation criteria. The estimated amount on account of executing change requests will not form part of the initial contract value. The man-months rates will be used at the time of evaluation of the financial impact of an accepted change request.